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Collaborative Strategic Reading (CSR): The Outcome on Students' Reading Comprehension Viewed from Self-efficacy

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Abstract: The research was conducted to examine whether the implementation of Collaborative Strategic Reading (CSR) was effective to enhance students' reading comprehension viewed from self-efficacy. This research was a quasi-experimental design, which consisted of 60 senior high school students in the eastern part of Indonesia, specifically Lombok. The participants were selected by purposive sampling technique, the participants were divided into two groups: the experimental group taught by CSR as the treatment, and the control group taught by the previous teacher's strategy that was Student Team Learning (STL). To obtain the data of this research, the instruments used were 25 items of reading comprehension based on the indicators of reading and 25 questionnaires used the likert scale test to see the level of self-efficacy of the participants. Furthermore, a two-way ANOVA and descriptive test were used to analyze the data. Finally, the results showed that Collaborative Strategic Reading (CSR) was significantly effective to improve students' reading comprehension. In addition, there was an interaction between teaching strategy and self-efficacy towards students' reading comprehension.

Keywords: CSR, Reading comprehension, Self-efficacy

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Introduction

In The difficulties that students face arise due to the position of English as foreign language significantly influencing the use of English in the learning process at school. As students in EFL countries, they have greater barriers related to reading comprehension in comparison with the ESL students. In the linguistic aspect, the students' difficulties in reading comprehension might be affected by several factors. First, the students did not have enough background knowledge about the text that they read. Second, they have less vocabulary that will impact their understanding of the text. Lastly, the teachers' strategy is not suitable in teaching reading comprehension, which makes students will be less engaged during the learning process.

On the other hand, in the psychological aspect, there is self-efficacy that might affect students' reading comprehension. Students with high self-efficacy for performing a task work harder, persist longer, participate more readily, and achieve at higher levels (Schunk & Zimmerman, 2007). Meanwhile, the students with low self-efficacy will be more passive to engage in the learning process. Hence, high self-efficacy is vitally important in academic domains especially in reading comprehension because it becomes a causal factor in future academic success through motivating efforts in areas of perceived strength and avoidance in areas of perceived weakness in learning process. Thus, teachers are suggested to apply some various models and strategies that give language experience and enthusiasm for language learners (Alshumaimeri, 2017).

Based on the interview with an English teacher at one of the senior high schools in Lombok, West Nusa Tenggara, that was conducted on November 4, 2022, it was found that the students have several problems in reading comprehension, especially in expository text. First, some of the students were not able to find the main idea of the text. This problem could be identified from the students' difficulty in finding general statements of the text that they have read. Second, they were lacking in identifying the detailed information from the passage, such as dates, the name of place, and the name of people. Third, the teacher said that it was hard for the students to create an inference from the text. It could be seen from their confusion to construct their own perception with their own words regarding the text. Lastly, they could not make a conclusion of the text. Some of the students did not know how to sum up the passage after reading the text. Those cases seemed problematic and should be overcome because it can result in further difficulties to the next reading lesson.

The condition aforementioned encourages the researcher to investigate the problems of the students in this school. There are several considerations to conduct this research; first, there is a difference with the previous studies about the location of the school that is in the rural area, more specifically, in the eastern part of Indonesia. Second, there will be a difference in the levels of self-efficacy of the students. Third, the researcher wants to use different strategies in different types of text with the previous research that is expository text.

In teaching reading, there are several possible strategies that can be considered such as, Student Team Learning (STL), Student Team Achievement Division (STAD), Contextual Teaching Learning (CTL), Hamburger strategy, and Know, Want to know, and Learned (KWL), and Collaborative Strategic Reading (CSR). In this research, the researcher found that the previous strategy applied by the teacher, Student Team Learning (STL), could not provide a clear cooperative group to engage students in a group work. The teacher only assigned the students into a small group then asked them to read the expository text together. As a result, there was no significant improvement on students' score of reading comprehension.

The teacher believed that the results were caused by the students not fitting with the teaching strategy used. Hence, the researcher comes to the decision to use Collaborative Strategic Reading (CSR) as a new strategy to teach reading comprehension. According to Bremer et. al. (2002, p.1), CSR consists of four comprehension strategies that students apply before, during, and after reading in small cooperative groups.

Elkaumy (2004) in Abidin and Riswanto (2012) explains the concept of CSR as the following: the concept of this strategy is engaging students to work in small cooperative groups (3-5) and apply four reading strategies: *Preview, Click & Clunk, Get the Gist and Wrap Up. Preview* allows students to generate interest and activate background knowledge in order to predict what they will learn. *Click & Clunk* is a self- monitoring strategy which controls their understanding about words, concepts and ideas that they understand or do not understand or need to know more about. *Get the Gist.* Students identify the main ideas from reading to confirm their understanding of the information. *Wrap Up* provides students with an opportunity to apply metacognitive strategies (plan, monitor and evaluate) for further extended comprehension.

To support the issues raised in this research, several CSR studies were reviewed. Siahaan (2022) implemented CSR to two classes to find the impact of CSR on students' reading comprehension by considering learners' cognitive styles. The goal of this research is to see how collaborative techniques based on Modular Object-Oriented Dynamic Learning Environment (Moodle) and Cognitive Styles affect students' reading comprehension. Finally, the result of the research revealed that CSR with Moodle is better for learners with independent cognitive styles than for those with dependent ones.

On the other research, Yon A. E. et. al. (2022) conducted an action research by implementing CSR to improve students' reading comprehension in second semester students of the English department. The result of the research showed the implementation of CSR effectively improved the students' reading performance after two cycles. It was indicated by a significant increase of the mean score and critical understanding of the students in pre-cycle and second cycle.

However, Fan (2009) implemented CSR in Taiwan for university students to find the impact of CSR on Taiwanese university students' reading comprehension, explore the process of how they collaborate for text comprehension, and examine their perspectives of the CSR intervention. The result shows that statistically, CSR is effective only on answering two indicators of reading comprehension which are finding the main idea and finding the details. However this strategy was not able to give a significant effect on creating a conclusion and making inference for the students.

Method

This research aimed to investigate the effect of Collaborative Strategic Reading (CSR) strategy towards students' reading comprehension and self-efficacy. To obtain the research, this research applied quasi experimental design with nonequivalent control group design, which involved 60 students of the eleventh grade of senior high school in Lombok. There were two groups that were compared in this research: the control group had 30 students consisting of 14 male and 16 female, and an experimental group had 30 students consisting of 12 male and 18 male. Both classes were chosen by using a purposive sampling method.

The design used treatment 2x2, it consisted of one independent variable and two dependent variables. The independent variable is Collaborative Strategic Reading, while the dependent variables are reading comprehension and self-efficacy. Students were divided into two classes, namely control group and experimental group. The experimental group was treated by Collaborative Strategic Reading and the control group was treated by the previous teachers' strategy (Student Team Learning). Both of the groups were given pre-test and post-test.

This research used two instruments, the Questionnaire of self-efficacy and Multiple Choice of reading tests. For this research, the researcher administered 25 questions of multiple choices. The test was about students' reading comprehension in the expository based on the syllabus. In this research the researcher used questionnaires with likertscale to recognize the students' self-efficacy.

The questionnaire consisted of 25 items, involving the positive statements the Strongly Agree (SA) will be given score 4, the Agree (A) will be given score 3, Disagree (D) will be given score 2 and the Strongly Disagree (SD) will be given score 1. These examinations challenged the learners to acknowledge their reading comprehension and self-efficacy in reading comprehension.

Data analysis conducted by using a quantitative or statistical method. Analyzing the data, students' reading tests were analyzed by calculating their mean score and class percentage which passed the minimum score. Then, the data analysis technique used in this study was ANOVA 2 (two) way or two dimensional analysis of variance. The data was used to investigate whether there was a significant increase in students' reading comprehension after being given the Collaborative Strategic Reading (CSR) treatment in reading class. As a technique, it allows researchers to examine the influence of two different categorical variables on one continuous variable. The researcher uses SPSS 23.0 for windows to get the value of normality, homogeneity and hypothesis.

Results

Table 1 shows descriptive statistics for the students' reading score and students self-efficacy's score. One received using CSR in the experimental class and one received using Student Team Learning in the control class. A statistical description of calculation and test performed through SPSS 24. software as well as analysis and interpretation shownin the following table.

Table 1 figures out the result from 60 respondents that consist of 30 students in experimental class and 30 students in control class. CSR class mean score is 82.40 with SD 4.407, and STL is 58.27 According to Mean score, CSR students performed better in reading comprehension than STL ones. The hypothesis of normality and homogeneity were tested for the requirements of ANOVA analysis that the data must be normal and homogeneity.

Table 1. Descriptive Statistic

	Post-Test Experimental CSR	Post-TestControl STL	Self-efficacy experimental CSR	Self-efficacycontrol STL
NValid	30	30	30	30
Missing	0	0	0	0
Mean	82.40	58.27	82.40	42.17
Median	82.00	60.00	86.00	40.00
Mode	80[a]	60	89	40
Std. Deviation	4.407	4.025	9.902	10.021

Normality Testing

Table 2. Normality Test

		Reading Experiment	Reading Control	Self-efficacy Experiment	Self-efficacy Control
N		30	30	30	30
Normal Parameters[b]	Mean	82.40	58.27	85.50	82.70
	Std. Deviation	4.407	4.025	4.554	6.778
Most Extreme Differences	Absolute	.225	.233	.146	.141
	Positive	.225	.233	.079	.141
	Negative	-.160	-.200	-.146	-.123
Kolmogorov-Smirnov Z		.225	.233	.146	.141
Asymp. Sig. (2-tailed)		.102[c]	.117[c]	.105[c]	.131[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Normality testing was analyzed by Kolmogorov-Smirnov strategy in which the significance level α = 0,05 as the rule to accept or reject the normal test. It is seen that the scores on Sig column by using Kolmogorov-Smirnov strategy for each group are mentioned consecutively: 0.225, 0.233, 0.146, 0.141 which means all the p value scores for each group are higher than 0.05. Therefore, it can be concluded that the study data are normally distributed. Hence, it is possible to perform parametric statistical analyzes.

Homogeneity Testing

Test of homogeneity was conducted using the Levene’s test. The requirement is that the data variance is homogeny if the value is based on mean significance > 0.05, but if it is lower than 0.05, the data variance is not homogeny.

Table 3 below shows that the Sig (p value) for reading achievement was 0.664. It means that the p value is higher than 0.05. Thus, it can be concluded that the variance of the data is homogeny.

Table 3. Test of Homogeneity of Variances

Reading Score			
Levene Statistic	df1	df2	Sig.
.191	1	58	.664

The presumption testing of normality and homogeneity of the information proposed that the data were normal and homogeneous. Thus, the hypothesis testing utilizing ANOVA can be directed.

Testing of ANOVA

The hypothesis testing was carried out by means of the usage of a two-way ANOVA for the predominant effect and persevered with the simple effect. ANOVA checking out was once used to investigate the most important and interaction outcomes between CSR and Self-efficacy on studying comprehension scores. In other words, the extended test was performed to find out which group contributes more to the students' reading comprehension in expository text according to the teaching strategy and the level of self-efficacy. The check effects had been introduced in Table 4.

Answering question one: Does Collaborative Strategic Reading affect students' reading comprehension?

Table 4. Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8785.208[a]	3	2928.403	166.636	.000
Intercept	117841.356	1	117841.356	6705.564	.000
Strategy	2982.459	1	2982.459	169.712	.000
Self-efficacy	37.860	1	37.860	2.154	.148
Strategy * Self-efficacy	16.549	1	16.549	.942	.003
Error	984.125	56	17.574		
Total	306576.000	60			
Corrected Total	9769.333	59			

a. R Squared = .899 (Adjusted R Squared = .894); Dependent Variable: Reading Score

Table 4 figures analysis of variance table. Every subject within the model is tested for its ability to account for variation within the dependent variable.

Main Effect

The computation performed by using SPSS software found that the value of Sig for teaching strategy was 0.000 <0.05 and F observed (169.712) > F table (3,44). It can be concluded that there was a significant difference in reading comprehension between students who were taught by CSR and those who were taught by STL strategy.

Hypothesis Testing

Answering question two: Is there any correlation between CSR and Self-efficacy in enhancing students' reading comprehension?

Table 5. Low, High Reading Score

Low, High	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
High	70.907	1.123	68.658	73.157
Low	68.410	1.278	65.850	70.971

Dependent Variable: Reading Score

The computation performed by using SPSS software found that the mean score of students having higher self-efficacy was 70.907 > 68.410 the mean score of students having lower self-efficacy. It can be concluded that the students having higher self-efficacy have better reading comprehension in expository text than students having lower self-efficacy.

Interaction Effect

The computation performed by using SPSS software found that the value of Sig for teaching strategy was 0.003 < 0.05 and F observed (0,942) < Ftable (3,44). It can be concluded that there were any interactional effects of teaching strategy (CSR and STL) and self-efficacy toward students' reading comprehension depending on the level of students' self-efficacy. In other words, the students' reading comprehension is influenced by the use of teaching strategy and the level of self-efficacy as well.

Discussion

In teaching reading comprehension, there are many strategies that can be used by teachers, such as Student Team Learning(STL) and Collaborative Strategic Reading (CSR) strategy. Since reading comprehension needs more effort to be comprehended by the students, the researcher suggests the students collaborate in comprehending the reading passage like expository text to maximize their understanding regarding the passage.

Collaborative Strategic Reading (CSR) assigns students into a group work that involves them to work in small cooperative groups to solve the problems and to improve their reading comprehension. In other words, CSR was designed to help students in setting a purpose for reading; making justifying, and verifying predictions and creating a conclusion. In addition, Collaborative Strategic Reading (CSR) strategy encourages students to be actively involved in the constructions of meaning. It can be seen from four comprehension strategies that students applied before, during, and after reading in small cooperative groups. It allows the students to discuss and play a role with their friends during the teaching learning process that makes it easier to comprehend the text. This strategy also pilots the students to conduct a process of previewing and predicting as the results of the interpretation. This learning process makes them enjoy their reading activities and ease them to interpret and respond to the content of reading texts. Based on the data obtained, the result of this research showed that the score of students' reading comprehension taught by CSR strategy (experimental class) was higher than STL strategy (control class).

In physiological aspects, self-efficacy is having a very big influence toward students' activity in teaching learning process because it will ease the students to comprehend the text that they read and also finish the task given by the teacher in expository text. Thus, this research concluded that the students having higher self-efficacy have better reading comprehension in expository text than students having lower self-efficacy.

Conclusion

The teaching reading comprehension aims to develop the students' text competence. Collaborative Strategic Reading strategy and Self-efficacy significantly affect the students' reading comprehension. Collaborative Strategic Reading (CSR) strategy helped the students to understand and comprehend the text they read especially in expository text.

According to the average reading comprehension score above, it states that students who were taught by CSR get higher average scores than those taught by STL. In addition, The students' who have high self-efficacy also get higher average in reading comprehension than the students' who have lower self-efficacy. Furthermore, the current study has pedagogical implications. It contributes to providing effective methods in teaching reading comprehension. For teachers who teach reading comprehension, they can use CSR in order to improve students' reading comprehension.

Suggestions

Based on the conclusion above the researcher would like to offer some suggestions to be considered by English teachers, students and for the next researchers.

1. *For English teacher*

The teacher can make the students be more active in the class by using an appropriate teaching strategy that is Collaborative Strategic Reading strategy.

2. *For the students*

The result of this study hopefully could create students' interest in learning by using Collaborative Strategic Reading strategy, so the process of teaching learning will be more fun.

3. *For next researcher*

The researcher hopes that the result of this study is useful for the next researcher as reference for thosewho are interested in English and for those who want to conduct further research about the use of Collaborative Strategic Reading strategy, especially in another different skill.

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Analysis of Students' Mathematical Representation Ability on Phythagoras Theorem in Junior High School

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Abstract: Mathematical representation includes the process of transforming problems or ideas into new forms, including changing pictures or physical models into symbols, words, or sentences that can facilitate students in solving mathematical problems. Pythagorean Theorem material is widely used in analytic geometry, so this material becomes important for students in understanding geometric concepts which makes this material a prerequisite material. Therefore, the purpose of this research is to describe the ability of students' mathematical representations in solving mathematical problems in the Pythagorean theorem material. The research method used in this study was qualitative with the subject of the research being class IX students at one of the junior high schools in Bandung City, totaling 28 people. From the research that has been done, it is concluded that the description of the most dominant mathematical representation ability lies in the low ability of students to present mathematical ideas contained in the problem in the form of image representation so that students are not facilitated in solving a problem presented. In addition, there are still students who experience errors in solving problems involving arithmetic symbols (symbolic representation). In answering questions related to contextual problems, there are still students who have not been able to optimally use representations to model and interpret mathematical phenomena.

Keywords: Mathematical Representation Ability, Pythagorean Theorem.

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Introduction

The National Council of Teacher Mathematics (NCTM) in the book Principles and Standards for School

Mathematics explains that mathematical representation skills are one of the five standard abilities that students must have in learning mathematics (NCTM, 2000). Abstract mathematical concepts require students' access to mathematical ideas and can only be done through the representation of these ideas (Sari & Rosjanuardi, 2018). In line with this opinion, NCTM defines representation as the translation of a problem or idea in a new form, including images or physical models into symbols, words or sentences. Based on the explanations of several researchers above, it can be seen that representation includes the activity of transforming problems or ideas into new forms, including changing images or physical models into symbols, words or sentences. In relation to mathematics, Goldin (2020) in his study explains that mathematical representation is a configuration of visible or real forms or arrangements - such as diagrams, number lines, graphs, written words, mathematical expressions, formulas and equations, which represent ideas. or mathematical relationships. Furthermore, Minarni et al (2016) divide mathematical representation into two parts, namely visual representation which includes graphs, tables, sketches/drawings and non-visual representation including numerical representation, mathematical equations or mathematical models. Thus, representation becomes a very important part of learning mathematics as one of the abilities that refers to the formation of abstractions and demonstrations of mathematical knowledge, as well as illustrations of mathematical problem solving situations. This is reinforced by the statement of Supandi et al (2020) which states that mathematical representation allows students to solve abstract mathematical problems into real ones. Mathematical representation must be emphasized in the mathematics learning process because students' ability to represent problems can help them in solving mathematical problems (Santia et al, 2019).

Fitrianingrum and Basir (2020) in their research show that mathematical representation skills are very important and needed by students in understanding the material given and solving problems. If mathematical representation skills are lacking it causes a lack of students' understanding of the material given so that students find it difficult to understand and work on it. the questions given. Dahlan & Juandi (2011) added that the importance of representation in mathematics learning for students is as a foundation or basis for how students are able to understand and use mathematical ideas in solving a problem. In line with this opinion, Sari & Darhim (2020) in their study explain that representation does not only refer to the results or products of new construction, but involves the thinking process carried out to capture and understand concepts that are used as reasoning tools to express mathematical concepts and ideas. . Thus, mathematical representation includes the thinking process carried out in capturing and understanding various mathematical concepts in an effort to find solutions to realistic mathematical problems through modeling. This mathematical representation ability must be positioned as an important element in strengthening students' understanding of mathematical concepts, communicating approaches, arguments and mathematical understanding to themselves or others.

Research conducted by Yuanita et al (2018) found that mathematical representations have an important role, namely as a mediator between mathematical beliefs and solving arithmetic problems. Research conducted by Mustangin et al (2020) also found that students who have high representation will be able to complete algebra through verbal representation, symbolism, imagination and formal notation which can lead students to solve mathematical problems starting from analyzing, understanding, to concluding to obtain results. correct.

Mathematical representation plays a role in improving students' understanding of mathematical concepts and solving mathematical problems (Supandi et al., 2018). Based on the explanation that has been given, the researcher considers that mathematical representation skills are important to develop because these abilities encourage students to solve mathematical problems.

The results of an international survey conducted by the 2018 Program for International Student Assessment (PISA) on Indonesian students aged 15 years, show that the results for Indonesian students' mathematics scores are still relatively low, namely ranking 73 out of 78 countries evaluated (OECD, 2019). The 2018 PISA study also shows that students in Indonesia scored lower than the OECD average, namely getting a mathematics score of 379 compared to the average international study score of 489. The results of Indonesian students' mathematics scores in the 2015 PISA study were also not much different, namely ranking 63 of 69 participating countries (OECD, 2016). These results show that Indonesian students' mathematics scores based on international studies are still not satisfactory. In connection with the above, PISA questions using non-routine questions very often involve representations of mathematical objects and situations (OECD, 2014). This shows that Indonesian students' mathematical representation abilities are still low. The low ability of students is caused by a lack of representation of students' mathematical understanding, which results in a lack of ideas for mathematical problems. The lack of ideas in mathematical problems results in a lack of translation of these ideas into the form of mathematical objects.

Mathematical representation standards set by NCTM (2000) consist of, 1) creating and using representations to organize, record, and communicate mathematical ideas; 2) select, apply, and translate mathematical representations to solve problems; and 3) using representations to model and interpret physical, social and mathematical phenomena. Meanwhile, Goldin (2020) states that representation consists of internal and external representations. Goldin (2020) further explained that internal representation is difficult to observe directly because it is a person's mental activity in his mind. However, internal representations can be inferred or inferred based on external representations which are the result of manifestations presented in the form of words, symbols, images, graphs, tables or through visual aids. In other words, there is a reciprocal relationship between a person's internal and external representations when dealing with a problem.

One of the mathematical problems that requires mathematical representation skills is algebra (Khairunnisak et al, 2021). The Pythagorean Theorem is one of the algebra materials that uses a lot of mathematical representations in solving problems. The form of mathematical representation used in this material is related to the activity of re-presenting data or information from a symbol representation/mathematical expression to an image representation or vice versa, and using representation to model and interpret contextual problems related to the Pythagorean theorem. Therefore, teachers must develop students' mathematical representation abilities in studying the Pythagorean theorem as an effort to improve students' understanding and learning outcomes. The Pythagorean Theorem is also widely used in analytical geometry, so this material is very important. Therefore, understanding of the concept of the Pythagorean theorem must also be improved.

Based on the previous explanation, it is clear that the Pythagorean theorem is one of the materials that involves various mathematical representations in solving problems. For this reason, it is important to examine and describe students' mathematical representation abilities in the Pythagorean theorem material so that it can become a reference for teaching staff in improving learning practices that are able to develop mathematical representation abilities. The problem formulation that will be looked at in this research is how students' mathematical representation abilities are in solving problems related to the Pythagorean theorem material?

Method

The research method used in this research is descriptive qualitative. This method is used because the research objective is to describe events or experiences and seek in-depth knowledge about the phenomenon being studied (Kim et al., 2017). This research aims to describe students' mathematical representation abilities in the Pythagorean theorem material. The subjects in this research were 28 students in class IX of one of the junior high schools in Bandung City. The object of this research is students' mathematical representation abilities on the Pythagorean theorem material. The data collection technique used is a test technique with a data collection instrument, namely a test instrument in the form of a description test consisting of 4 description questions which have been adapted to indicators of mathematical representation ability. The indicators of mathematical representation ability that are reviewed in this assessment are the three indicators stated by NCTM (2000) as follows:

1. Find and use representations to organize, record, and communicate mathematical ideas.
2. Select and apply mathematics to solve problems.
3. Using representations to model and interpret physical, social and mathematical phenomena.

Data analysis techniques are a way of managing research data to obtain research conclusions. Qualitative data analysis involves organizing, recording and explaining data; in short, understanding data based on participants' definition of the situation, noting patterns, themes, categories and regularities (Cohen et al., 2007). The statistics used to analyze data are carried out by describing the data that has been collected as it is and does not intend to make general conclusions or generalizations. The steps used to carry out data processing are analyzing students' answers based on indicators of mathematical representation ability that have been prepared for each question. The data analysis stages used are data reduction, data presentation and drawing conclusions.

Results

This research was carried out on October 26 2022 in class IX B at one of the junior high schools in the city of Bandung in the odd semester of the 2022/2023 academic year who had studied the material on the Pythagorean theorem.

The following presents data on the results of tests on the ability to mathematically represent material on the Pythagorean theorem which is based on research that has been carried out:

Table 1. List of Acquired Mathematical Representation Ability Test Scores

No	Respondent Code	Score	Value	No	Repondent Code	Score	Value
1	TS	36	60	15	JA	42	70
2	SSZ	44	73	16	RPH	39	65
3	SR	37	62	17	RR	49	82
4	NZG	36	60	18	ZNPP	41	68
5	RSF	37	62	19	HF	45	75
6	WM	49	82	20	MTS	42	70
7	VR	31	52	21	DM	44	73
8	FCS	37	62	22	TN	39	65
9	RF	37	62	23	AMPS	49	82
10	SN	37	62	24	HLJ	34	57
11	SB	37	62	25	BA	44	73
12	DD	36	60	26	HSR	39	65
13	NA	39	65	27	MADR	31	52
14	MAT	34	57	28	RM	39	65

The indicator of mathematical representation used in questions number 1 and 2 is finding and using representation to organize, record and communicate mathematical ideas. Indicator question number 1 is given two measurements of the length of the sides of a right triangle, students can restate data or information from representation to image representation. Meanwhile, in indicator question number 2, several pictures of right-angled triangles are given along with the dimensions of the sides. Students can present picture representations and representations of mathematical expressions that represent these pictures. Based on the review that was carried out on the results of students' answers, the researchers found several findings as follows: 1) Students were not precise in placing the corner points in the triangle drawings they made so they made mistakes in writing the sizes of the sides of the triangle, 2) Students were not perfect in representing the sizes of the sides. - the sides of the triangle in the picture correspond to the size of the side given, 3) Students do not show the picture/symbol of a right angle in the triangle picture they make, 4) Students make a mistake in presenting the image representation as a representation of a mathematical expression.

The mathematical representation indicator used in question number 3 is choosing and applying mathematics to solve the problem. Meanwhile, the problem indicator presents contextual problems related to the Pythagorean theorem, students can solve them by applying the concept of the Pythagorean theorem. Based on the results of the study of students' answers, several findings were found as follows: 1) students experienced errors in presenting questions in the form of pictorial representations, 2) students were less precise in constructing mathematical expressions that represent their pictorial representations, and 3) Students were less precise in applying algebraic operations to solve the problem.

The mathematical representation indicator used in question number 4 is using representation to model and interpret physical, social and mathematical phenomena. Meanwhile, in the question indicators, contextual problems related to mathematical phenomena in the Pythagorean theorem material are presented, students can solve them by modeling these problems into mathematical expressions. Based on the results of reviewing students' answers, there were students who experienced errors in presenting problems in the form of pictorial representations and students were correct in presenting problems in pictorial form but did not complete the results.

Discussion

Indicator 1

Students are not precise in placing the corner points in the triangle drawing they make so they make mistakes in writing the dimensions of the sides of the triangle.

There were 14 students who were incorrect in placing the corner points in the triangle image they had created. This shows that there are errors experienced by students in constructing information/reading into the form of pictorial representation. Below are several variations of student answers:

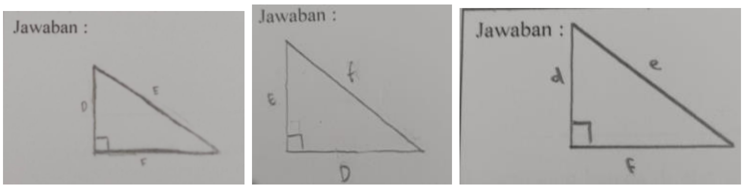

Figure 1. Display of TS, SSZ, and RR Answers to Question Number 1

There are errors in the answers to TS, SSZ, and RR due to students' lack of understanding about corner points. So TS, SSZ, and RR cannot state/write the size of the sides of the triangle in the image. The researcher assessed that the student did not understand the main keyword "Rangular at point E" in the question which is the first step in drawing a right triangle correctly. The three students above looked at the given corner point as a measure of the length of the side of the triangle. Apart from that, there were 4 students who experienced errors in placing the side sizes according to the information provided. This shows that there are errors experienced by students in constructing information/reading into the form of pictorial representation.

Students are not perfect in representing the sizes of the sides of a triangle in the picture that correspond to the sizes of the sides given

There were 21 students who were not correct in drawing a right triangle because they did not adjust the size of the sides of the triangle in accordance with the information in the question. This shows that there is a mismatch between the sizes of the sides of the triangle so that the representation is not perfect. Below are several variations of student answers for this case:

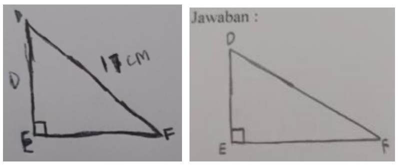

Figure 3. Display of VR and SR Answers to Question Number 1

The VR and SR answers do not show a significant difference in side size between side DF = 17 cm and side DE = 8 cm. The researcher assessed that the student did not focus on paying attention to the sizes of the known sides so that the representation created truly reflected the information provided.

Students do not show the picture/symbol of a right angle in the triangle picture they make

There were 3 students who did not include the right-angled symbol/sign in the right-angled triangle drawing they had made. This will at least affect students' understanding of the Pythagorean theorem material which only applies to right triangles. The following are presented students' answers to this case:

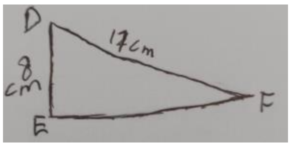

Figure 4. Display of MTS Answers to Question Number 1

The MTS answer does not include signs/symbols from right angles, so the image presented does not form a perfect representation.

Students mistakenly present picture representations to represent mathematical expressions.

There were 8 students who experienced errors in writing mathematical expressions in the form of algebraic expressions of the Pythagorean theorem based on the picture of the right triangle presented. Below are some answers from students who experienced errors in stating the Pythagorean theorem:

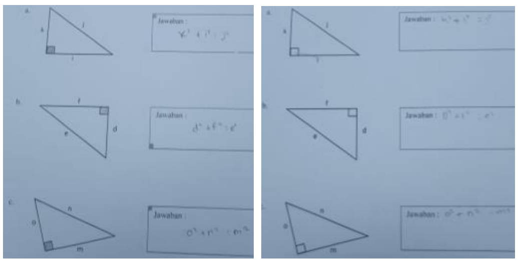

Figure 4. Display of ZNPP and MADR Answers to Question Number 2

ZNPP and MADR answers were correct in questions number 2a and 2b but had an error in presenting the Pythagorean theorem in question number 2c. The researcher assessed that the two students had difficulty interpreting the sides of a triangle when presented in an unusual position. Therefore, students have not been able to properly interpret the Pythagorean theorem, where in any position we can still determine the longest side of a right triangle or on the other hand, students can first determine the sides of the right angle.

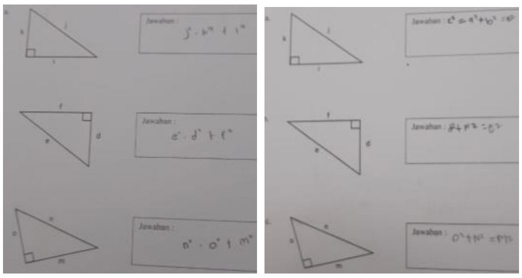

Figure 5. Display of NA and VR Answers to Question Number 2

The NA and VR answers have errors, especially in question number 2a. NA presents an answer which does not represent the Pythagorean theorem which states the square of the sides of a right triangle and is not the measure of the side of a right triangle raised to the power of any number a. Meanwhile, VR in number 2a presents the answer to the Pythagorean theorem, the expression of which is commonly used in various learning sources, which does not correspond to the dimensions of the sides of the right triangle known in the problem.

The four findings above in questions number 1 and 2 indicate that some students do not have a complete understanding of the concept of right triangles. Judging from the indicators of mathematical representation ability, it can be seen that there is a relationship with the appearance of students' answers who are unable to understand the concept of right angles in triangles which are then not perfectly represented in the form of pictures. As stated by Hwang, et al. (2007) that students who are accustomed to listening and listening to what the teacher explains about mathematical material will not be enough to be able to build problem representations. Apart from that, researchers assess that students still experience errors in presenting an image representation to represent a mathematical expression that represents it. The cause of errors lies in students' lack of understanding of the concept of the Pythagorean theorem so that the concept is limited to only certain cases. The name "hypotenuse" in the Pythagorean theorem that students understand can distort their understanding if they are presented with an unusual right triangle shape. This indicates that the name "hypotenuse" is not appropriate in the Pythagorean theorem that is understood by students. Furthermore, the researcher offers the name "longest side" which was previously understood as the "hypotenuse" of a right triangle.

Mawaddah and Maryanti (2016) stated that knowledge will stick around longer if students are directly involved in the process of understanding and constructing concepts and knowledge themselves. This was also confirmed by Ruswana and Zamnah (2018) who stated that when studying, most students use a memorization system rather than discovering the concept of the material, which will cause them to often forget and use it incorrectly. Based on previous explanations, researchers assess that students still experience problems in organizing, recording and communicating mathematical ideas which can be presented in the form of pictorial representations or vice versa. This explanation also indicates that students in indicator 1 are still not optimal regarding visual representation and symbolic representation.

Indicator 2

Based on the results of the review of students' answers, there were 2 students who experienced errors in presenting problems in the form of pictorial (visual) representations, 4 students were incorrect in compiling mathematical expressions that represent the pictorial representations that had been created, and 24 students were incorrect in applying algebraic operations (symbolic representation) in solving problems. Below are several displays of students' answers who experienced errors in stating the Pythagorean theorem:

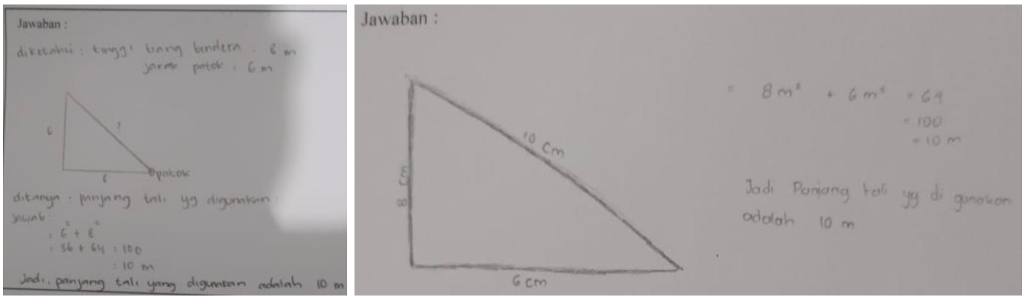

Figure 6. Display of RPH and TS Answers to Question Number 3

RPH experienced errors in presenting problems in the form of pictorial (visual) representations because they did not fully understand the problem. Therefore, the mathematical ideas contained in the problems cannot be transformed into images that can accompany students in solving problems. Meanwhile, TS students are not precise in compiling mathematical expressions that represent the image representation that has been created. Therefore, the mathematical expression that states the Pythagorean theorem does not represent the image that has been created.

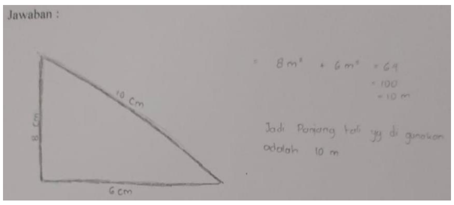

Figure 7. Display of TS Answers to Question Number 3

TS students are not precise in compiling mathematical expressions that represent the image representations that have been made. Therefore, the mathematical expression that states the Pythagorean theorem does not represent the image that has been created.

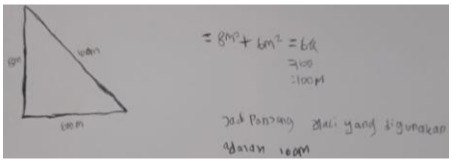

Figure 8. Display of VR Answers to Question Number 3

VR does not appropriately apply algebraic operations in solving Pythagorean theorem problems. Based on Figure 8, it can be seen that students' mistakes lie in their lack of mastery of the concepts of roots and exponents. Therefore, mathematical expressions that are initially presented well but obtain incorrect results due to inappropriate algebraic operations.

Based on the 3 cases above, students were still found to experience errors in choosing and applying mathematics to solve problems. According to Leite et al (2014), practice questions related to contextual problems require students to have great abstraction skills, especially to understand the problem, retrieve data, and then carry out the necessary calculations. Leite et al (2014) further stated that it should be noted that a student's ability to carry out mathematical calculations is not enough to solve the problem: he must reflect on the problem description, retrieve the correct data, identify the concepts involved and finally calculate the answer. This explanation indicates again that the visual and symbolic representation of junior high school students is still not optimal.

Indicator 3

Based on the results of reviewing students' answers, there were 9 students who experienced errors in presenting the problem in the form of pictorial representation (visual), 4 students were correct in representing the problem in pictorial form but did not finish getting the results, and the rest presented the correct representation so they found the right answer. The following displays several student answers:

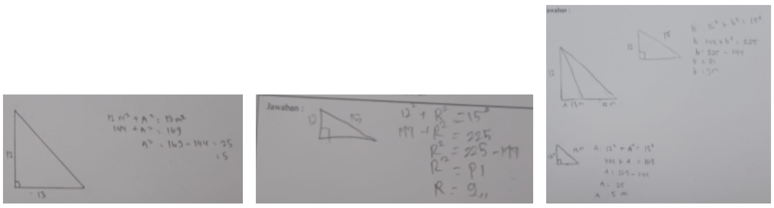

Figure 9. Display of RSF, MAT, and HLJ Answers to Question Number 4

RSF, MAT, and HLJ students experienced errors in presenting problems in the form of pictorial (visual) representations because they did not understand the questions completely. Therefore, the mathematical ideas contained in the problems cannot be transformed into images that can accompany students in solving problems.

SR and RF students were correct in representing the mathematical ideas stated in the questions well. However, the two students were unable to solve this problem completely. This is because students do not understand the questions completely, so they cannot interpret the questions in the pictures that have been presented.

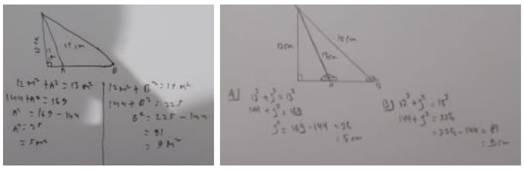

Figure 10. Display of SR and RF Answers to Question Number 4

Based on the explanation of the answers above, it is still found that students experience difficulties in using representations to model and interpret physical, social and mathematical phenomena. In relation to this problem, students are not able to present the mathematical ideas contained in the problem in the form of images that can lead students in solving a problem. Several previous research findings show that students who have problems with pictorial representation experience difficulty in constructing, showing the process and results of mathematical solutions (Surya, Sabandar, Kusumah, & Darhim, 2013). Most students do not have comprehensive abilities in solving problems, students have weaknesses in visual representation, students think it is not important to make graphs, they only think about how to use formulas to solve problems (Minarni, Napitupulu, & Husein, 2016).

Conclusion

The problem formulation in this research concerns the errors or mistakes experienced by students in solving Pythagorean theorem problems related to mathematical representation abilities. From the research that has been conducted, we conclude that the most dominant low ability in mathematical representation lies in students' ability to present mathematical ideas contained in problems in the form of pictorial representations. Apart from that, students were still found who experienced errors in solving problems involving arithmetic symbols (symbolic representation). This is shown by students not accurately transforming image representations into symbolic representations or mathematical expressions that represent them. The lack of precise presentation of visual representations and symbolic representations has an impact on students not being facilitated in finding solutions to the problems presented. In answering questions related to contextual problems, there are still students who are not able to optimally use representations to model and interpret mathematical phenomena.

Recommendations

The suggestion that researchers can make regarding the findings of this research is that in further research they can develop an integrated learning design to improve students' mathematical representation abilities on the Pythagorean theorem material. Apart from that, it is hoped that further research can apply learning methods/models/strategies that are suitable for mathematics learning and can improve mathematical representation abilities in Pythagorean theorem material.

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Analysis of Management Implementation in Agricultural Group of a Village in Northern Sumatera

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Abstract: The objective of this study is to investigate the management implementation of an agricultural group in rural area of Northern Sumatera, Indonesia. This study attempts to discover to what extent the programs of agricultural group be executed. This study utilizes descriptive quantitative design. The population of this research is thirty-three respondents. Data collection was administered by having close-ended questionnaire with fifteen items in it using *P=F/Nx100* formula to calculate. The study showed that 56.54% of respondents stated that planning of agricultural group is conducted poorly, this result is in line with the organization within the group which the 49.48% of respondents agreed. Furthermore, leadership aspect within the agricultural group is also considered poor. The other aspects are programs implementation and controlling or supervising which contribute 53.52% and 53.5% respectively and classified as good and excellent. Based on the findings, it can be concluded that planning, organizing, and leadership aspects within the observed agricultural group is still quite poor. However, program implementation and controlling are considerably good.

Keywords*:* analysis, management implementation, agricultural group

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Introduction

Majority of Indonesians make their living in agricultural sector. The advancement of agricultural sector can be seen from how far the development in it and the income that is produced by the sector . One of the efforts that can be realized to improve agricultural productivity is by managing agricultural group. Program success can be achieved if the management within the group is well-arranged. Management is planning, organizing, actuating and controlling the members of the group and utilizing the sources within it for achieving common group goals.

Agricultural group is the unity of farmers bounded informally and having the same goals. The collection of farmers is defined as agricultural group if they agree to gather and do the work for the sake of group's business. However, in the program management of agricultural group, the conduct is not appropriate yet so that the farmers are not well-educated. Therefore, the farmers are still unable to develop the group.

Coorporating in a group will make the work easier than doing it individually. Therefore, it can be seen from the numbers of agricultural group in Siabu regency that in total there are 416 groups in Siabu with 18 merger groups and two groups namely Melati and Mawar located in Simaninggir. Based on regulations from the Ministry of Agriculture, agricultural group is the collection of farmers/breeder/gardeners formed for the basis of common goals, environtmental conditions (social, economics, sources) and closeness to enhance and develop members' business. Agricultural group can also be defined as non formal organization in a village which is developed from farmers to farmers.

Therefore, the existence of agricultural group in a village needs to be empowered due to the main economics source of the people. İn addition, the challenges of food safety is getting more complex in the future especially in order to reach food resilience. Therefore, agricultural group needs to be fixed and empowered for at least having sustainble living and imporving their prosperity.

In fact, agricultural group management in Simaninggir village remains progressing not optimally as expected. İn addition, the existence of the group is still blurry due to ineffective program excecution. On the other hand, interests and ethusiasm of the members are still low for participating in trainings due to lack of governmental support and focus on this matter.

Above all of the mentioned problems, this study attempts to analyze the implementation of agricultural group management in Simaninggir Village.

Method

Penelitian ini menggunakan jenis penelitian deskriftif dengan pendekatan kuantitatif yaitu penelitian ilmiah yang bertujuan memperoleh gambaran yang jelas dan sistematis mengenai data dan fakta dilapangan, kemudian melakukan analisis terhadap masalah yang ditemukan lalu disimpulkan. maka digunakan table frekuensi dengan rumus:

This study utilizes descriptive quantiative approach that aims to obtain obvious and systematic picture of data anf facts in the real situation. The data then analyzed and concluded with the following formula:

$$P=\frac{F}{N} \times 100\%$$

Notes :

F = answer frequency

N = total respondent

P = answer percentage

100% = fixed number

Participants

The population in this study can be seen as in Table.1.

Table 1. Study Population

NO	Klasifikasi	Jumlah
1	Pengurus Kelompok Tani	4 Orang
2	Anggota Kelompok Tani	29 Orang
3	Jumlah	33 Orang

Instrument

1. Documentation

Documentation is done to gather information and data through documented and saved written works.

2. Questionnaire

Questionnaire is written list of questions used to gather participants' responses related to their personal data and points they know. The purpose of administering the questionnaire is to seek for complete information regarding the problems without affecting participants' mentality in sharing their opinions. İn this study, the questionnaire contains questions that set participants to have freedom to opt as their real condition suggest.

In this study, semi-structured questionnaire developed and each question consists of three answers and one free answer that enables participats to provide alternative answers. The options in this questionnaire are:

1. *a* scored 3
2. b scored 2
3. c scored 1
4. d (free answer) the score is accustomed to *a*, *b*, or *c*.

Procedure of The Research

In this study, preparation stage is initially conducted with observing the research objects. The observation deals with identifying the existing problems within the agricultural group. The problems then formulated to be agricultural group management and leadership so that critics and suggestions can be delivered after the results are found.

After finding the problems, the members of agricultural group are asked to gather with the person in charge of the group. They fill the questionnaire and are documented while doing the activity. All members fill the questionnaire and be interviewed to obtain more accurate data.

Results

Table 2. Planning Aspect

No item	Response(s)		
	A	B	C
1	2	10	21
2	5	13	15
3	3	10	20
Total	10	33	56
Mean	3.33	11	18.66
P%	$\frac{3.33}{33}\times 100\%=10\%$	$\frac{11}{33}\times 100\%=33.33\%$	$\frac{18.66}{33}\times 100\%=56.54\%$

Based on Table 2, 10% of participants state that the planning applied in the agricultural group is obvious and excellent, 33.33% of them state it has been good and the rest 56.54% assume that the planning is still far from expectation.

Table 3. Organizing Aspect

No item	Response(s)		
	A	B	C
4	4	9	20
5	7	11	15
6	7	12	14
Total	18	32	49
Mean	6	10.66	16.33
P%	$\frac{6}{33}\times 100\%=18\%$	$\frac{10.66}{33}\times 100\%=32.30\%$	$\frac{16.33}{33}\times 100\%=49.48\%$

Table 3 shows that 18% assume the organization within the group is considerably excellent, 32.30% state it is fair, and the rest 49.48% think the organization aspect needs improvements regarding to ineffective supervising programs conducted.

Table 4. Actuating Aspect

No item	Response(s)		
	A	B	C
7	6	21	6
8	22	10	1
9	11	22	0
Total	39	53	7
Mean	13	17.66	2.33
P%	$\frac{13}{33}\times 100\%=39.40\%$	$\frac{17.66}{33}\times 100\%=53.52\%$	$\frac{2.33}{33}\times 100\%=7\%$

Based on Table 4, 39.30% of participants feel satisfied with the agenda held by the agricultural supervisors. In addition, harvesting result increases with sufficient support for planting. 53.52% of participants assume that the efforts to encourage the farmers have been fair enough and the rest 7% think that the existence of agricultural supervisors still remain suboptimal.

Table 5. Controlling Aspect

(Controlling) No item	Response(s)		
	A	B	C
10	10	22	1
11	21	11	1
12	22	11	0
Jumlah	53	44	2
Mean	17.66	14.66	0.6
P%	$\frac{17.66}{33}\times 100\%=53.5\%$	$\frac{14.66}{33}\times 100\%=44.5\%$	$\frac{0.6}{33}\times 100\%=2\%$

Table 5 shows that 53.5% of participants agree that the supervisors always control the activities, conditions in the field and the members well. 44.5% of participants supervisors do the job fair enough and the rest 2% feels unsatisfied with the performance.

Table 6 demonstrates that 12.12% of respondents state excellent for the implementation of leadership in agricultural group, 24.45% of participants think it is fair enough and the rest 63% think leadership within their group requires more improvements.

Table 6. Leadership in Agricultural Group

No item	Response(s)		
	A	B	C
13	4	12	17
14	5	7	21
15	3	6	24
Total	12	25	62
Mean	4	8	20.70
P%	$\frac{\mathbf{4}}{\mathbf{33}}\times 100\%=12.12\%$	$\frac{\mathbf{8}}{\mathbf{33}}\times 100\%=24.25\%$	$\frac{\mathbf{20.70}}{\mathbf{33}}\times 100\%=63\%$

Discussion

The questionnaire administered to the participants consist of 15 items that contain points related to planning, organizing, actuating and controlling. Regarding to the planning aspect, most of the participants selected the C option which states that the planning within the group is still inappropriate. This is proven by lack of information obtained by the participants regarding to the schedule of the program and miscommunication during the program. Therefore, improvements needed in this aspect. This aspect takes 56.54% agreement on the statement. For management aspect, very little participants state that the management has run quite well. However, most participants think the need of enhancing the management aspect for the betterment within the group.

1. Program Organization

Organizing in a group is one of the most significant aspects to build and lead a group for accelerated development. However, agricultural group in this study still remains far from the expected criteria of good organized group. It is demonstrated by the data that 49.48% of participants agree that developments and fixes needed in this aspect.

2. Program Actuating

Encouragement done by the agricultural supervisors is considerably excellent as perceived by the members of agricultural group. This is demonstrated by 53.52% participants agree that the programs held are helpful for the farmers and the sources provided also support the increase of harvest results.

1. Program Controlling

Most respondents agree that the controlling aspects within the group is considerably excellent by 53.5% reflected by the controlling from supervisors to field condition and members' internal condition.

2. Leadership

Leadership within the group is considered vital. Good leadership will lead an organization to achieve the goals.

However, based on the questionnaire, it can be concluded that only 12.12% of participants think that the leadership aspect in their group is good enough.

Conclusion

From the results of this study, it can be concluded that based on POAC (Planning, Organizing, Actuating and Controlling) aspects, the management in agricultural group still requires a lot of improvements especially planning (56.54%=poor), organizing (49.48%), and the other aspect that needs to be fixed is leadership (63%=poor). Therefore, developments and concerns to these three aspects must take into account.

Recommendation

Future researchers are suggested by implementing more samples so that the generalization of the findings can be achieved.

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Developing Interactive Multimedia for Teaching Speaking Descriptive Text to Culinary Program Students

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Abstract: The objective of this research was to develop interactive multimedia for teaching speaking descriptive text to tenth-grader students of the culinary program. This research was conducted by using the research and development (R & D) approach adapted and modified from Borg and Gall. The procedures were conducting needs analysis, designing the program, validating to experts, revising, and producing the final product. The subjects of the research were thirty-five students in the culinary study program. The instruments for collecting the data were questionnaires (a needs analysis questionnaire and expert judgment questionnaires). The results of the data collection were analyzed quantitatively by using descriptive statistics. The result of this study was an interactive multimedia for teaching speaking descriptive texts to the tenth grader students in one of the vocational schools in Medan. The findings of this study showed that the interactive multimedia for teaching speaking descriptive texts has met good characteristics. It was indicated by the mean score of 93.3% for the content aspect, 93% for the media aspect, and 90% for the interactivity aspect based on expert judgments.

Keywords: Research and Development (R&D), Interactive Multimedia, Descriptive Text

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Introduction

Communicating in English is found difficult to be fluently mastered among Indonesian high school students. Previous research has revealed internal and external factor affecting students' incapacity to speak English (Suryani, et. al., 2020; Abrar, et. al., 2018; Fachrunnisa and Nuraeni, 2022). Internal factors were cognitive and affective aspects while the external factors included learning environment and practice. EFL instruction frequently falls short of its intended objective, leaving learners with insufficient speaking ability. Besides the fact that English is barely used as the main device of communication in Indonesia, English environment was not introduced and provided at school. Clearly, the EFL environment itself is the primary issue.

Utilization of learning media has proved to be valuable in improving students' ability to speak. Erben, Ban, and Castañeda (2008) believed that the integration of technology inside English as a Foreign Language (EFL) instruction in classrooms, along with the provision of optimal and engaging language input, resulted in positive and improved outcomes. Furthermore, Mayer and Moreno (2003) explained upon the cognitive theory of multimedia learning, describing the cognitive processes involved in information processing when accompanied by visual and auditory stimuli. In the context of multimedia learning, the sensory memory of the auditory and visual systems is engaged to process incoming information. This information is then integrated into the working memory through the utilization of verbal and graphical models. This integration has the potential to activate relevant background knowledge stored in long-term memory. The principle of multimedia learning, as proposed by Mayer (2009), provides support for Krashen's input hypothesis, which suggests that language acquisition is facilitated by comprehensible input. If the provided input is understood and considered sufficient, the necessary grammatical structure is produced automatically, as discussed by Saville-Troike (2006).

It is well-established that multimedia technology has overcome a number of EFL-related challenges. Globally, the usage of multimedia learning has demonstrated a significant influence on students' English performance. Through observation of English language classes at a private university in Bangladesh, Islam (2020) summarized the students' viewpoint that multimedia is engaging, efficient, and beneficial. In addition, Lin & Wu (2020) investigated the effectiveness of multimedia teaching content on vocabulary acquisition and learning motivation of 3rd-grade students in Taiwan. They suggested that multimedia-material teaching can make learners learning more productive, abundant, and efficient. Moreover, in a study conducted on 90 first-year of undergraduate students in China, Wang (2022) proved that multimedia-assisted language learning provides authentic learning resources, cultivates learner motivation, complements traditional curriculum, and increases better learning outcomes in listening and reading. Overall, in an overview of reviews on multimedia design for learning, Noetel et.al. (2021) synthesized good multimedia design can have a transformative effect on a range of educational outcomes.

In the context of Indonesia, based on students' need analysis, studies aiming to develop interactive multimedia learning have arisen recently. One study by Elviana, Inderawati, & Mirizon (2020) aimed to find out the validity, practicality, and potential effect of the developed interactive multimedia for teaching descriptive texts based on Palembang local culture. The result showed that the product was very highly practical and potentially effective to be applied. Moreover, Sari, Mirizon, & Inderawati (2021) pointed out that the developed interactive multimedia of recount text was categorized very high practicality level and had evaluated through one-to-one evaluation, small group evaluation, and field test with 35 participants achieving 71 as the minimum mastery criterion. Another study related was conducted by Irawan (2021), revealed that multimedia-based English listening material was developed into an executable file (*exe) and considered valid and practical. These researchers highlighted an opportunity to enhance the teaching and learning process by incorporating digital devices.

Integrating technology, in the 21st century, is typically a requirement for a teaching qualification. The Indonesian government strongly encourages it via several policies. In a regulation regarding process standards in early childhood education, basic education levels, and secondary education levels, in Permendikbud Number 16 the Year 2020 third section – strategies to attain learning objectives, article 7 verse 2 states that learning strategies should be designed to provide a high-quality learning experience through the use of information technology tools and communication (translated from permendikbud number 16 the year 2020).

Considering the fact that speaking English remains difficult for Indonesian students, learning strategies should be designed exciting, practical, motivating, and student-centered. In response, the study gives an account to develop interactive multimedia for teaching speaking descriptive text to culinary program students. This media development was based on an investigation of the students' media learning needs in a more specialized linguistic context involving culinary activities.

Method

This study was conducted by using the research and development (R & D) approach adapted and modified from Borg and Gall (2003). The population of this study was 35 tenth-grader students of the culinary program in one of the vocational high schools in Medan, Indonesia. Moreover, in attaining students' need regarding the criteria of good interactive multimedia, a need analysis questionnaire was distributed to the students. The results of the data collection were analyzed quantitatively by using descriptive statistics. Furthermore, the procedure of media development is shown in this following figure.

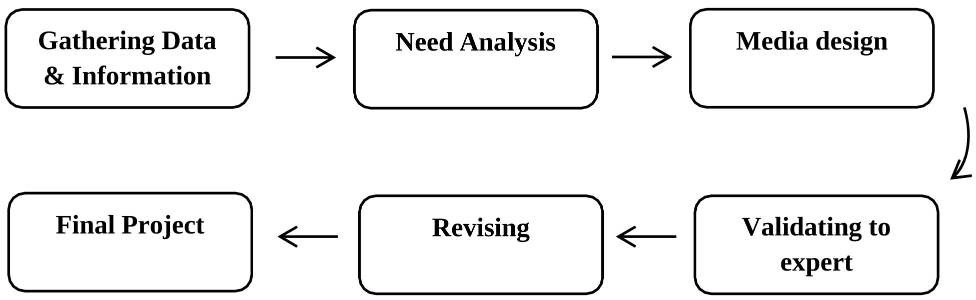

Figure 1. Research and development cycle adapted and modified from Gall et. al. (2003)

The collection of data and information regarding students' problems and the needs for learning media was conducted through a primary observation. Furthermore, a questionnaire for needs analysis was provided in order to obtain the opinions of students regarding the criteria for effective interactive multimedia. The interactive multimedia was developed as an English learning-teaching strategy in accordance with the Indonesian 2013 curriculum, taking into consideration the students' needs and employing a scientific approach. In practical terms, the learning process was enggaged in research activities such as observation, experimentation, and association (Nugraha & Suherdi, 2017; Ratnaningsih, 2017). Moreover, the media received validation by experts through a front-end analysis to determine the suitability of using interactive multimedia in the classroom. Moreover, the media was revised in accordance with the critiques and suggestions provided by experts. Finally, following the revision, the media is ready for implementation within the educational setting.

Findings

Need analysis

In conducting this study, the second phase in doing this research was to perform a needs analysis, since the first step of preliminary observation indicated that the media utilized in the classroom was less fascinating and motivating power point slide sharing. This students' need analysis became the guidance to develop the media.

Table 1. The Data of Student' Needs Analysis

No	Questions	Option	Number of Students
1.	I recognize Interactive Multimedia	Yes, I do.	20
		No, I don't	15
2.	In Interactive Multimedia, I prefer if the speaking activity is:	Monologue and or dialogue conversation	25
		Role play	9
		Reading text	1
		Others	-
3.	In Interactive Multimedia, I want the descriptive texts topics to be:	Chefs, foods, and restaurants	35
		Tourism	-
		Arts	-
		Others	-
4.	I need recorded monologues and dialogues in Interactive Multimedia	Yes	35
		No	-
5.	I need a layout in Interactive Multimedia that:	Interesting	1
		Motivates me to study	10
		Has a nice color combination	-
		Combination of a, b, and c	24
6.	I want the font type in Interactive Multimedia to be:	Bold	2
		Varies	-
		Simple, clear	10
		Varies, clear, and legible	23
7.	I want a color combination between the display background and letters in an Interactive Multimedia that:	Not colorful	- 26
		Use the right color combination	9
		The letters have a lightcolor	
		Others	-
8.	I need the use of illustrated explanationin Interactive Multimedia	Yes	35
		No	-
9.	I want back sound and music in Interactive Multimedia	Yes	35
		No	-

10.	I want the use of navigation (buttons) in	Not messy	-
		Has corresponding navigation icon	-
		Easy to find	-
		Combination of three options above	35

According to the data presented, the majority of students have identified an interactive multimedia. In developing interactive multimedia, the majority of students favor monolog and dialog speaking activities. The students also desired that the material be relevant to their culinary-related study program. The layout should be engaging, motivating, and employ appealing colors. The students also desired fonts that are varied and legible. In addition, the background should have an attractive color scheme. In addition, using the media should be accompanied by a clear and explanatory illustration and a quality back sound. Additionally, the preferred navigation of next, previous, and exit should be simple to locate and understand.

Developing Interactive Multimedia as a Learning Media

The Interactive Multimedia was created using Adobe Photoshop, Adobe Flash, and internet-sourced supporting characters. The creation of the interactive multimedia required several stages. The phase planning entails preparing the material, designing the storyboard, editing the background and locating the characters, adding background music and videos, and preparing the background material. The Interactive Multimedia has the desired effect on the students. It contains the necessary texts, images, audio, and explanations for students. All components were exported to a flash player to make it simpler for students and teachers to utilize. Interactive multimedia is highly recommended as learning media for teachers.

In the teaching procedure implemented under the scientific approach, the instructor initiated the instructional session by extending a greeting to the students, verifying their presence through attendance confirmation, and subsequently engaging in a prayer. Subsequently, the instructor provided a concise overview of the coming topics to be delivered. During this phase, the instructor initiated the deployment of the pre-existing Interactive Multimedia, which displayed the Home Menu. The Home Menu displayed many options such as the User Guide, Learning Goals, and Topic buttons. Students have the option to utilize the User Guide as a source of help when navigating the media platform. Additionally, they can refer to the Learning Goals to gain an understanding of the specific objectives they should strive to accomplish upon engaging with the media. Furthermore, students can access the Topic section, which provides descriptive text speaking materials, by simply clicking on the corresponding button. The visual representation of the Home Menu is provided here.

In order to implement the scientific approach, Ratnaningsih (2017) stated that Scientific Approach can be done in the following steps: (a) Observing, (b) Questioning, (c) Experimenting, (d) Associating, (e) Communicating. The observing phase enabled the students to visually examine the content of a detailed written explanation presented in a comic format. In this particular instance, the teacher facilitated the students' exploration and understanding of the material contained inside the comic. The comic's explanatory content is clear and easily understandable. To enhance the teaching-learning process, it is imperative for teachers to exhibit creativity by actively engaging students rather than merely relying on comic reading. The visual representation of the comic is presented in the following manner.

Figure 2. Home Menu of the Interactive Multimedia

Figure 3. The Descriptive Text Explanation of the Interactive Multimedia

Figure 4. Describing People Activities

The subsequent stage involves the process of questioning. The teacher allowed the students to inquire about the descriptive text to the fullest extent feasible. The teacher has to find out whether the student comprehends the concepts related to the descriptive text. This approach enhanced the level of interactivity in the teaching-learning dynamic between the teacher and the students. Following the initial explanation of descriptive text, during the experimenting phase, the teacher instructed the students to select the category of Describing People. In this step, the teacher guided the students to understand more about the descriptive text by showing the example of dialogues. The appearance of the example of the text was given in Figure 4.

During the associating phase, the teacher aimed to stimulate the students' critical thinking abilities. This stage can be accomplished by providing students with a practical exercise. The teacher instructs the student to select the Topic Menu button and navigate to the Describing Food button in order to access an additional exercise on speaking descriptive text. The purpose of this exercise is to provide guidance and facilitate the development of the student's speaking skills. The visual representation of the practice is displayed in the image provided below.

Figure 5. Describing Food Activities

Finally, the communication stage served as the final stage of the students acquired information. During this phase, the teacher provided guidance to the students in order to facilitate their synthesis of the content and also offered feedback to address any errors made by the students. For instance, the teacher might conclude complex vocabularies extracted from the book, which can then be committed to memory.

Developing Interactive Multimedia as a Media

The media that has been developed has undergone validation by experts. The questionnaire was made based on rating scale. The scale are excellent (5), good (4), fair (3), less (2), very less (1). The questionnaire was completed by an English lecturer and an English teacher who has expertise in the field. The validation was done to approve the many elements and features present in the learning media, including but not limited to color, typeface, content, and instrument. The questionnaire administered by the experts encompassed three distinct aspects: content, media, and interactivity.

Table 2. The Data of Expert's Validation to Content Aspect

Items Assessed	Experts I	Experts II	Percentages	Criteria
The material is in accordance with the learning objectives in interactive multimedia	5	5	100	Excellent
The material is in accordance with the needs of students in learning English	5	5	100	Excellent
The use of grammar, spelling, and sentence structure is correctand easy to understand	5	5	100	Excellent
The difficulty level of the evaluation questions is in accordance with the students' abilities	4	4	80	Good
The material is useful in students' life	4	5	90	Excellent
Feedback is sufficient (Response to right/wrong answers)	4	5	90	Excellent
An overall assessment	27	29	93.3	Excellent

Based on the data presented in the aforementioned table, it is evident that the average score obtained from expert validation of the linguistic aspect is 93.3%. This indicates that the assessment of the indicators is excellent. The first aspect was to identify whether the learning media already fulfilled the standard to be used in explaining the descriptive text, which already categorized as excellent by the experts, which meant the learning media was appropriate for the class.

Table 3. The Data of Expert's Validation to Media Aspect

Items Assessed	Experts I	Experts II	Percentages	Criteria
The font/font design is correct in style and size	4	5	90	Excellent
Text is clear and easy to read	4	5	90	Excellent
The composition and color combination are good	5	4	90	Excellent
Image display is good	4	4	80	Good
Easy to use software (interactive multimedia)	5	5	100	Excellent
The instructions for using the software are clear	5	5	100	Excellent
Easy to operate the available buttons	5	4	90	Excellent
Students are free to choose the menu	5	4	90	Excellent
Sound and music are in accordance with the screen display	5	5	100	Excellent
Conversational voice (dialogues) and pronunciation are clear	5	4	90	Excellent
Media helps students to understand the material easily and interestingly	5	5	100	Excellent
Media can generate students' motivation in learning English	5	5	100	Excellent
An overall assessment	62	59	93	Excellent

Based on the aforementioned table showing experts' validation of media aspects, it is evident that the average score assigned by the experts for the media aspect is 93%. This aspect was used to identify the relevancy of the layout, including the fonts, backgrounds and also characters used in the learning media. Another component that was noticed was the arrangement of the fonts and the design materials, and whether they were suitable for students or not. Additionally, it assessed the effectiveness of the visualization and the overall quality of the instructional materials. The experts classified the components as excellent overall.

Table 4. The Data of Expert's Validation to Interactivity Aspect

Items Assessed	Experts		Percentages	Criteria
	I	II		
The interactivity of the media is in accordance with the students' ability	4	5	90	Excellent
This interactive media provides an opportunity to interactwith icons or buttons	4	5	90	Excellent
This interactive media asks students to apply what studentshave learnt rather than memorize it	4	5	90	Excellent
Students can operate the media independently	4	4	90	Excellent
Students can learn independently using the interactive media	4	5	90	Excellent
An overall assessment	20	24	90	Excellent

Based on the analysis of expert validation of the interactivity aspect, it is evident that the average score assigned by experts for the interactivity element is 90%. This indicates a good assessment of the indicators. The utilization of interactivity is employed to determine whether the learning media has successfully facilitated interaction between students and the media, as well as whether the learning media has provided opportunities for autonomous study for the students. Upon conducting revisions to the media, the ultimate version of the product was successfully accomplished. The media utilized in the teaching and learning process was designed to meet the needs of the students and considered suitable. This implementation effectively enhanced the students' interest and speaking performance.

Findings

The creation of Interactive Multimedia was achieved through the implementation of research and development phases, as outlined by Gall et al. (2003:407). The material created is considered suitable and relevant to the students' interests, as it is grounded in their needs analysis. One method to enhance students' motivation in learning English, particularly in developing their speaking skills, is to analyze their needs through their own interests. In accordance with the findings of Wang (2022), it is asserted that the utilization of media holds significant importance in facilitating speaking activities within the classroom setting. Additionally, the utilization of learning media can enhance students' motivation to engage in the learning process by incorporating engaging and attractive media.The validation outcome encompassed three distinct aspects, namely the content aspect, media aspect, and interactivity aspect. The average score for expert validation of the content component was 93.3%, and the criteria used for evaluation were considered excellent. The average score for expert validation of media element was 93%. The criteria used for evaluation proved outstanding. The average score for expert validation of the interactive feature was 90%. Furthermore, the experts' validation of the average scores for the content aspect, media aspect, and interactivity aspect is 92%, indicating an outstanding assessment of these factors. Overall, the outcomes of expert validation on Interactive Multimedia are highly positive. According to the validation sheets provided to the lecturer and teacher, the text that is highly appropriate for classroom implementation is a descriptive text concerning people, food, and places that are relevant to the culinary syllabus. A suitable culinary material facilitated students in effectively capturing the essentials of their everyday experiences. Ultimately, compiling the English learning strategies with the aid of interesting, effective, and efficient learning media based on the students' needs is supported.

Conclusion

Upon careful analysis of the data, it has arrived at the conclusion that the students' current speaking media lack interest. Furthermore, it has been determined that the media employed by the teacher does not sufficiently facilitate students' understanding of descriptive text speaking. Many students encounter challenges while attempting to articulate their thoughts and communicate fluently, leading them to choose a passive learning approach. Students express a desire to engage with fascinating and impacting media that serves as a source of motivation for their learning aspirations and facilitates the development of descriptive speaking skills. A potential option for addressing their needs is the development of innovative forms of multimedia. The process of developing Interactive Multimedia follows research and development (R&D) phases proposed by Gall et al. (2003). These phases can be summarized as follows: (1) Gathering Data and Information; (2) Need Analysis; (3) Design Media; (4) Validate by expert; (5) Revision; (6) Final Product. The validation score assigned by the validators was 92%, indicating an excellent categorization. This implies that the media utilized proved valid and suitable for descriptive speaking learning among students.

Recommendation

This study did not look at how the media affects the students. So, for the next research and development, testing and evaluating should be done not only with the experts but also with students who are learning how to talk about descriptive text in the classroom. This will give a more accurate evaluation.

Acknowledgements

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Analysing The Effectiveness of The Communication Modes Used by Mangaung Metropolitan Municipalities and Its Community Regarding Water Services

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Abstract: This study sought to understand and answer the questions on how the Mangaung Metropolitan Municipality communicates with its stakeholders; what way of communication they are using particularly externally, to communicate with its consumers; furthermore, whether the communication is effective at all levels. Studies revealed that the most majority of communication is carried out internally by emails, meetings, and phone calls. For the external side, the mode of communication is carried out via social media most of the time, followed by emails, radio, WhatsApp groups via the corporate body, as well as the traditional way of communication, which is word of mouth. To answer the question of the effectiveness of the communication, the study reveals that the communication is not effective, following the answers given by the respondents who participated in the study. Many of them raised complaints of an absence of communication between them and those responsible for water, by implying that the communication is one way, which implies that it is only when those responsible for communication, send the information, not the other way around. The community complains about the MMM call center telephone going unanswered, the unavailability toward the community, as well as a lack of feedback. However, due to the size of the sample, this research result cannot be taken as a generality. This dissertation may contribute to the proposal on improving the quality control of the infrastructure, improving the quality of their service management, the consideration of employing qualified and competent staff, to come up with an efficient plan for the strategy of communication as well as, to build a welcoming environment for effective communication. To carry out an evaluation on how the lack of communication may affect both the water representatives and the customers, so to observe and improve the way of communication.

Keywords: Communication challenge and improvement; Communication modes; Municipality; Water quality; Service delivery

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Introduction

Background

Major cities and towns in the Mangaung Metro include Bloemfontein, Botshabelo, Dewetsdrop, Soutpan, Thaba Nchu, Van Stadensrus, Wepener. Recently, the inhabitants of the Mangaung Metropolitan Municipalities (MMM) experienced serious water shortages which sometimes lasted for extended periods.

The Minister of Water and Sanitation of South Africa, Nomvula Mokonyane, during the defense of her budget vote in 2016, blamed the lack of water resources on drought.

“Don’t be fooled by the rain, Mangaung is still suffering from severe drought” says the Chairperson of Bloem Water, Tefesto Phistane, at a joint media meeting organise by Bloem Water (Coetzee & Semenokane, 2016). According to Green Overall (2018), Bloemfontein is amongst the cities in South Africa that are challenged with water supply and demand as a result of poor infrastructure and maintenance.

Aging infrastructure put significant pressure on the Bloemfontein municipality’s water system. Besides water shortages, high quality water demand is compromised by deteriorating water treatment works (Water for Africa, 2017).

Both Bloem Water and the Mangaung Metropolitan Municipality (MMM) are responsible for water provision to the municipality. Bloem water treats water and supplies the municipality, which then supplies water directly to the community. MMM, being a metropolitan municipality, further has a mandate to treat and supply its own water to the community.

The MMM is the link between communities, the broader government structure of Free-State and water affairs of Free State. Therefore, whenever there is a difficulty concerning service delivery, the municipality has the obligation to inform communities in order to build a standing relationship and maintain their image or their reputation.

Horak (2006), states that if local government implements better communication, the reputation and relationship will not be fainted if a difficulty problem or crisis occurs.

Horak indicate that the Municipality uses a certain number of Subsystem which is tactically established in communities to achieve its mandate and to build relations, and which are necessary for service delivery and feedback (Albert, 2011).

Government mandates demand that national, provincial and local government communication on issues of services delivery should increase access to information that allows the public to participate in the country's change and the improvement of their own livelihood (Albert, 2011).

According to Albert (2011), the administration of communication at a local municipality, such as Mangaung, is a critical factor in ensuring better communication with the communities in the municipal area.

Problem statement

According to Green Bloemfontein (2018), water quality in the MMM is becoming poor and it is near impossible to drink tap water. For a couple of weeks during 2018, the residents in the city have raised their concerns over the city's water quality (Motse, 2018), after water of poor quality was supplied from the municipality to the community.

The MMM rejects this accusation of water in Bloemfontein being of poor quality. However, according to Motse (2018) tests indicate significantly high levels of E. coli and coliform bacteria present in water. The tests also show that water supplied to Soutpan is not safe for consumption (Motse, 2018).

The Free State Health Department spokesperson, Mondli Mwambi, told OFM News that the Department of Health were not aware of the large volumes of people with stomach related illnesses as result of the poor quality of water (Motse, 2018). As a result, the MMM suggests the population in affected areas should boil water before consumption (Green Bloemfontein, 2018).

According to South Africa's constitution, it is the obligation of the government to provide water of good quality to the community and, until now, this does not appear to be the case (Bloemfontein Courant, 2018).

As a consequence of the provision of water of poor quality by the municipality, the communities developed a negative image about the management of the MMM and the Department of Water and Sanitation (DWS). This negative image boils down to communication challenges.

The community expect from MMM to be provided with high-quality services and to be informed at the correct time about all challenges or difficulties, that may affect their expectation.

The MMM and Bloem water, as the representatives of the Department of Water and Sanitation (DWS), are responsible for providing potable water to the Mangaung communities. However, the municipality is the one that is close to the community in terms of providing water and giving information concerning their service delivery.

Water provisioning and quality challenges seem to emanate from these two organizations and can be traced back to communication issues that have impacted the water quality, quantity and overall water service delivery to community.

Research aim and objectives

This study further investigated whether the two organizations were working together toward those goals and if they were working to maintain a positive reputation in their partnerships, through the eyes of the communities. Therefore, the study explored the mode of existing communication among the different stakeholders. This research is unique, as it has never been carried out in the Mangaung community.
To reach this aim, the following were the main objectives of the study:

- To investigate the current existing channels of communication between the Mangaung Metropolitan Municipality, Bloem water and the Department of Water and Sanitation.
- To explore the existing communication within each governmental sector, operating in the Mangaung water sector e.g., Bloem water, Mangaung Metropolitan Municipality and DWS.
- To explore the existing mode of communication between Mangaung, Bloem Water and the communities.
- To advise on improved communication strategy for water service delivery.

Literature review

Geography, Climate and History

According to the South African Government Communication and Information System (GCIS) as referenced in SALGA (2011), the MMM is a category A Municipality. A category A municipality is a "municipality that has exclusive municipal executive and legislative authority in its area" (SALGA 2011).

The MMM is in the Free State Province, the Central interior of South Africa. The Province of the Free State is surrounded by the provinces of Gauteng, Eastern Cape, Northern Cape, KwaZulu Natal and Northwest, as well as the Kingdom of Lesotho.

According to information derived from the census Statistics South Africa (2022) the population of Mangaung has increases from 645,440 to 747,431.

The MMM covers more than 6,263 square kilometres. The languages spoken in the area are Sesotho, Afrikaans, English and Setswana (SALGA 2011).

Bloemfontein is in central South Africa on the southern border of the highveld, at an elevation of 1,400 meters (4600 ft), bordering on the semi-arid region of the Karoo. The area is flat with irregular hills, with hot summer days and winters, frequent with frost.

The economy is managed by the government sectors, which have grown rapidly in the last five years, as result of a series of government programmes targeting the inhabitant. Small business plays a major role in South Africa, and significantly more in Mangaung, when it comes to creating jobs and development in the economic sector.

Major cities and towns in Mangaung include Bloemfontein, Botshabelo, Dewetsdrop, Mangaung, Soutpan, Thaba Nchu, Van Stadensrus, Wepener etc. The city's main economic sectors are community services (35,3%), finance (26,88%), trade (16%), transport (11,8%) and manufacturing (3,5%) (MMM, 2012).

MMM and Municipality Government Structure and Functions

The constitution of the Republic of South Africa, 1996 (No 108 of 1996), Chapter Seven, states that "the municipality has the right to govern, on its own initiative, the local government affairs of it community, subject to national and provincial legislation, as provided for in the constitution", and "the national or a provincial government may not compromise or impede a municipality's ability or right to exercise its powers or perform its functions".

According to the constitution, the municipality encourages social and financial growth in areas that they worked. However, the developmental responsibilities, according to South Africa's constitution, is for the municipality to structure, manage its administration, budget, and give priority to the basic requests of the community, encouraging the social and financial developments (Thekiso, 2016).

In 2011, MMM (Bloemfontein, Thaba Nchu, Botshabelo and others town) became one of the eight category A municipalities, i.e., Metropolitan Municipalities, set-up in large cities of over 500,000 voters (Thekiso, 2016).

Mayekiso et al., (2013) states that municipalities are expected to create favourable environments, to captivate investment and guarantee, that infrastructure are in suitable and acceptable standards.

Thekiso (2016), stipulates that municipalities should make mechanisms to support and train communities, to improve them economically through the expanded Public Works Programme (EPCW) or co-operatives, which is further one procedure of business ownerships.

According to the Municipal Systems Act 32 of 2000 in the South African Government Gazette, the direction of a municipality should be open to the requirements of the community. Furthermore, it is the obligation of government to encourage entrepreneurship and micro and medium firm development, to raise the standard of living of its citizens (Municipal Systems Act 32 of 2000).

Department of Water and Sanitation

The DWS plays an important role in water services in South Africa. The department has developed strategies that agree with the established legal framework, along with the National Water Services Regulation Strategy, by the previous Department of Water Affairs and Forestry (SALGA, 2011). The following are the objectives of DWS, as indicated by the South African Local Government Association (2011):

- To make sure that the communities have access to a basic service (many families in South Africa do not have the facilities of basic water supply and sanitation service).
- Compliance, in accordance with minimum standards (the community of customers, whose services should be protected from the facilities to basics services).
- Environmental safety (to make sure that appropriate investment is carried out and used in water treatment and that all discharge from water and used water methods are managed appropriately and correctly, to protect the environment).
- Economic sustainability (to make sure that water services delivery is economically sustainable, and they acquire sufficient income to work and preserve the water services infrastructure, to increase the network as wanted, and to invest in the rehabilitation renovation and renewal of the network over time).
- Fees effectiveness (making sure that the customer is respected, resources and money is not wasted and that customers do not pay more than they should).

Municipal Organization

According to SALGA (2011), the strategy and structure for water services are set out in the regulatory structure for Water Service Authorities. WSA is expected to manage all situations of water service delivery problems at a Municipal level. In the situation where the water service authorities are also the Water Service Provider such as the MMM, there is a self- operating principle. The municipality play both the role of the regulator and provider. SALGA (2011) stipulates that there is not a clear definition between the role of the water authority and the water provider. Water service responsibilities were not specified and in general, the municipality has been conducting the WSP and WSA roles in its own way.

In general, it should be known that the MMM is the water service authority and provider, while Bloem water is the water service provider.

Responsibilities of Water Service Authority

In the Water Act (1998) of South Africa Mangaung is a water service authority, as it is a municipality. According to SALGA (2011), the roles of the WSA, such as the MMM, are to:

- Decide on policies concerning the tariffs, subsides and service standards.

- Established tariffs.
- Execute and apply water services by-laws.
- Plan the supply of water services (the Water Services Development Plans).
- Monitor results such us potable water standards and used wastewater discharge.

The responsibilities of the WSP are:

- Planning business.
- Running of Water Services.
- Give feedback on operation performance and results.

The MMM uses the procedure below, to control water and sanitation services that include:

- Regular planning through the Integrated Progress Plan Process and the Integrated Progress Plan Review.
- Set of rules.
- Tax policy.
- Setting tax.
- Potable water standards.
- Capacity to control.

Management Agreement

SALGA (2011) states that Mangaung Metropolitan Municipality had a dispute with the Bloem water department, regarding the agreement signed by both parties for provision of bulk water.

The agreement signed states that, Mangaung Metropolitan Municipality will pay 70% of the bulk water, at least, from Bloem water. The stakeholders further agreed that, if MMM fail to purchase this minimum percentage of water, the municipality has the obligation to pay Bloem water for the 70% minimum. A conflict arose between the MMM and Bloem Water when the MMM failed to pay the minimum percentage to Bloem Water as the agreed at the beginning.

According to SALGA (2011) the DWS was contacted to help in solving the disagreement. It is unclear what the real nature of the dispute is.

Lots of attempts were made for further information; there was no response to the actual cause of that dispute.
The contract between MMM and Bloem water shows that there is a lack of forward planning, on the part of the municipality at the time of the signing of the contract, which relates to communication and understanding their roles in the water services sector.

Previous researchers have written about various topics concerning Mangaung Metropolitan Municipality and Bloem water

Albert (2011) wrote about the role of external government communication on service delivery of the Mangaung local municipality. The objective of his study was to discover which roles the government plays in service delivery of the MMM.

Ratikane (2013) discusses the quality of drinking water sources in the Bloemfontein area of the Mangaung Metropolitan Municipality. The research was investigating water quality and safety for the consumer.

Thekiso (2016) writes about the role of local government in supporting entrepreneurships and SMME development: the case of MMM. The aim of the study was to understand the role of local government in economic development, job creation, minimizing poverty and maintaining a middle-class standard of living for local resident and communities. He further investigates what the municipality is doing to deal with difficulties, concerning unemployment, economics development of the communities and to increase the level of income of local citizens.

Ott (2013) discusses access to drinking water and stakeholder-action drinking water Governance in Cameroon, from a political-ecological perspective. The aim of his research was to see the problem that faces Cameroon, concerning access to drinking water and affordability.

Gaps identified from the preliminary review

In the progress of this research, it has been found that, there haven’t been research conducted, or a study done, regarding the mode of communication between the Water Service Authority (MMM and DWS), Water Service Provider (MMM and Bloem Water) and the Community of Mangaung. That is the reason why this research was focusing on exploring the mode of communication between the stakeholders.

Method

Research approach

The study adopted a qualitative research approach. According to Creswell (2014), qualitative research is an approach exploring and understanding individuals or groups that ascribe to a social or human challenge.

Since a qualitative approach deals with research that requires exploring and understanding the meaning of individuals or group to social or human difficulties, then, this approach should be the ideal research approach. The study explored and discovered that there is a gap of appropriate communication between the stakeholders and, further this approach was preferred as is best suited for data collection tools, which was are used.

Research paradigm

Interpretivist research was used to understand, interpret, and have access to various aspects of reality of the mode of communication between the stakeholders.

Edirisigha (2012) argues that the goal of the interpretivist research is to understand and interpret the meaning of human behaviour rather than to generalize and predict the causes and impacts. This was a significant component of this study since the study intended to interpret the mode of communication between the various levels of communication. The fact that this study was purely qualitative and planned to explore the modes of communication that existed, an interpretivist paradigm was ideal to be use.
Lapan et al., (2012), argued that every qualitative research has an interpretive element, which focuses on uncovering participant views.

Research design

This research used a Systems Theory Perspective on Communication. According to Ludwig Von Bertalanffy (2010). The system theory perspective on communication is characterized by understanding the interconnection that exist between two or more people. This theory helped with the analysis and understanding the cause of the ineffectiveness of communication between the water stakeholders.

Sample and sampling procedure

The study intended to use a sample of two participants from the MMM and 110 respondents from the MMM community. The sample size of 112 participants in total was chosen, as it was a case study.

This research used purposive sampling, which is defined by Crossman (2014), as one that is selected, based on the knowledge of the population and purpose of the study. Purposive sampling is characterized by deliberate targeting of respondents.

A snowball sampling was used for this study, as Heckathorn (2011) said that snowball sampling is a random sample of individuals.

Data collection

Data was collected by using an open-ended questionnaire and semi-structure interviews. An open-ended questionnaire allows respondents to express their views without being influenced by the researcher (Sincero, 2012).

Thus, using an open-ended questionnaire in this study assisted respondents to provide honest answers and to have ample time to think analytically and critically about the questions.

A semi-structured interview allows interviewees to have flexibility and freedom in deciding what needs to be described, argued, explanations offered and how much detail used (Pathak & Intratat, 2012).

Semi structure interview was selected as participants freely expressed their views concerning the existing mode of communication.

The reason for having both open ended questionnaires and semi-structured interviews, was that some participants may not be comfortable in expressing their views verbally, while others may not prefer questionnaires. therefore, use of both tools covered all the participants.

Data analysis

Data was analysed by using content analysis. Content analysis is a research technique that helps to analyse the actual content (Obaid, 2011). Data was recorded, transcribed, organized, and analysed. It was segmented, and each segment was labelled with a code. Then codes collapsed to themes and each theme was discussed in detail.

Validity and trustworthiness of the study

Data was collected using tree data collection tools which are interview, questionnaire and case study in order to enhance the validity and trustworthiness of the study. Cohen et al., (2011) contend that the use of at least three data collection tools, in a study named triangulation and assists in increasing the validity and reliability of the study. The researcher personally transcribed the information and carried the work out, to enhance validity and trustworthiness of the study.

Ethical Considerations

Ethical considerations were observed as follows:

- Ethical clearance was obtained from the University.
- Before collecting data, a clear explanation on the focus and purpose of the study to all participants was done.
- All participants were requested to sign consent forms prior responding the different questions.
- Participation in the study was voluntary and all participants were free to withdraw at any point in time.

Results and discussion: Part 1 (Survey from the community side)

Data presentation

To collect qualitative data a total of 110 participants were selected all around the Mangaung suburbs, for the case of the Mangaung community. Data was collected, by using a Google form, where the survey was sent to the respondent. The criteria of selection for the participants were: the person must be above the age of 18 and has lived at the same physical address for at least 5 years.

The questionnaire was written in correlation with the aim of the study and the research questions, for the research questions to acquire answers from the respondent.

The survey conducted using a Google form to the community of the MMM took approximately 6 weeks to come to completion. 110 valid answers were received, which is compared to a response rate of 100%.

Figure 1 to Figure 11 are presenting the data in terms of demographic related information as well as the mode of communication used.

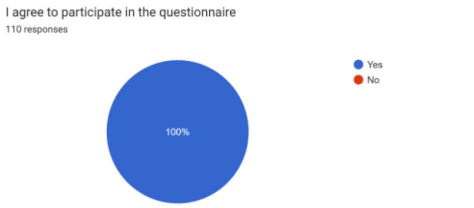

Figure 1. Consent to participate

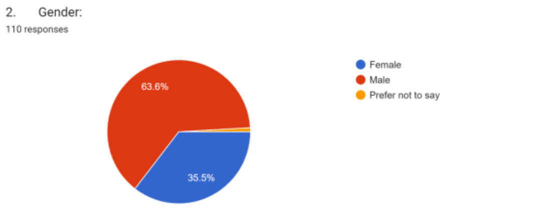

Figure 2. Respondent Gender

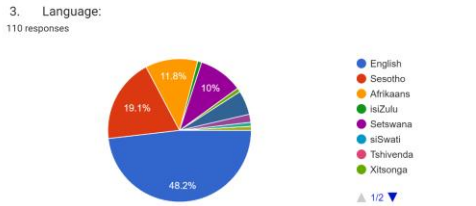

Figure 3. Languages

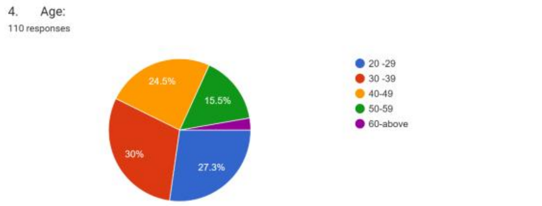

Figure 4. Age group

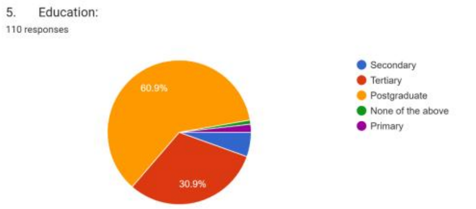

Figure 5. Level of education

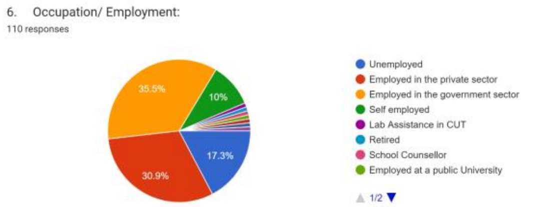

Figure 6. Occupation/ Employment

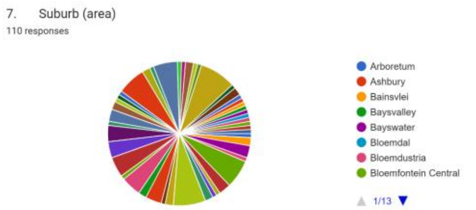

Figure 7. Suburb (area)

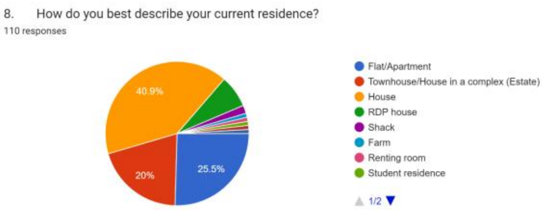

Figure 8. Residence description

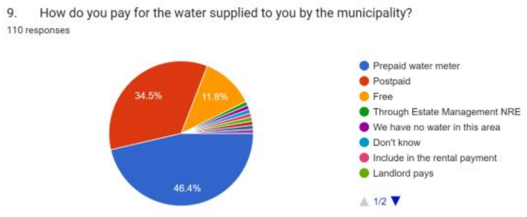

Figure 9. Water payment mode

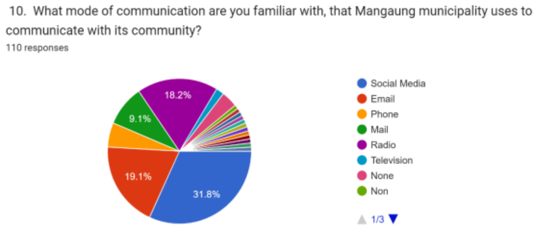

Figure 10. What mode of communication are you familiar with that Mangaung Metropolitan Municipality uses?

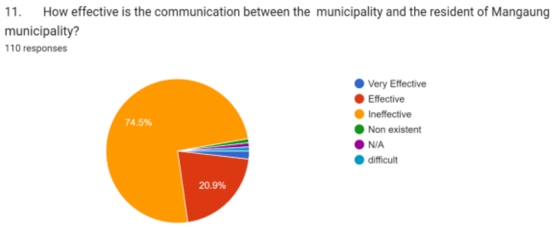

Figure 11. How effective is the communication between those responsible for water and the community?

Data analysis

This section discussed the collected and analysed data from Google Form used for the survey.

Question 1 “*Please provide a comment on the water services (including availability, quantity and quality) provided by the municipality Bloem water to the Mangaung community in general and on your suburb (area) in particular*”, the answers acquired from the respondents are vary widely and are at times contradictory.

- Theme 1: Availability of water: Depending on the side that a respondent is living, 43% respondents complain about multiple water shortages without any notice from the water provider, irregular water or the total absence of water. Some of the respondents said that they feel that, because of old infrastructures the pipes burst and that water shortages are frequent. Others state that there is no water at all in their areas.

  While 43% of respondents are not satisfied with water availability, the remaining 57% have positive answers about water availability. Some of them are completely satisfied with water availability and others state that they experience water shortages only a few times and some notified before the shortage.

  In summary, for this question, our analyses are that water is available in many areas of Bloemfontein however, the problem is the irregularity in some of the areas and the fact that there is water shortage in some of the area, without notifying the community, so that they are able to be prepare in case of a water shortage.

- Theme 2: Water quality: The question regarding Mangaung water quality was inevitable, as we wanted to bring a light to some of the doubts the subject was causing. The respondents actively responded to this question and the response was a relief for our doubts as more than half of the respondents said that the water quality is poor, some don't feel safe to drink or use it for cooking, the colour is brownish and it has a strange taste, therefore, the quality is questionable.
  After analysing all the answers from the respondents our conclusion is that the water quality is poor in most of the areas of Bloemfontein and, for the safety of the community it is safe to boil it before consumption.
- Theme 3: Quantity: The question on quantity according to the responses depends on the area you are residing and, at times, it depends on the time or period. Some of the respondents are state that the quantity of water has decreased over time.

- Theme 4: Price: Nowhere in the question did the researcher discuss water price or water affordability, however, the respondents felt the need to mention it, as they saw the survey as an opportunity to raise the concern that bothers them concerning the water service in general. Some of the respondent's state that the water is expensive and, even when they don't use a lot of water the bill stays invariable.

Question 2: "Please provide comments on the main challenges you face when communicating with the Municipality or Bloem water related to Water services". The response rate of respondents was 100% which means that every person that received the survey link responded, and the majority of the people stated that the communication was ineffective or non-existent.

In general, a lot of people have a certain way of perceiving a government institution. At times the respondents said that they are unhelpful, or they receive careless responses. With this finding, we may say that many people haven't had a positive experience when it comes to communication with those responsible for water in the MMM. Some clients found themselves in one-way communication. They complained and never received a response or a solution to their problem. This results in frustration, particularly with regard to bills. Call centre telephone going unanswered; not easy to report problems.

- Theme 1: Non-existent communication (presence of communication): Following this data acquired from the survey, it seems as though the customer has not felt like the king. There is a complete lack of communication; in other word the communication is ineffective between the community and those responsible. Many questions from the community have not been answered. The community is uninformed as to whom they should address their requests, this, of course, may lead to negative reactions.

- Theme 2: Customer service: The majority of the community in this survey, feel as it those responsible have failed them; they do not feel considered, by those responsible failing to answer at the call centre. They feel as if there is a lack of concern about problems. The communication is solely one-way when its responsibility of the centre to send the bills. The complaints are not being addressed with urgency. Even in the case of an emergency, some of the respondents stated that those responsible are careless. Others stated that they will promise to come out, however, they will either take long or they do not show up at all.

Some of the respondents have something positive to say about the municipality. Mostly those who reside in complexes (estates). Their advantage being that communication is between the real estate agent and those responsible for water services.

Question 3: What do you think may be the causes of communication challenges between the municipality and the Mangaung municipality residents, regarding water services?

- Theme 1: Communication Challenges: For this question many respondents said that there was no adaptation from the water department services, to the current technology. Their way of communicating is far behind; lack of improving their skills is one of the causes. Some of the respondents said that those responsible for water do not communicate appropriately; they do not consider their client, they neglect their work and, not answering calls is the most significant failures of their communication.

  The fact that they have the monopoly of the service, does not put any pressure on them, as they do not have competitors. They do not consider the complaints of their clients, and this leads to poor service delivery, as many of the respondents said that the lack of staff is furthermore, one of the challenges and there no specific platform as to where a customer may submit complaints or address matters.

- Theme 2: Barrier of Communication: Some of the consumers feel discriminated on for the reason of the location of where they reside.

Question 4. Please provide any suggestions that can be used to improve communication between the Mangaung municipality and the residents, regarding water services. This was queried, so that we may present it, or attempt to reach those responsible towards the end of our research, to suggest them what they may consider caring out to better their relationship with the consumers. What the majority of the respondents want is to have dedicated staff within people to the customer services. A precise channel of communication or a platform that will assist the consumer into their needs, to communicate, the maintenance of the call center and to increase their ways of communication.

Results and discussion: Part 2 (Survey from the water service side)

Data presentation

The survey conducted doing a face- to- face semi-structured individual interview, with the two members of the

Department of Communication at the MMM, took less than an hour. Twenty-two questions were asked, and all the questions were answered successfully by the two respondents meaning that a 100% response was received rate from the MMM.

Question 1: What is your mode of communication at the MMM?

- Theme 1: External Communication: As a general way of communicating, the MMM uses the common mode of communication required in an organisation. With the booming of social media presently, the MMM have adopted social media as a way of communication for their external stakeholders.
  To this question, the respondents answered that they use the social media platform for external communication. However, if there is an emergency to communicate something to the community those responsible for communication may use radio or TV, to transmit the information.

- Theme 2: Internal Communication (IC): The MMM internal mode of communication are telephones, emails and meetings.

Question 2: What do you think of your mode of communication? The expectation for this question, was to see if the MMM reunites all the elements required for the communication to be successful. The MMM think that their mode of communication is useful, by the fact that it may reach those who live long distance, and they are content with their way of communication.

Question 3: What kind of relationship does the MMM have with Bloem Water? One of the respondents indicated that the relationship between the two entities is not at its best as the administrators are not creating a friendly network between the two entities, to creating a pleasant relationship between them. The second respondent indicated that, there are constantly a few minor disagreements when there is situation that involves customers or a service provider and clients, mostly when it comes to municipal delivery services that include water.

Question 4: What mode of communication exists between the MMM and the community? The result obtained from the first respondent was, that MMM uses media support to communicate with its community. As for the second respondent he said that the communication between them is making progress in a positive way; it characterises by constantly changing depending on the situations that may occur, they are looking forward to making an effective improvement, in order to meet the community needs. The respondents did not respond as to what mode of communication the community uses to reach to them.

Question 5: How do you receive feedback from the community after sending information? The answer from many, was that they do not communicate with the MMM and, some said that they never received any messages concerning information.

For the MMM, the respondents said they received feedbacks via the MMM social media platform, via

WhatsApp application or organizing some meeting with the community, through political leadership.

Questions 6: How are aware of the needs of the community? As a community constantly has something to say about its service delivery, either positive or negative, this question was asked, to know if the MMM as a service delivery knows, how to serve its community with their needs and, are they aware do they know what the community needs. We asked the community whether they found their communication between them and the MMM effective or not.

The MMM said that the community constantly gets in touch with them, whenever there is a need, by social media and emails.

Question 7: Does the community have a representative who speaks on their behalf at the MMM? This question was asked to know whether there is a third party between the community and the MMM, a person that may represent the community at the MMM office, who speak on the behalf of the community in the case of problems; one who may do a follow up on any situation and report to the community, a person that the community can rely on.

According to the MMM, one respondent's answer was" yes". The community has a representative; a person who represent them, they have stakeholders who take the problem up. For the other respondents the answer was that the community represent themselves and they are ensuring that have a person who interacts with the community, according to the matter.

Question 8: Do you consider language while sending information to the community, as there are more than two languages spoken in the MMM community? The Free State province has various races, cultures and languages in Mangaung. This question was asked, to observe the consideration that the MMM has toward its consumer, concerning the language spoken. The MMM had adopted 4 official languages, which are: Afrikaans, English, Sotho and Xhosa.

Question 9: With the evolution of the technology, it's easy to communicate via social media; however, there are still many that don't use social media. How do you communicate with them? Despite the evolution of the technology, there is still a lot of people who don't use social media or do not own a cell phone. Those people are further a part of the Mangaung community. This question was asked, to conclude which mode of communication the MMM is using to communicate with the consumers that do not use social media or cell phones. According to the MMM respondents, they continue with the use of traditional ways of communication, which is the MMM car that travels through Mangaung with a loudspeaker to spread the information.

Question 10: There are people that are illiterate still. How do you get in touch with them? The MMM has consumers in all four corners of the Metropolitan and all should be treated equally. Therefore this is the reason for this question. The MMM respondents said that they communicate with people who are illiterate via press and public meetings.

Question 11: Are there precautions that you take for the future concerning water quality and water shortages? The MMM respondents said that they are taking preventive measures to guarantee acceptable water quality, as well to avoid water interruptions, in the future.

Question 12: Do you think that your communication is effective? The MMM respondents said that their communication is effective, as compared to other cities. Minimal complaints are received from its community.

Question 13: What do you do to improve communication? The MMM respondents said that, to improve positive communication, they participate in various forums. They listen to the community comments on social media platform, and they convey a lot of information through the radio, as part of their traditional media. Furthermore, they said that Wi-Fi is a major hope for the communication. They are starting to provide free access to Wi-Fi throughout for the community to have quick access information.

Question 14: What are the responsibilities of the Department of Communication at the MMM? According to the respondents their role is to ensure that communication reaches the community around Mangaung. They are advertising for the company and ensure a positive image outside of the company outside.

Question 15: Are you taking some disposition concerning the inadequate infrastructure that is affecting the quality of water and water shortages? The MMM respondent said that the infrastructure is the same since Apartheid. back then, the town was so small, material was not durable. Now, they are trying to replace them with new durable, material step by step. However, the old infrastructure does not affect the quality of water.

Question 16: What kind of communication do you use to clear your image, for clients that have negative experiences concerning Bloem Water and the MMM?
According to the MMM respondents, they make use of radio to clear their name. They are assisting people in understanding that the MMM does not sell water as profit, as is the case for Bloem Water. Bloem Water is a business. It this being the reason of the disagreements between the MMM and Bloem Water. They are improving their image, by assisting in the understanding of the community they are not enemy, they are merely the Service provider and Service Authority.

Question 17: The Department of Water and Sanitation (DWS) have fixed in place a few itself objectives; do you think that you have reached your goal, or are you on your way to? To this question, the MMM respondents made clear that the MMM is an independent entity, they do not have to follow orders from any other departments, although they have a common vision with the Department of Water and Sanitation and that is to give people a quality service delivery. Moreover, they do not have enough support from the (DWS), so even if there are goals to reach together, they may not carry it out without the (DWS) assistance.

Question 18: At times we received WhatsApp messages from the MMM, to inform us on a few situations that may occur concerning water, how do you deal with people who don't have the application? Pertaining to this question, the MMM respondent said that they inform people, that don't have the WhatsApp application, through radio. Additionally, they have counsellors who organise street meetings to inform those who don't own smartphones.

Question 19: Was there a MMM and Bloem Water contribution, regarding part of the population falling ill, people due What to poor water quality? According to the respondents from the MMM, this information is false, generally when they found that there is something wrong with the water quality. They usually revisit the lab to clear it and send a notice to the community to add bleach to water until it clears up. The population does not fall ill as a result of water quality from the MMM. Perhaps they stock water for long periods of time in their house with the idea of preventing water interruption. Stocking water for extend periods may affect water quality and may cause health concerns.

Question 20: Did the community complain about water quality? According to the MMM respondent, people complain regarding water quality, this occur when there is a leak from a pipe burst or, when the colour of water changes to brown.

Question 21: What do you think about the relationship between the MMM and the community? According to the MMM respondent, the communication with the community is not inadequate, as they are in constant communication with the community and continuously inform them about matters that are occurring to the MMM, in terms of concerning the community.

Questions 22: What is the kind of complains you got from the clients? To this question, the MMM respondents said that are constants complains within the community, particularly on basic services as the municipality is one of the government structures that has a relationship with the community.

Conclusion

This research focused on the mode of communication between those responsible for water service and its stakeholder. The key objective of the Department of Water and Sanitation was to provide the community with basic services, by prioritizing in providing them with standard services; to ensure the safety of the environment, to ensure that the service is affordable for the community. All of this may be achieved with an effective communication strategy, firstly within the organisation and secondly externally.

The main aim and the different objectives are met as follow:

Objective 1: To investigate the current existing channels of communication between the Mangaung Metropolitan Municipality, Bloem Water and the DWS. The findings indicate that there is indeed a channel of communication between the water service sector entity. They communicate through different platforms. According to the findings there are few issues that exist between the MMM and Bloem Water. The issue is related to the decision- maker, regarding the delayed payments from MMM to Bloem Water. They do pay within the given time period. Therefore, Bloem Water will end up lowering the pressure of the water, provided on behalf of the MMM, or it may cut the water, as a result of the undue payments. The major issues that cause the disagreement, is poor communication between the WSA and the WSP. An appropriate strategy of communication should be an option for them, to resolve the issue internally and ensure that the customer is not affected by the service delivered.

Objectives 2: To explore the existing communication framework within each governmental sector, operating in the MMM water sector e.g, Bloem Water, MMM and the DWS. The existing mode of communication between the water sector of the MMM, is not a positive form of communication. The decision-maker has not created a platform for which the relationship between those responsible for water and its stakeholder maybe positive. According to the findings the MMM, being a category A municipality, does not rely on the DWS. It is independent and carried out their own decision regarding the service delivery, while complying to the objectives that the DWS has in place. According to the findings the MMM fails to follow the step the objectives set in place by the DWS, as they do not have sufficient resources to serve the community as expected. They are doing their best as an independent organisation. This is the result of the failure to ensure payments are made on time to Bloem Water.

Objective 3: To explore the existing mode of communication between Mangaung, the water supply and the communities. For the third objective, which concerns the relationship between those responsible for the water and its stakeholders as well as the community, from what I collected, resulting from, the Google app form, the communication is for the majority of the community non effective. The community is uninformed as to whom or where to complaint, when there is a situation that inconveniences them. There is a serious lack of communication between the water stakeholders and their customers. More than 65% of the respondents complain about the poor communication experienced by those responsible for water. The community does not know to whom they may address their concerns; they do not feel considered. For those responsible of the water, to regain their customer trust, they should create a platform where they can seriously take into consideration, their customer opinion. They should listen to them and be in constant communication with their community. They should take care of their external image, by having an efficient strategy of communication, that may allow them to rebuild the trust between them and the community.

Objective 4: To advise on an improved communication strategy for water service delivery. Based on the findings from the survey from the community and MMM, we can say that the water service delivery is poor, for the majority of the community. Therefore, the advice is to consider the option of creating a strong platform externally and internally, that may reinforce the relationship between the organizations, as well as their community. correct information should be sent at the appropriate time to avoid confusion, as well as to ensure everyone is take into consideration. The evaluation of feedback may make a significant difference and take the time to listen to the community is enquiries., Therefore feedback should be encouraged, as well as follow ups should be carried out for significant situations.

From the results, it was found that here is a significant communication gap between the responsible water sector and its consumers, as noted by observation made, the delivery is poor, due to old infrastructures, there is regular water shortage and low pressure in parts of the area of the MMM. According to the majority of the respondents in the community, they don't receive notices before a situation occurs. Therefore, the situation is understandably frustrating.

Recommendations

Given the negative impact that schedule constraints may have on the project quality and the possibility that may increase pressure, careful considerations were made, as this was exploratory research. They may be numerous proposed topics on further exploration studies, concerning the MMM service delivery, or the researcher may explore a larger area than that of the MMM, in the future. This research provides the opportunity for the community of the MMM, to express themselves freely on their opinions on the quality of the MMM service that they have been receiving all these years. Further research on how to rebuild the image of the MMM service delivery towards its customer, should be conducted.

This research pointed out some communication strategies that may be used to improve the quality of the mode of communication, internally and externally, between the representatives of MMM and its stakeholders. Regarding the nature of the study, which is an exploratory study, the sample size was a limited, as it was a cased study which was focused on the MMM only. Further research, which should be conducted with a large sample size, is necessary, observe which direction these results may be used in other communication organizations, regarding the service delivery. The contribution to knowledge of this research is around effective communication between corporates and their customers. The suggestion from this study can be extended to other sectors were there are challenges related effective communication between corporates and their customers in the service delivery sector.

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Developing Digital Accessibility and Inclusion Skills: A Gamification and Flipped Learning Approach

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Abstract: In this paper, a gamification approach combined with flipped lesson in a training program is described. The program was developed as part of the "InSIDE" Erasmus+ project on the Inclusion of Students with Impairments in Distance Education. The problematic was to find a modern approach and a suitable method to train students with various abilities and from different fields. We used flipped lesson and gamification methods to engage participants and create a more inclusive learning environment. Flipped learning approach is a teaching method that reverses the traditional sequence of instruction, where students first study the content on their own, then collaborate and interact with the teacher and classmates to reinforce and apply their learning. This approach can be particularly beneficial for students with disabilities who may need more time and support to absorb the material and engage in active learning. Gamification, on the other hand, involves the use of game design elements and mechanics to enhance motivation, engagement, and learning outcomes. It can be especially important for students with disabilities who may face additional barriers to learning and participation. The participants underwent training on how to incorporate and use accessibility features in documents, multimedia content, and Moodle platform. We start by breaking down the learning objectives into small, manageable chunks and designing activities that allow students to explore, practice, and apply the concepts in a fun and meaningful way. The practical exercises, inverse lessons, and gamification methods used in the training sessions were effective in engaging participants and creating a more inclusive learning environment. This paper highlights the importance of adapting suitable techniques to improve interaction between teachers and students, particularly those with visual, auditory, or motor impairments.

Keywords: Impairment, inclusion, gamification, flipped learning, accessibility.

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Introduction

Disability inclusion means providing individuals with disabilities, the opportunity to fully participate in all aspects of life, including education, employment, public health, and everyday activities. It involves designing products and environments with universal design principles, making them usable by everyone, regardless of their abilities. Presently, more than 1.3 billion people, which accounts for about 16% of the world's population, live with significant disabilities (WHO, 2023). Ensuring accessibility in education has become a pressing concern in order for students to have equal access and opportunities to learn and engage in the course material. As online learning has become the norm, many challenges emerged for students with disabilities in accessing digital learning resources. These challenges range from inaccessible content to the lack of awareness about the needs of such students.

For instance, individuals with visual disabilities relying on screen readers, may have a negative experience if the graphical contents are not well described. As for individuals with hearing disabilities, they rely mostly on visual cues and sign language to access information, and they often encounter challenges when it comes to auditory-based content. Consequently, captioning and sign language interpretation play a crucial role in ensuring accessibility for them. These accessibility measures are indispensable for enabling effective communication and equal participation of students.

One of the main problems faced by educators and trainers is the lack of knowledge about the proper application of accessibility elements, the specific pedagogical techniques and inclusion skills that should be used to enhance the learning experience of students, more so for students with impairments (Nieves Rivas Almaguer et al. 2022). In response to this challenge, new and innovative teaching methods and strategies are needed to promote digital accessibility and inclusion skills among learners. Among these approaches, gamification and flipped learning have emerged as powerful tools to motivate, engage, and educate students in an interactive and fun manner (Hamari et al. 2014).

Gamification involves integrating game design elements in non-game context as to motivate students to stay focused and engaged through fun learning (Deterding et al. 2011). Over the last decade, gamification has been increasingly used and promoted in education. One such example includes the Moodle Learning Management System, which is a popular open-source platform that is designed to facilitate online learning and course management. Moodle supports features and plugins that allow educators to incorporate gamification elements into their online courses (De Armas *et al.*, 2019), including: achievement badges, points and leaderboards, progress tracking, as well as quizzes and interactive activities.

Thus far, most studies reported positive outcomes from the use of gamification (Hamari et al. 2014). However, there is still a need to fully understand what types of gamifications are effective and in which specific context, more so in the case of students with impairments (Furini et al. 2019). As it becomes important to consider learners' differences on perception of gamification and its accessibility, which can significantly impact the effectiveness of the learning approach.

With the objective of advancing understanding on how to apply gamification in the context of accessibility and inclusion, this paper describes and explains how we integrated gamification with inverse lessons to educate students in creating and using accessible documents, accessible math and video contents, as well as online courses in the Moodle platform. The training program was developed as part of the "InSIDE" project (InSIDE, 2020), an Erasmus European project on the Inclusion of Students with Impairments in Distance Education, unrolled at one of the partners universities, that is the University of Science and Technology Oran Mohamed Boudiaf (USTO-MB) in Algeria.

We start by providing an overview of the related work on teaching digital accessibility using gamification and flipped learning approaches. We then provide a description of the implemented approaches, practical exercises, inverse course, and gamification methods used in the training sessions, following the MDA framework (Mechanics, Dynamics and Aesthetics) (Hunicke et al. 2004), to explain the key aspects associated with gamification tailored to users' profiles. We conclude with a discussion on the limitations and future work perspectives.

Related Works

With the new generation of students known as digital natives, seeking more interactive and stimulating educational experiences, there is a growing need for more active educational methods (Dekhici et al. 2015). As highlighted by (Fernández-Raga et al. 2023), higher education institutions are dealing with significant changes due to digitalization and the effects of COVID-19 pandemic. Gamification and flipped learning approaches have become a popular strategy to engage students in non-gaming contexts. In this section, we will explore the latest research that investigated the application of gamification and flipped learning approaches in addressing accessibility concerns and promoting disability inclusion in education.

A comprehensive review conducted by (Hamari et al. 2014) outlined the empirical research on gamification, with a particular focus on its motivational affordances, psychological outcomes, and behavioral outcomes. On the other hand, (Furini et al. 2019) investigated the basics of designing a gamification approach tailored to the requirements of users of assistive technologies, that is understanding peoples' preferences and differences (either technological or physical). The study found that simpler rules are more preferred for those using assistive aids. Motivational components indicated a greater preference for points, levels, and collaboration in games.

In the domain of computer science and software engineering education, (Gasca-Hurtado et al. 2021) presented a software tool designed for gamified classroom experiences in software engineering education. The tool focused on students collaborating on software projects for people with disabilities and their families. Various gamification activities were employed to verify the achievement of learning objectives associated with the experience. In a similar vein, (Lorgat et al. 2022) proposed a gamification-based approach to teach accessibility to undergraduate computer science or software engineering students.

The approach involved using introductory web accessibility videos and a gamified artifact presenting scenarios related to WCAG principles. For instance, students had to provide appropriate descriptions for displayed images as text alternatives, and a mouse dysfunctionality that encouraged keyboard-only usage. A similar study was presented by (Spyridonis et al. 2017). The authors proposed a framework using gamification to motivate web designers to learn about accessibility guidelines and increase their adoption in website and software development.

Other studies involving people with disabilities, (Ramos Aguiar et al. 2023) use gamification to teach blind individuals about Mexican currency, and aided individuals with autism spectrum disorder (ASD) in navigation using virtual reality, These case studies showcased innovative applications of gamification in improving accessibility and engagement for users with disabilities. (Yanfi et al. 2017) explored the use of gamification to help motivate and engage elementary visually impaired students, to learn how to type words, particularly those unfamiliar with computes.

Flipped learning is another approach where students prepare before class and collaborate during it, promoting individualized learning. (Thongkoo and Daungcharone 2022) implemented this method for university students in massive online courses. The results revealed that despite the course being delivered online, many students successfully passed the tests. In another study, (Daungcharone et al. 2023) applied flipped learning approach to modern management courses, examining how gender and learning behavior impact students' motivation and self-determination. (Hayashi et al. 2015) used a flipped classroom for teaching programming languages in computer science courses. Students prepared online, and class time was for teamwork. that a flipped classroom improved programming language learning and exam scores in computer science courses compared to traditional teaching methods.

The training program discussed in this paper was conducted during the 2022-2023 academic year at the University of Science and Technology Oran Mohamed Boudiaf (USTO-MB) in Algeria. The course comprised four sessions. The first two sessions focused on educating teachers and administrators about the importance of digital accessibility and inclusion in online learning and the ways in which accessible practices could be implemented. The subsequent sessions were designed for students with and without disabilities.

Gamification-based learning experiences were provided, using assistive technology tools to create an engaging environment for all students. Some of the encountered challenges were how to effectively communicate with deaf students, as teachers rely mainly on verbal communication. Delivering content to visually impaired students required creative solutions for conveying visual elements and core ideas. Additionally, identifying captivating themes and subjects to engage these students was also a challenge. These difficulties motivated us to develop our approach to inclusive education, which will be discussed in the following sections.

Methodology Modelling

In this section, methodology principles are outlined.

Flipped Learning Approach

In traditional classroom settings, students are often presented with information passively, leading to disengagement during class sessions. Inverse lesson or flipped learning (Hayashi et al. 2015; Daungcharone et al. 2023) is a teaching method that reverses the traditional sequence of instruction, where students first study the content on their own, then collaborate and interact with the teacher and classmates to reinforce and apply their learning.

Inverse lesson encourages students to take ownership of their learning and develop critical thinking, problem-solving, and collaborative skills. This approach can be particularly beneficial for students with disabilities who may need more time and support to absorb the material and engage in active learning. By combining gamification elements with a flipped learning approach, a powerful opportunity arises to address disengagement issues and rekindle students' interest in programming education.

Gamification Approach

Gamification is an educational approach that leverages elements and principles commonly found in video games to engage and motivate students in a learning environment (Deterding et al. 2011). It employs features such as points, badges, rewards, challenges, competition, and interactive experiences to make the learning process more fun, enjoyable and to encourage active participation. The aim of using gamification in teaching is to enhance student intrinsic motivation and overall learning outcomes by making educational content more interactive and stimulating.

The MDA Framework

There is a variety of gamification frameworks available, including the effectiveness of gamification (Kappen and Nacke 2013), the evidence-based framework (Berkling 2016), and the Mechanics, Dynamics, and Aesthetics (MDA) framework (Hunicke et al. 2004). In this work, we choose the MDA framework as it offers a comprehensive explanation of how these three essential components (mechanics, dynamics, and aesthetics) interact and support one another (Azmi et al. 2017).

The MDA framework introduced by (Hunicke et al. 2004) is a formal approach to understanding games making it easier for all parties to analyze, study, and create various game designs and game-related elements.

Table 1 describes the basic game elements adopted from the MDA framework within our approach.

Table 1. Description and mapping of game elements of the MDA framework in our approach

Category	Game Elements	Description
Mechanics	Quiz	An evaluation tool of the activities of the course
	Points	Are similar to marks
	Rewards	Rewards are physical or virtual goods such as extra points and social recognition to motivate the students (In our case, physical goods and participation certificates were used)
	Feedback	An immediate response to the activities and comments made by the students
	Badges	Labels given to the winners and can be lost during the progression of the game
Dynamics	Time-based system	Time constraints to create a sense of urgency and pressure for students to think and act quickly
	Progression and Achievement	After each level, questions must be more challenging than the previous one
	Competition	Seeking outperformance between and withing groups
	Team-work	Collaborative efforts and diversity in a group
	Self-expression	One person must explain to all the present the finding of his group
Aesthetics (Emotions)	Delight and thrill	Feeling of joy or satisfaction
	Surprise	Each step must have an element of surprise like a different reward
	Connection	No declared loser, and working to change the winning group at each step

Actors/ Involved Parties

Participants included both students with and without impairments (visual, hearing, and motor), along with the educator who facilitated the game. The students were organized into groups and the educator presented accessibility problems to solve, checked answers for completeness, and upfolded the rules and mechanics of the game. Students were permitted to use digital devices available for them to search for information, if necessary, as it is common nowadays for students to use their mobile phones, laptops, and other digital devices during class. Gamification seeks to leverage the use of digital resources to further motivate students to be more independent in their learning.

Mechanics

Game mechanics represent the rules and components making the gamified approach. They are responsible for rewarding users based on their achieved objectives, such as points, levels, challenges, gifts, and leaderboards. To enhance student engagement, a recommended approach involves challenging students to push their personal limits continually. This was achieved through the implementation of quizzes, constant feedback, offering mini challenges, and providing positive reinforcement. By creating such a motivational atmosphere, students were encouraged to strive for improvement and actively participate in their learning journey. Badges and rewards were also used to represent accomplishments, in our case they were in the form of physical goods and participation certificates. These rewards offer various benefits, such as motivating students, providing recognition of their status, and serving as tangible evidence of their achievements.

Dynamics

Game dynamics address users' needs and desires that can be fulfilled by utilizing game mechanics, leading to improved practices in the workplace through rewards, status, achievements, and self-expression. We restricted activities by time limits as a motivation action since the game is designed to practice programming concepts in a computer science course. Also, adding the time component forces students to act quickly and intelligently, a crucial skill for timed exams. The game was turn-based, allowing all teams to tackle the problem within a certain time period. Upon solving a problem, a team is promoted on the leaderboard and no penalties were imposed for failing to solve a problem. Competitive game elements serve the purpose of instigating a sense of competitiveness among students, motivating them to strive for excellence individually. Collaborative elements involve working together as a group towards earning points and assisting each other in accomplishing shared goals. By combining both competitive and collaborative aspects, the experience was further enriched, promoting healthy competition while also nurturing teamwork and cooperation among students.

Aesthetics

Aesthetics refer to the overall emotional experienced. Emotions in the framework aim to cultivate a sense of delight, thrill, and surprise among participants. Delight was fostered through emotional engagement and applause. Thrill is introduced to infuse excitement, while each step features a distinct reward to maintain intrigue. Moreover, the approach promotes a sense of connection by ensuring that no group is declared a loser, striving to alternate the winning group in each step, thus emphasizing inclusivity and collaboration.

Methodology Implementation

In this section, we explain the practical application and implementation of the proposed approach.

Selection and Configuration of Digital Tools

Decisions were made concerning the use of projectors for presentations, which played a crucial role in delivering educational content for deaf students but needed to be avoided for blind individuals.

Group Preparation for Diverse Participants

Groups of players were thoughtfully constructed, ensuring a diverse composition that encompassed trainees with varying abilities, including those with and without impairments, as well as students and teachers. The intention was to foster an environment where participants could complement one another's experiences.

Granular Learning Objectives Breakdown

Learning objectives were meticulously disassembled into smaller, more manageable chunks, allowing for the design of activities that facilitate students' exploration, practice, and application of concepts in an engaging and meaningful manner. The participants underwent training on how to incorporate and use accessibility features in documents, multimedia content, and Moodle platform. For example, when it came to ensuring that documents, such as PDFs and Word files, were accessible to individuals using screen readers, the content was broken down into smaller modules. This involved incorporating proper headings and providing alternative text for images

Imposing Constraints for Challenge

To enhance the challenge within the game, specific constraints were introduced such as time limit.

Comparative questions Elements

For students with visual impairments, questions revolved around the identification of the most suitable screen reader, while for auditory impairment students, the focus was on tools for video captions and personal experiences with movies lacking captions. The evaluation of these questions required groups to convincingly present their findings to trainers and peers.

Leveraging Hobbies and Critical Thinking

Certain questions were designed to capture the attention of trainees and stimulate critical thinking. For instance, participants were first asked about their preferred types of games before being prompted to establish criteria for accessible games tailored to various disabilities. Most of them ignore the existence of platforms that offer game versions according to their needs.

Incorporating Guessing Questions

To enhance engagement, guessing questions were incorporated. Participants were presented with clues incrementally to deduce answers. As an example, they were asked to identify a social network designed for the visually impaired, that recently collaborated with an AI company to replace human volunteers with bots. It's important to note that a single round of this guessing game can yield many hidden insights.

Collaborative Atmosphere with Cyclic Success

Within the framework of each level, the gamified flipped lesson emphasized the concept of fostering a collaborative atmosphere while introducing an intriguing twist to the competition. In every level, one group emerged as the winner, but the instructors worked diligently to maintain a cyclic pattern of success among the various groups. This approach aimed to ensure that each participant had the opportunity to experience victory and receive rewards at different levels throughout the course. The design intentionally embraced the notion of "many winners" by orchestrating a dynamic rotation of successful participants, reinforcing the inclusive spirit of the learning environment, and encouraging active engagement from all participants.

Rewards and Incentives

Participants earned points upon successful completion of each level, and they received valuable feedback and rewards for their progress. Rewards were meticulously selected to align with the interests of the trainees. For instance, visually impaired students showed a preference for rewards such as scented items (e.g., soap, deodorants, gums). Applause served as a particularly effective form of moral reward and recognition.

Discussions and Results

Students with impairments shared their daily life and learning experiences, including aspects like gaming, watching subtitled movies, and addressing learning and transportation challenges. Both students and teachers without impairments initially learned from their peers with disabilities and continued to gain further insights through class discussions. The integration of gamification techniques notably increased participant engagement and created a more inclusive learning environment. Flipped learning methods effectively managed time constraints and proved to be beneficial. An overall satisfaction test was administered, with the majority of participants expressing satisfaction. Future work will focus on objectively quantifying the impact of the proposed approach on student learning and assessing its scalability with larger class sizes.

Conclusion

We've combined inverse teaching with gamification to help students learn about creating accessible contents including accessible documents, video creation, math equations, and engaging in non-visual social media. Our approach starts by breaking down the learning objectives into small, manageable chunks and designing activities that allow students to explore, practice, and apply the concepts in a fun and meaningful way. Students earn points for completing each step and receive feedback and rewards for their progress. This approach has been successful in teaching digital accessibility and inclusion skills to both teachers and administrators. The application of practical exercises, reverse course delivery, and gamification methodologies has been observed to stimulate active participants engagement and contribute to the establishment of a more inclusive learning environment. Despite the significant achievements, it's important to acknowledge the presence of some challenges, including the need to adapt teaching methods to cater to students with diverse disabilities and the logistical complexities surrounding technology and resource accessibility. To ensure continued success, there is consideration for extending training durations and implementing enhanced support structures for participants, all aimed at guaranteeing the availability of essential resources, alongside the suggestion of designing digital or printed accessible game boards.

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Gender and Sexual Education in Morocco

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Abstract: For more than three decades, Morocco has been engaged in a major reform program in favour of gender equality. Several legal and institutional reforms have been adopted, and numerous policies to protect and promote women's rights in the socio-economic, political and educational spheres have been implemented. However, it turns out that unequal practices and differentialist representations that hierarchise men's and women's bodies have maintained the status quo. Men's and women's sexual experiences are still asymmetrical, and the female body is still under guardianship. This paper aims to analyze the educational discourse about sexuality in order to understand to what extent the school contributes to the (in)egalitarian building of bodies. This analyze concern textbooks, teacher's practices and reprenstations of adolescents/students. As a result, it seems that the Moroccan school still remains one of the spaces of resistance against gender equality and thus contributes to the (re)production of gender inequalities.

Keywords: Gender, Morocco, Sexual education, Education system.

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Introduction

This paper tries to explore the articulations between the making of full citizenship and the educational discourse on sexuality. This interest is essentially due to the deep mutations and the paradoxes that Moroccan society is experiencing in terms of sexual norms and practices.

On the one hand, in spite of Morocco's constitution states that Islam is the religion of the country (Article 3), Moroccan society is undergoing a “sexual transition” (Dialmy, 2015). The sexual practices of Moroccans are being detached from religious norms. This distancing from these norms has given rise to the emergence of new sexual practices considered non-normative within Moroccan society (including non-heterosexual ones). Abstinence is no longer the dominant norm among youth and adolescents (Guessous, 2013). Sexual practice outside marriage is common, and especially with the advancement of the age of marriage, everyone knows and accepts it, even if it is a practice that remains socially unacceptable, legally sanctioned and religiously prohibited. The Moroccan streets, cafes and public squares are witnessing a proliferation of young couples who no longer hesitate to display affectionate gestures towards each other. Social networks, for their part, are full of discussions and testimonies about sexual relationships and performances.

In addition, Morocco has now homosexual movements, such as the ILGA (International Lesbian, Gay, Bisexual, Trans and Intersex Association) and the Kifkif association, which not only claims its rights, but also has its ambassadors, notably the writer Abdellah Taïa, whose “Le tarbouche rouge” (The Red Tarbouche) toured the world (Telquel, 2009) and the singer Fayssal Azizi.

On the other hand, the last General Census of Population and Housing of 2014 (GCPH, 2014) showed that despite the share of married people has increased in Morocco over the last decade, the fertility rate continues to decline, from 6 to 2.38 children per woman between 1960 and 2018 (Ministry of Health in Morocco, 2019). This means that the discourse that places women in a situation of being a reproducer or a “pregnancy chest” is no longer dominant. Thus, the conception of women's bodies as being essentially intended for fertility has reconfigured. And if contraceptives have contributed to this decline in fertility, they have also increased the involvement of women's bodies in sexual activity and in the decision to become pregnant because 73% of married women use them to control a possible pregnancy.

Within these changes, the mobilization of women, the action of human rights and feminist associations and the inclusion of Morocco in the universality of human rights have contributed to the adoption of several legal and institutional reforms and to the implementation of a policy for the protection and promotion of women's rights in the socio-economic and political fields in Morocco. Thus, gender equality has become an indispensable component of public policies, including education policy.

This whole process suggests that the environment is favorable for taking further steps towards the emancipation of women and the strengthening of their role in society, and that the boundaries between masculine and feminine are shifting and that the citizenship of full women/ girls is finally being created.

However, it has been found that unequal practices and differentialist representations that hierarchize the sexes on sexuality have maintained the status quo. Men's and women's experiences of sexuality are still asymmetrical, and the female body is still under tutelage.

The reports of Global Gender Gap Report 2021 and Moroccan Association for Human Rights (AMDH, 2021) and High Commission for Planning (HCP, 2019) revealed the continuity of gender inequalities and differentialist representations are still conveyed in the spheres of socialisation: Education, media, culture, families...

Not only can we speak of the permanence of sexual violence against girls/women, but we also record a marked increase in the prevalence of this violence, regardless of age or marital status (General Directorate of National Security, 2021), adding of course the continuity of tolerance towards the sexuality of boys/men against intolerance towards that of girls/women, the increasing number of single mothers (National Institution of Solidarity With Women in Need (INSAF), 2020), clandestine abortions (Moroccan Association Against Clandestine Abortion (AMLAC), 2020), underage marriages (HCP, 2020) and resistance to the decriminalization of abortion.

All these indicators show that these changes have not, however, fundamentally altered the representations of men's and women's bodies and have not contributed to the lifting of men's control over women's bodies.

In spite of the building of gender equality is a cross-cutting issue that involves several institutions and actors, I was opted to work school discourse. The choice of school is due to its dual mission. On the one hand, it is a place of socialization. In addition to its mission of transmitting knowledge, it is one of the privileged spaces for the adoption of norms and the construction of children's identity (Jourdan & al., 2002), insofar as the body is no longer judged as a prior essence, but an effect of “social regulations and normative assignments” (Fassin, 2005), and the activity of the body in human sexuality is no longer a matter of instinct, but of social learning (Bozon,1999).

On the other hand, sexual education aims to equip learners of all ages with values, knowledge and skills that instill respect for human rights, social justice, diversity and gender equality, as well as to enable young people to adopt attitudes of individual, family and social responsibility (UNESCO, UNAIDS & WHO, 2009). It is indeed closely related to the making of full citizens.

Methods and Corpus

Addressing the issue of the building of bodies in and through educational discourse involves questioning several components of the educational system: its structures, its actors and its practices, because in addition to the knowledge transmitted in and by school textbooks, there are also issues linked to complex, unspoken and invisible mechanisms within the school, such as educational practices (explanations, choice of methods, media used, etc.) but also the representations of adolescents/students, since these adolescents are not only students, they are also involved in other spaces of socialization. Indeed, the development of a critical stance with regard to the contents of school textbooks and teachers' educational practices, as well as the taking into account of students'/adolescents' conceptions appear to be fundamental data to explore.

Firstly, this research began by analyzing the discourse conveyed in and by the school textbooks of the disciplines considered by the Moroccan Ministry of National Education to be the bearers of norms and values related to sexual education. These disciplines are: Life and Earth Sciences (LSE), Islamic Education (IE), Family Education (FE), French Language (FL), Arabic Language (AL), and History-Geography (HG).

Secondly, we analyzed the practices and conceptions of a sample of teachers from six school subjects, namely: LSE, IE, FE, AL, FL and HG. In order to give more objectivity to our exploration of the representations underlying educational practices, we considered it useful to diversify the sources of our data, basing ourselves both on the results of questionnaires distributed to these teachers, on in-depth individual interviews with them, and on participant observation by co-facilitating sexual education sessions. Thus, we collected the results of 306 questionnaires, 22 individual in-depth interviews and seven participant observations.

Finally, we tried to explore the students'/adolescents' representations as well as their needs and expectations. In order to target the whole of Morocco, we opted for the cluster survey technique with an equal number of units. Thus, we took a random sample of 100 secondary school students from each region of Morocco, i.e., 1200 students in total.

Table 1. Sample Of Students By Gender, Background And Age

		Rural	Urban	Total
Sex	Male	120	289	409
	Female	157	297	454
Total		277	586	863

The results of our various corpus materials, namely the analysis of textbooks, the exploration of educational practices and the analysis of students'/adolescents' conceptions, allowed us to deduce that gender equality is not taken into consideration in sexual education activities. This is manifested in the representations conveyed in and by these activities producing an asymmetrical building of bodies in matters of sexuality, including: the continuity of representations underpinned by biologism, the adoption of the risk-based approach and the dominance of the differentialist discourse.

Continuity of the representations underpinned by Biologism

We recall that the biological dimension of sexuality includes the sexual act/response, pregnancy, childbirth, breastfeeding, functional anatomy of the genitalia, biological development of puberty and genetics... Although the biological dimension seems “neutral” in view of its scientistic character, we considered it useful to analyze the way in which these teachings are presented, since not only the content could contribute to the manufacture of a system of thought, but also their organization.

The authors of school textbooks (LSE2C and LSE5P for example) point out that lessons on human reproduction are merely an extension of the lessons on reproduction in animals and plants. This applies to all textbooks that contain lessons related to human reproduction. This view is expressed explicitly in the introduction to the various lessons where they have explicitly introduced animal and plant reproduction as a prerequisite. Thus, we send the message to learners that to understand human reproduction, it is sufficient to understand animal and plant reproduction. This extension, which establishes links between human, animal and plant reproduction, can only consolidate biologism, by considering these reproductions as similar, and that they are all biological and linked only to the effects of Nature.

With regard to sexuality in animals, the first remarks we recorded during the analysis were that the images mobilized present the body of the 'male' animal as either larger or more attractive. They also present him as the “active” actor in the sexual act, insofar as it is he who takes the initiative in sexual intercourse after the courtship phase.

The fighting fish male is characterised by exaggerated colours. During the courtship, the male tries to impress and seduce female. (Translation: Author).

Figure 1. Representation of sexual behavior during reproduction in animals (School textbook: Life and Earth Sciences 2nd College.2013. p. 74)

With regard to reproduction in plants, from the very first lines and images, we wondered about the norms that botanists have mobilized to define the “sex” of plants, since they speak of the female and male reproductive systems. In fact, this sexuation, considered as an “order of nature” and a reference for the human being, is, in the end, only a projection of the representations of the human being on Nature. In other words, the sexuation of plants was done through a discourse based on the language norms applied to human beings. The “anatomy” of plants is in fact an object that is thought through in schemes of apprehension specific to a social space and informed by specific social representations (School textbook: Life and Earth Sciences, 1st Lycée. 2011. p. 91).

Thus, we believe that basing human reproduction on the conception of reproduction in animals and plants is an epistemological error, insofar as the former (sexuality in animals) does not contain the socio-constructivist determinants that characterize human sexuality, and the latter (sexuality in plants) is based on a discourse enveloped by human differentialist representations.

According to this view, sexual education should convey to learners how the biological/natural body functions in 'normal'/'natural' sexuality, similar to that of animals and plants. It is the process of disciplining a sexual body according to a pre-established pattern, considered natural/normal. And therefore, any conduct outside this framework is considered “abnormal” and/or “deviant” and/or “pathological”.

This tendency is then transformed into a norm, and the diversity that is present in nature is generally ignored: for example, the comparison between human and animal sexuality has the consequence of presenting men's sexuality as a force that cannot be controlled and must be satisfied immediately. Male desire is thus naturalized, and female desire is invisibilized. Therefore, we can say that:

> The aim is above all to channel thought through the learning of biological functions, and then through moralization, which inscribes sexuality in the order of nature - which 'de-eroticizes' sexuality by concentrating on reproductive mechanisms - and which proposes the family model as a matter of course (Jourdan, 2002).

Adoption of the risk-based approach

In addition to the focus on the biological dimension, sexual education activities in textbooks, in educational practices and among students/adolescents are also underpinned by a risk-based approach.

This approach was started under the protectorate against venereal diseases and continued after independence under the paradigm of family planning by teaching children of the dangers that threaten pregnancy and cause infant mortality and the negative effects of successive pregnancies on the health of mother and child. It was accentuated after the emergence of AIDS. Urgency and social panic governed these discourses. Sexual education activities therefore had to be specific and pragmatic in order to be effective. They need to be more targeted at the so-called 'at risk' categories, i.e., populations that are likely to be at risk and/or may be dangerous. In line with the preventive trend in textbooks, for teachers too, sexually transmitted diseases (STDs), AIDS, phenomena such as teenage pregnancy, violence and “sexual deviance”, fertility control. “Sexual education should equip students with sexual knowledge and skills to protect themselves from STDs, teach women how to use contraception and how to have a safe motherhood” emphasized one FE teacher.

Thus, it is clear that this risk-based approach is underpinned by demographic considerations, which make women increasingly responsible through contraceptive methods, and health considerations, by mobilizing biomedical discourse but also religious discourse, which considers girls'/women's bodies as a risk.

While this vision aims to prevent risks, it contributes nevertheless to the legitimization of control over girls'/women's bodies, especially since the preventive discourse in school textbooks and educational practices is mainly underpinned by mythical and religious representations of these bodies as threatening (potential source of *fitna* (seduction)), considered as *âwra* (must not be totally visible), having an unlimited sexual desire, or a body that is inferior both physically and intellectually.

Girls are, in fact, the first recipients of prevention (contraception, abortion, protection against STIs, fight against sexual violence), considered more responsible than boys. Social control of sexuality continues to be exercised more firmly for girls than for boys. Girls are taught to hold back and stifle their impulses, to consider them shameful, abnormal and a source of sin. She is taught to preserve her body, to protect her genitals more than her eyes, and is warned against men.

This is in line with Isabel Clair's (2012) interpretation that women are collectively seen as 'whores' by nature, girls have a necessarily suspect sexuality and must be brought into line, constantly reminded of the gender order.

Dominance of the differential discourse

The Analysis of the results of our fieldwork revealed that not only are sexual education activities in textbooks underpinned by sexual differentiation, but also the educational practices and even conceptions of students/adolescents.

When it comes to the two sexes, sexual education activities are divided into two separate worlds. They are thus reduced to the teaching of anatomical, physiological and socio-cultural differences between the sexes in relation to sexuality (Family Education, 2nd College. 2004. p. 36).

But the problem is that this division is no longer presented only as a description of the characteristics of men's and women's bodies separately, but is transformed into a field of comparison between two worlds. This means that we move from the differences between bodies to their hierarchization, from the difference between male and female sexualities to their categorization and from the difference between social roles to their (de)valorization.

This is to say that if difference is a "natural" law, the choice of words and metaphors used to describe these differences can, nevertheless, illustrate the qualities specifically associated with the masculine and feminine in society. And so, if the author of the textbook and/or the teachers are not (or would not want to be) committed to the promotion of gender equality and does not take responsibility for making the nature of this difference explicit, discourse on difference will be categorizing.

This discourse, which seizes a biological fact and (in)consciously attributes to it a social order through language, gives itself as an imposed law to organize and order bodies, thus confirming the principle of the differential valence of the sexes (Héritier, 1996). The principle associated with the feminine is always the one that is devalued (Bourdieu, 1998), in this case the weak, the passive, the involuntary, the impure and the controlled versus the powerful, the active, the voluntary and the controlling.

Conclusion

The representations of sexual education in the Moroccan education system favor the legitimization of gender inequalities and reinforce control over girls' bodies and sexuality. Also, Sexual education that focuses on problems and risks is not in tune with the curiosity, interests, needs and experiences of children and young people, and will therefore not have the intended effect on their behavior.

Although sexual education contributes to girls'/women's empowerment and well-being, insofar as being able to make choices about sexuality, requires that they already have the power to say 'no' and that this decision is respected, girls/women in many contexts, including Morocco, may be economically dependent, ideologically oppressed, or potentially abused, so that it is not possible for them to impose their choices or to explore their own desires.

Thus, Moroccan school reproduces historical norms and values and does not participate in transforming society and mentalities. Moroccans tend to change society through a silent demographic revolution and emancipated sexuality, but education refuses to acknowledge this evolution and the emergence of a new consciousness.

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Design Innovative Learning Models Based Project to Improve Student's Competence In Higher Education : Case Studies In Faculty of Information Technology USN Kolaka Indonesia

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Abstract: In recent years, the Computer Science and Information Technology programs have experienced growth and achieved immense popularity, increasing the demand for graduates who will become skilled workers. The educational outcomes-based curriculum (OBE) targets that learning must pay attention to one of the Key Performance Indicators (IKU) achievements: competence. This study applies GRASPS to the PjBL learning model, which forms the basis for preparing projects that will be implemented in learning so as not to deviate from the characteristics of PjBL. An essential part of GRASPS is placing students in real-world scenarios where they will produce products that describe learning content and what they need to produce in real-world situations. The GRASPS elements are goals, roles, audiences, situations, products, and standards. The syntax of the innovative learning model that will be implemented is divided into three stages. The first stage is preparation, where the lecturer makes the syllabus, materials, and framework according to Basic competencies (KD). The second stage is learning, which includes activities to determine topics, plan activities, investigate, and solve. In the final stage, namely the evaluation stage, because GRASPS is an authentic assessment, this learning evaluation must be carried out with various instruments, including written tests, product assessments, and performance assessments. Performance assessment is carried out continuously based on evidence of student learning outcomes at each meeting, both from student presentations regarding the progress of their projects and from the results of discussions in each group, as well as notes from researchers regarding student activities during learning.

Keywords: Project Based Learning, Innovative Learning Model, Student Competence, GRASPS

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Introduction

In recent years, Computer Science and Information Technology fields have experienced tremendous growth and achieved immense popularity, increasing the demand for graduates to enter the skilled workforce. It is projected to grow 22 percent from 2020 to 2030 (Bureau of Labor Statistics, 2022). Due to its popularity, the number of students enrolling in Computer Science and Information Technology (CS and IT) courses is steadily increasing worldwide (Skalka & Drlik, 2020). Crucial fields such as big data and data science require CS and IT graduates to demonstrate mastery in data acquisition, data management, and data inference skills (Mithun & Luo, 2020). Data management and programming skills are considered most needed for success in the workplace (Veerasamy et al., 2019). Therefore, several introductory programming courses are essential milestones in CS and IT education because they reflect students' abilities to solve problems and design appropriate solutions (Skalka & Drlik, 2020).
The outcome-based education (OBE) curriculum targets learning to pay attention to one of the Key Performance Indicators (IKU) achievements. The IKU in question is a collaborative and participating class. Learning designed based on the achievement of the seventh IKU can certainly produce graduates with various skills that can prepare them to compete in both the business world and the industrial world (DUDI) (Kemdikbud, 2020).

One of the majors in the computer field is Information systems, a unique study program because it combines several scientific fields, namely Computer Science, management, and Business. This major is required to have graduate competencies or skills equivalent to learning outcomes in the Informatics and Computer Science family, namely being able to know the specialisation of designing and developing applications for information systems or websites, programmers or web programmers, designing e-business and database administration, visualising data, finding patterns from the results of data analysis, and developing business plans based on the latest technology (APTIKOM, 2016). With this achievement, Bachelor of Information Systems graduates have sufficient expertise or skills in the field they are studying, namely the field of Computer informatics, which makes one of the graduates' competencies a planning creator.

As a lecturer in Information Systems, I often feel concerned about the quality of graduates that have been produced. It turns out that when many students have just graduated, they feel that they are still lacking in real-world application and find it difficult to work independently to find solutions to problems encountered in the world of work. So far, have the method of delivery and content of learning materials and the applied curriculum been able to lead students to become the expected graduates or not? If not, look for solutions to the weaknesses and what must be done to make graduates meet the expected quality.

Mobile Learning

Mobile learning, or M-learning, is a type of e-learning that distributes learning content and supporting materials via wireless communication devices. Changes in terminology mark the transitional revolution from e-learning to m-learning. For example, the dominant terms in e-learning are multimedia, interactive, hyperlink, media-rich environment, and others. In contrast to m-learning, terms such as spontaneous, intimate, situated, connected, informal, lightweight, private, personal, etc., characterise contexts (Cabanban & Christianne, 2013).

M-learning is unlike traditional e-learning; the resources (computing resources) in the mobile learning environment are minimal. Mobile devices used as learning media have several limitations, such as power supply, storage capacity, processor, display screen, and input and output facilities. Another thing is that mobile devices have various platforms and server platforms that are used as learning resources. This fact causes mobile learning systems to be specifically developed and optimised in such a way as to be compatible with a variety of devices and limited resources and have high interoperability (Riyanto et al., 2006).

Functions and Benefits of Mobile Learning

There are three functions of mobile learning in learning activities in the classroom (classroom instruction), namely, as a supplement (additional), which is optional (optional), complementary (complement), or a substitute (substitution).

Supplements (additional)

Mobile learning functions as a supplement; students can choose whether to use mobile learning material. In this case, students are not obligated or required to access mobile learning materials. Even though it is optional, students who use it will undoubtedly have additional knowledge or insight.

Complement (complimentary)

Mobile learning functions as a complement (complementary); the material is programmed to complement the learning material that students receive in class. Here, mobile learning material is programmed to become reinforcement or remedial for students participating in conventional learning activities.

Substitution (substitute)

Several universities in developed countries provide several alternative models of learning activities for students. The goal is that students can flexibly manage their lecture activities according to their time and daily activities. Students can choose from three alternative models of learning activities: Fully face-to-face (conventional), partly face-to-face and partly through the internet, and entirely through the internet.

Mobile Intelligent Cloud Learning System

Mobile Intelligent Cloud Learning System (MIC-Learning) is a development of mobile learning. With this application, students are directed to understand the material and solve problems so they can put forward creative ideas through virtual learning. This is possible because the MIC-learning system application carries out a mobile control system for learning values by adding material and several interactive enrichment interactions that are expected to increase understanding regarding multimedia products by constructing students' knowledge into real life.

According to the analysis phase carried out previously, sources that can be obtained free of charge from video provider sites on the internet will be used to provide learning materials. Initially, the learning resources chosen were Vimeo, YouTube, Dailymotion, and Showme. However, after observing, Vimeo cannot be accessed from the internet network in Indonesia due to blocking reasons. Therefore, the learning resources used are YouTube, Dailymotion, Showme, and Google Drive.

The architectural design of learning resources follows the architectural design of the cloud, but some parts are modified to meet the system's development needs. The cloud architecture in this image retrieves learning content from several sources using the Video Learning Resource Material API search engine, wraps it up, distributes it to a Mobile Learning Management system, and stores it in a cloud database so that users from MLS can find learning materials by utilising videos. Learning Resource Materials

Method

Project Based Learning

The project-based learning (PjBL) model is a learning model that has been widely developed in developed countries such as the United States. Translated into Indonesian, PjBL means project-based learning. PjBL is a learning model that starts with fundamental questions that require teachers to develop guiding questions (a guiding question) so that, in this case, each student can eventually answer guiding questions (Hartini, 2017; Sularmi et al., 2018). Project-based learning starts with problem-solving that needs to be done so that students can create contextual and practical works (Makrufi et al., 2018). PjBL can create student motivation and interest in learning (Handayani et al., 2019). The project-based learning process is a form of student learning that contributes to shared outcomes, so it has elements of experiential learning with active reflection and conscious involvement (Kokotsaki et al., 2016).

PjBL can develop students' problem-solving abilities, including the ability to think creatively (Arisanti, 2017). Learning models built based on project activities can challenge students in everyday life (Triana et al., 2020). Project-based learning can provide engaging experiences (Muwahiddah et al., 2019). Students will practice planning, carry out activities according to plan, and display or report the results of these activities, which are the core of project-based learning (Giwanti et al., 2019). Students in project-based learning must gain new knowledge and understanding based on direct experience working on projects through various presentations (Elvina et al., 2015; Wijanarko et al., 2017).

Roopnarine and Johnson in Arisanti (2017) reveal that the purpose of the PjBL model is to provide various kinds of learning experiences to foster participation in the process of responding to each other's ideas, organise different efforts and contributions from members and all subgroups, resolve disputes, and reach an understanding of how solving problems and completing assignments enhance student learning by creating a suitable environment (J.Afriana et al., 2016; Sularmi et al., 2018).

PjBL is a learning model that can foster students' creative thinking abilities (Kristiani et al., 2017). A structured learning experience is based on the belief that learning occurs when individuals are tasked with investigating the problems that occur (Wajdi, 2017). PjBL is a student-centred learning model that provides meaningful learning experiences to create new, relevant learning (Hidayat, 2019; Suhendar, 2017).

PjBL must start with the following stages: presenting problems, making plans, compiling schedules, monitoring project development, conducting assessments, and evaluating (Nahdliyati et al., 2016). Based on the statement above, it can be concluded that the PjBL learning model is a learning model that requires students to make projects that produce some products.

GRASPS Models

GRASPS in the PjBL learning model is used as a basis for constructing projects that will later be applied to learning so that it does not deviate from the characteristics of PjBL. An essential part of GRASPS is placing students in real-world scenarios where they produce products that describe the learning content and what they need to produce them in real-world situations (Carlson & Marshall, 2009). The Elements in GRASPS are:

A goal, is a goal or action that students will carry out in a scenario.
Role, namely the role of students in the scenario.
The audience, namely the environment, will later relate to the role of students in the scenario.
Situation, namely the challenges and details of the atmosphere or series of activities carried out in the scenario.
Product, namely the result of activities during learning or while running scenarios.
Standards, how this task will be assessed, the product's criteria, and the indicators of its success.

GRASPS is also an Authentic Assessment method taken from the idea of Wiggins and McTighe called "backward planning" or "backward design" (Carlson & Marshall, 2009). Not many have researched the GRAPS method. Gustina (2012) argues that applying PjBL with the GRAPS approach (Goal, Role, Audience, Situation, Product, Standards) can improve student learning outcomes.

Project-Based Learning Design with the GRASP Method

In this study, the GRASPS elements are described in a project-based learning design as follows:

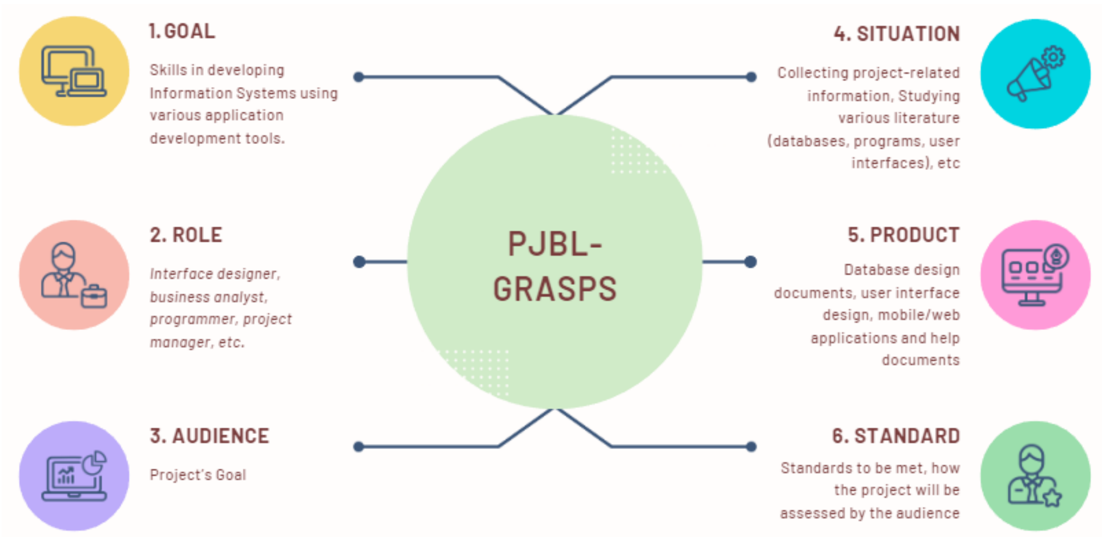

Figure 1. Project-based learning design with the GRASPS method

The goal, to provide students with skills on how to develop information systems by developing various design documents and using various application development tools.

Roles. Students will act as application developers who work in a team with various specialisations such as interface designers, business analysts, programmers, project managers, or other roles that can be added according to the number of group members.

Audience. For whom did the students solve the stated problem? Who should be convinced by students about the solution and the possible success of the proposed solution to the problem (the audience is not limited to students or lecturers but can be simulated as in real life)?

Situation/Set of Activities. Students collect information on the needs of information systems to be developed from resource persons (users), study various literature, make database designs, application/program flowcharts, and interface designs (user interfaces), then present them to users for approval, carry out programming the application using an IDE (Integrated Development Environment), create documentation and technical support, conduct trials on users, and distribute applications.

Product/Results. Database design documents, program flowcharts, user interface designs, desktop and web applications, and documentation for technical support (help documents). After designing the project, the next step is to make detailed learning implementation plans (RPP) documents, action plans, or, as some call them, unit plans, which include learning objectives, competency standards, activity details, teaching tools and materials, worksheets, evaluation methods, and so on.

Standards. The standard that must be met is how the audience will assess the work. Later, this project scenario will be executed in parallel in three existing courses, so it is necessary to create synchronisation between the content delivered at each stage or meeting with students.

To support and provide innovation in this learning activity, a mobile learning-based system with functions like a Learning Management System (LMS) will be developed. An analysis of the web-based e-learning system is carried out to find out the main features of the e-learning system. These features are reviewed and adjusted to be implemented as m-learning applications. The components involved in the m-learning system include Android devices, PC users, web services, and database servers. Figure 2 shows an overview of the mLearning system on the Android platform. The Android device acts as a user interface tool for this application, sends data requests and receives data sent by web services, and is a medium for displaying information sent by the system to users. A database using spreadsheets on Google Drive is used to store student data, teaching materials, quizzes, and grades. PC users are used as an application tool to manage the data contained in the database through the administrator. In this case, it is used to manage and manipulate data used in m-learning applications on the Android platform students and lecturers use. Web service to manage data traffic between client and server. Receives input variables from the user and arranges these variables into parameters that form a query, calls the function by sending the parameters for compiling the query, receives the results of the query execution carried out into the database model and manages the process of presenting the information sent to the client on view component. The last part is the database server, which stores all information about the data used in running the application. Another role of the database server is to receive query-forming parameters sent by the web service, execute the query that has been formed, and send back the query results to the web service.

Figure 2. Overview of the MIC-Learning Application to be Used

Results and Discussion

Design Mobile Learning: Integrated Project-Based Innovative Learning

Learning is essentially a system consisting of many interrelated components that influence each other. The learning process is one component of the system. The process aims to provide a learning experience so students can optimally achieve their learning goals. The essence of the learning process is not only transferring knowledge but also optimising students' abilities as independent learners and reconstructing knowledge based on the learning experience gained. The results of observations on students' abilities in the Software Engineering (RPL) course show that student understanding is still low, which is indicated by their inability to produce works in the form of software products.

Problems related to the RPL Practice learning process, as conveyed require appropriate problem-solving solutions. Improvement can begin with the preparation of learning tools supported by appropriate evaluation facilities through lesson study (LS) activities to improve the quality of learning. With increasing the quality of the learning process, it is hoped that it will have a direct impact on increasing students' metacognition abilities and understanding of concepts. Thus, learning planning as outlined in RPS and SAP as technical instructions for implementing lectures will make it easier for lecturers to carry out learning while helping students become independent learners.

The RPS and SAP that have been arranged need to be equipped with teaching materials in modules and digital-based assessment instruments. Teaching materials adapted to learning conditions are supported by facilities that are also very much needed. Preparing material according to the hierarchical level of difficulty is an essential priority as a basis for development, including preventing students from misunderstanding concepts. This is an important part to pay attention to because a thorough understanding of the concept will increase the ability to carry out their duties.

The concept of self-learning using learning media in digital modules and supported by assessment features teaches students to think through the planning process, carry it out, and repeat it as an evaluation step for all these learning activities. Kung et al. (2005) stated that developing metacognitive abilities is an essential step in knowing one's potential. Mittlefehldt & Grotzer (2003) showed that the development of metacognitive abilities will have an impact on increasing students' understanding of concepts. Using e-portfolios with tiered assignments requires students to actively learn by finding multiple sources, honing their thinking skills, and understanding images and videos. Thus, students become accustomed to concentrating and evaluating learning activities so that, overall, they improve their learning outcomes.

Activities of Learning device development with evaluation components in the form of MIC-Learning are carried out by adopting Lesson Study (LS) through the plan, do, and see stages. LS-systematic activities that emphasise the collaboration of team members based on collegiality principles to enhance mutual learning have the potential to improve the learning process on an ongoing basis. Nesusin et al. (2014) showed that the main point of implementing LS is continuous development based on the dynamics of classroom learning changes by emphasizing innovations to solve problems encountered.

Santyasa (2009) states that LS activities increase the professionalism of lecturers in teaching, which will impact improving the quality of learning. Thus, it can be interpreted that LS, which is carried out consciously and continuously, will improve the quality of both lecturers and students. The implementation of LS activities is expected to improve the quality of lecture implementation, which has an impact on increasing metacognition skills, collaboration skills, and students' communication skills and understanding of the concepts, as well as the professionalism of lecturers to develop lesson plans, implement them, and evaluate them.

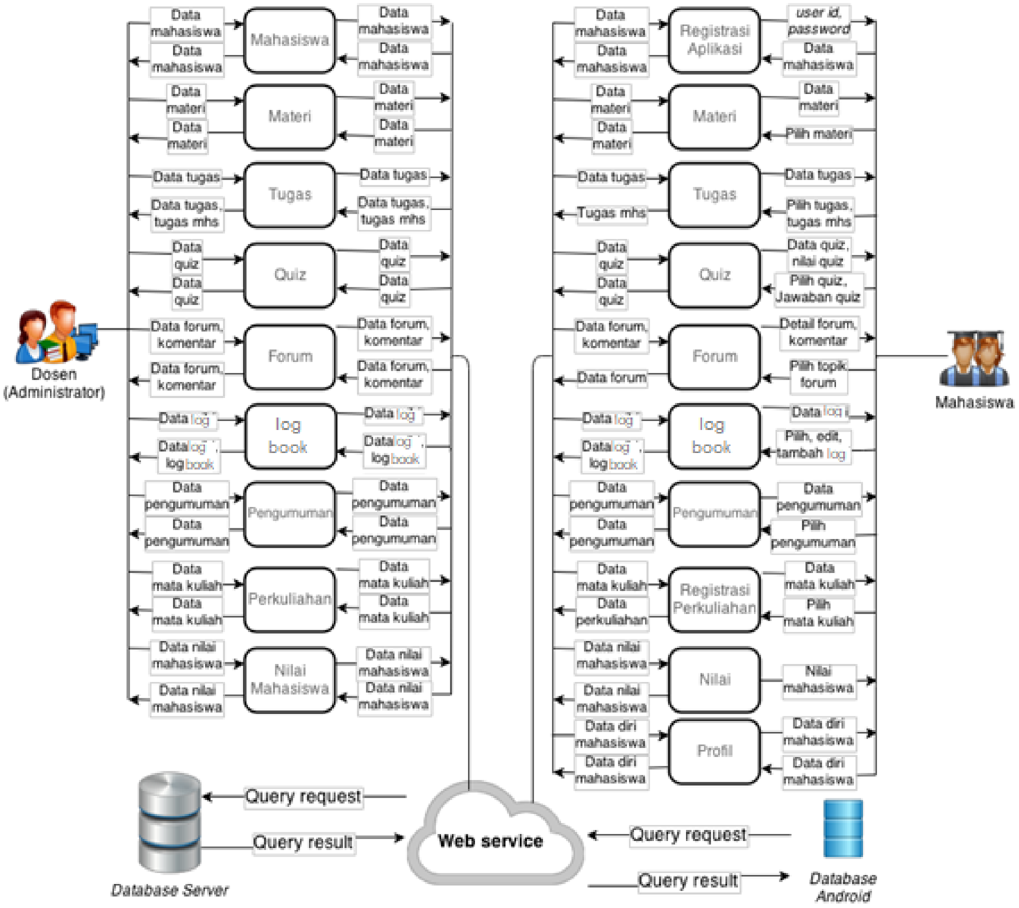

Figure 3. MIC-Learning Architecture on the Mobile Platform

The use of scientific approaches and appropriate learning models such as cooperative, collaborative, and work project models in the Software Engineering (RPL) learning process has consequences and impacts on various activities that strongly support a conducive atmosphere for achieving learning objectives. Activities that are accommodated in a scientific approach, which includes 5M, namely observing, asking, trying, reasoning, and communicating the results of these various activities logically, will be able to increase students' abilities as learners in terms of their ability to communicate, their ability to collaborate, and their metacognition skills, leading to increased understanding of concepts and achievements. More than that, the activities carried out in scientific learning are believed to make learning more meaningful. Because the competencies or abilities acquired are not simply given by the learner (lecturer), but through several processes and activities carried out by the learner (student), the competencies acquired or mastered will be embedded longer and more vital in students.

The three standard features in MIC-Learning include teaching and learning features, discussion and communication features, and exam and assignment features. The implementation of these features into the MIC-learning application by adjusting the menus contained in the MIC-learning application on the Android platform. The teaching and learning completeness feature is implemented in the course, material, and wiki menus. Discussion and communication features are implemented in the profile update, announcement, lecture information, and forum menu. Examination and assignment features are implemented into quiz menus, assignment menus; student study results menus, and grade menus.

Figure 4. Interface Design of Mobile Intelligent Cloud (MIC) Learning System

The MIC-learning application consists of two versions: the MIC-learning application for lecturers and the MIC-learning application for students. The architecture of the m-learning application on the Android platform can be seen in the outline in Figure 3. There are nine main modules in the MIC-learning application for students and lecturers, including registration modules, material modules, assignment modules, quiz modules, forum modules, value modules, an announcement module, a wiki module, and a lecture module. These modules are implemented into the m-learning application as an application menu.

Conclusion

The product of this research is a learning tool and a description of its influence on communication skills, collaboration skills, metacognition abilities and students' conceptual understanding as users of the learning tool. In accordance with the target, the resulting learning tools consist of RPS, SAP, learning applications equipped with mobile-based assessment instruments (MIC-learning), usage modules and products or applications resulting from student learning. The product is then revised based on the results of trials and lesson study activities, as well as suggestions and input from experts in their respective fields.

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Lifelong Learning for Engineers: A Literature Review

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Abstract: Lifelong learning has become an integral part of educational approaches, aiming to promote continuous learning throughout an individual's life. The purpose of the current literature review is to assess the trends, themes and gaps in lifelong learning for engineers. A comprehensive search was conducted in Google Scholar, ScienceDirect, and Scopus for aticles published from 1990. Specific search terms were used to retrieve relevant articles and were determined based on a combination of keywords. The abstracts and titles of the retrieved articles were screened to determine their eligibility for inclusion in this study. A total of 5,342 studies were initially identified. After removing duplicates, the number of studies was reduced to 2,217. Subsequently, the studies were further filtered based on the predefined qualification criteria, resulting in 1,779 studies that underwent abstract and title screening. Ultimately, a total of 28 articles were identified as meeting the predefined eligibility criteria and were considered for the research. These selected articles formed the basis for the thematic analysis and further exploration of the research topic. The studies emphasized the significance of both formal and informal learning and training. Problem-based learning is a crucial component of lifelong learning. This approach encourages deeper understanding, independent thinking, and the development of teamwork and essential skills. Self-directed learning is a prominent competency for lifelong learning. It involves self-reflection, self-regulation, and proactively identifying areas for improvement. A group-based approach is suggested to complement technical knowledge with personal skills and non-technical competencies. Five themes including self-directed learning, coaching and mentoring, problem-based learning, formal and informal learning, and group-based approaches were identified. These concepts should be integrated into the education system and the workplace to support lifelong learning for engineers.

Keywords: literature review, engineering, lifelong learning

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Introduction

According to the Oxford English Dictionary, lifelong learning can be described as an educational approach designed to promote continuous learning throughout the life of an individual. (Naimpally, Ramachandran & Smith, 2011). Before formally receiving instruction, a person's competence, abilities, comprehension, and awareness were evaluated based on that person's regular training and education (Guest, 2006). This paradigm has evolved in the global society with the metrics of measuring a person's skills and general competence that encompasses knowledge-based lifelong learning, which is a necessity and not an option, especially in the field of engineering (Guest, 2006). By allowing the individual to build their knowledge and skills in their specialized field in a personal or professional capacity (Guest, 2006), According to Naimpally, Ramachandran, and Smith (2011), the continuous learning method guarantees that the individual has the expertise and abilities required to continue their learning journey after completing their higher education.

When contrasted to other academic disciplines, the usefulness of information acquired in the sciences and technologies, notably in the field, is greatly reduced, A lot of money needs to be put into the development of people through lifelong learning to avoid obsolescence (De Grip, & Smits, 2012). The investment in human capital in question does not only include formal training programs but also informal learning in the work environment (De Grip, & Smits, 2012). Since the engineering field is based on skills and knowledge that are conventionally tacit, the need for lifelong learning, which is ineffective in its current state, is quite significant for engineers. Considering the revolutionary nature of the engineering field, especially concerning technology (Naimpally, Ramachandran & Smith, 2011).

In precisely the same way as they require initial instruction and licensing, engineering workers also need to keep up their education (Bowman, 1997). To preserve safety for everyone, a safe environment, an efficient national economy, a highly regarded profession, an effective employer, and a happy career, ongoing growth in one's profession is essential (Bowman, 1997). Engineers have a common difficulty, but different disciplines have different strategies for maintaining individual and collective skills (Bowman, 1997). Maintaining expertise is crucial for advancement in your career, and engineers who work for large corporations frequently have access to internal training and professional development programs (Bowman, 1997).

Since numerous problems hinder the development and implementation of lifelong learning (Table 1), the objective of our study was to review qualitative research examining lifelong learning for engineers that focused on specific themes and analyze the trends, gaps, and significance of the practice.

Table 1. Problems associated with lifelong learning for engineers and proposed resolutions

Author	**Problem with Lifelong Learning**	**Resolution**
(Martinez-Mediano & Lord, 2012)	Although the education system plays a significant role in the promotion of lifelong learning for engineers, it has failed to integrate lifelong learning competencies.	Lifelong learning competencies must be sufficiently understood and implemented in learning institutions through formal and informal training as well as self-directed learning.
Uden & Dix (2004)	Unfortunately, engineers are not properly equipped with the problem-solving skills required for their careers.	Problem-based learning can be integrated into lifelong learning to better equip engineers with the

Author	Problem with Lifelong Learning	Resolution
		required skills.
Skrentny & Lewis (2022)	There is an assumption that the STEM pipeline that includes engineers begins and stops at specific stages.	Training is an important aspect of lifelong career growth and development that can go on for years.
Latinopoulos (2005)	There are basic issues associated with the participation of engineers in lifelong learning activities.	Formal and informal learning should integrate self-sufficient learning skills.
Lenschow (1998)	Teaching is evaluated by learning institutions, which is different from the evaluation of the competence of engineers in the global market.	Lecturing should be reduced in formal learning and project-based learning should be increased to promote teamwork and learning critical engineering skills.
Peat, Taylor & Franklin, (2005)	Engineering classroom instruction prepares students for the organizations they will work for.	Comprehensive online resources should be developed to promote independent learning and self-directed learning, asynchronous and synchronous communication, and the content learned should be delivered to the real-world environment. Learning should promote teamwork and independent thinking.
Saxe, Mahmoud & Razavinia, (2022)	The formal education system fails at some level to integrate lifelong learning in the fast-changing technological world.	The course design should align with the outcomes of lifelong learning.

Research Question

The existing research works based on lifelong learning in engineering education reveal a significant research gap that calls for further research studies. While these discussed research works have explained several fundamental issues surrounding the integration of lifelong learning principles in engineering, there is a requirement for a comprehensive investigation that extends these visions.

Table 1 highlights some key issues associated with lifelong learning for engineers, including the failure of education systems to integrate lifelong learning competencies, lack of problem-solving skills, basic issues associated with participation, and the need for evaluation of competence etc. Moreover, the discussed existing research works suggest resolutions, including integrating lifelong learning competencies in formal and informal training, using problem-based learning to equip engineers with necessary skills, reducing lecturing in formal learning, increasing project-based learning to promote teamwork and critical thinking, developing comprehensive online resources to promote independent and self-directed learning, and aligning course design with lifelong learning outcomes. However, there is still a lack of a holistic framework that integrates these facets cohesively and it highlights a significant research gap in this lifelong learning for engineers. Thus, a new research endeavor should aim to bridge this research gap by developing a unified model or strategy for embedding lifelong learning seamlessly into engineering curricula, addressing the multifaceted challenges identified by previous studies, and providing actionable recommendations for educators and institutions to enhance the lifelong learning experiences of engineering students.

Methodology

Study Design

The research methodology is a systematic framework that leads the overall research study. This research has several key steps in its methodology, including the literature search strategy, visualization of author keywords co-occurrence, eligibility criteria, inclusion criteria, exclusion criteria, and the approach of inquiry. Figure 1 illustrates the research methodology flowchart, and collectively, these components specify how the research issue will be investigated, what sources will be taken into account, and how data will be gathered and analyzed.

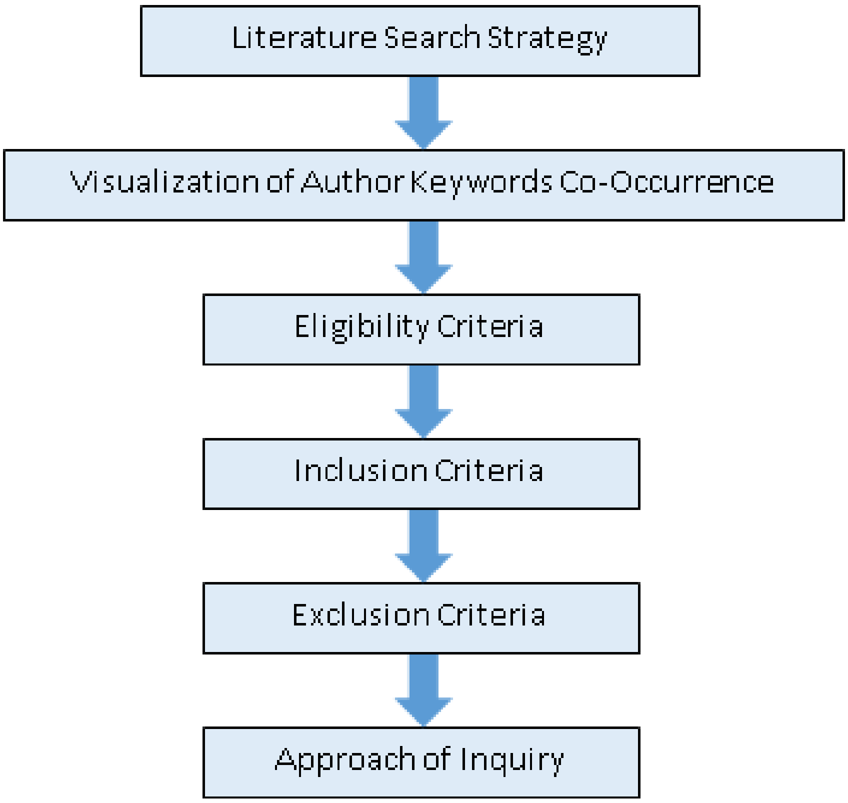

Figure 1. Research Methodology Flowchart

Search Strategy

A literature search in various engineering literature domains within numerous online databases published between 1st October 1990 and 31 October 2022 was performed. Published articles available in Google Scholar, ScienceDirect, and Scopus online databases were queried using search terms with a combination of keywords listed in Table 3. Implementing a search using the databases resulted in hits listed in Table 3 that were subjected to a process of elimination by screening abstracts and titles to determine whether the studies were eligible for inclusion in the current research. The remainder of the papers' entire contents were perused, and any articles that did not pertain to the subject of the study were excluded. The MORISE structured literature review framework was employed in this article as explained in Figure 3 (Sabri, Lædre and Bruland, 2022).

Visualization of Author Keywords Co-Occurrence

The keywords listed in Table 3 were used in the search string for Scopus (Figure 2) and ScienceDirect (Figure 3) databases.

Figures 2 and 3 show the most common keywords for the articles included in the analysis. Engineering education, lifelong learning, continuing education, and practical characteristics were the most often used words for ScienceDirect. Engineering education, lifelong learning, engineering graduates, employee education, and development for professionals are among the most popular search terms on Scopus.

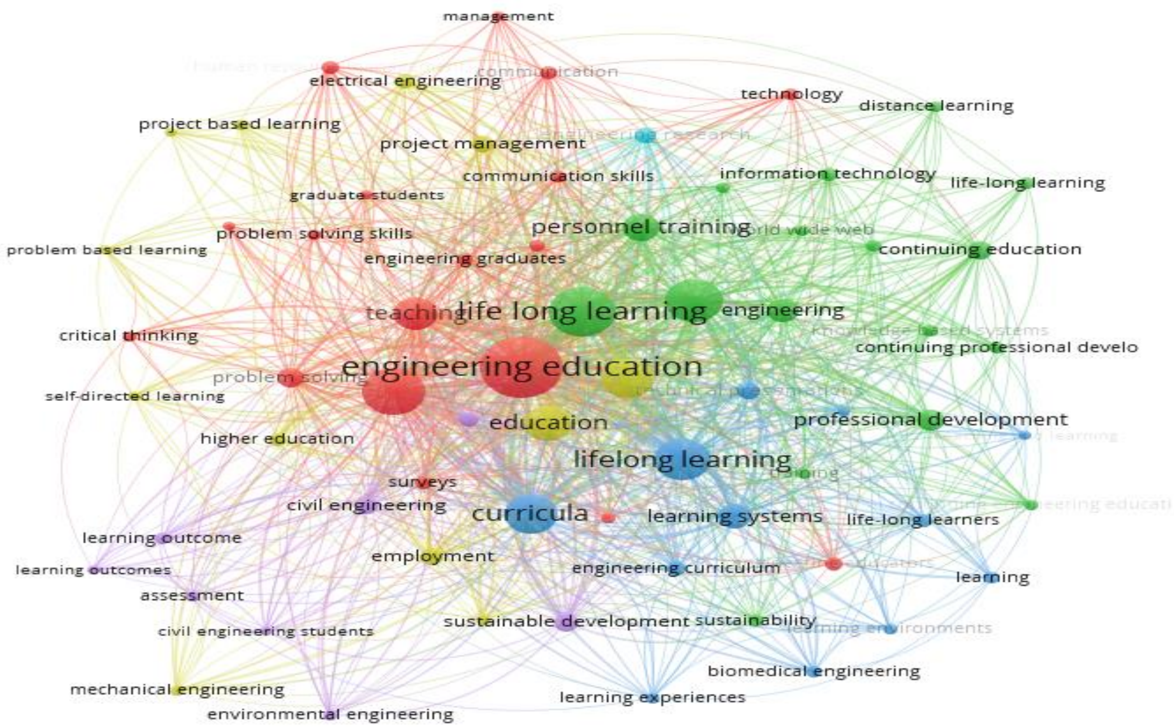

Figure 2. Retrieved Keywords (Scopus)

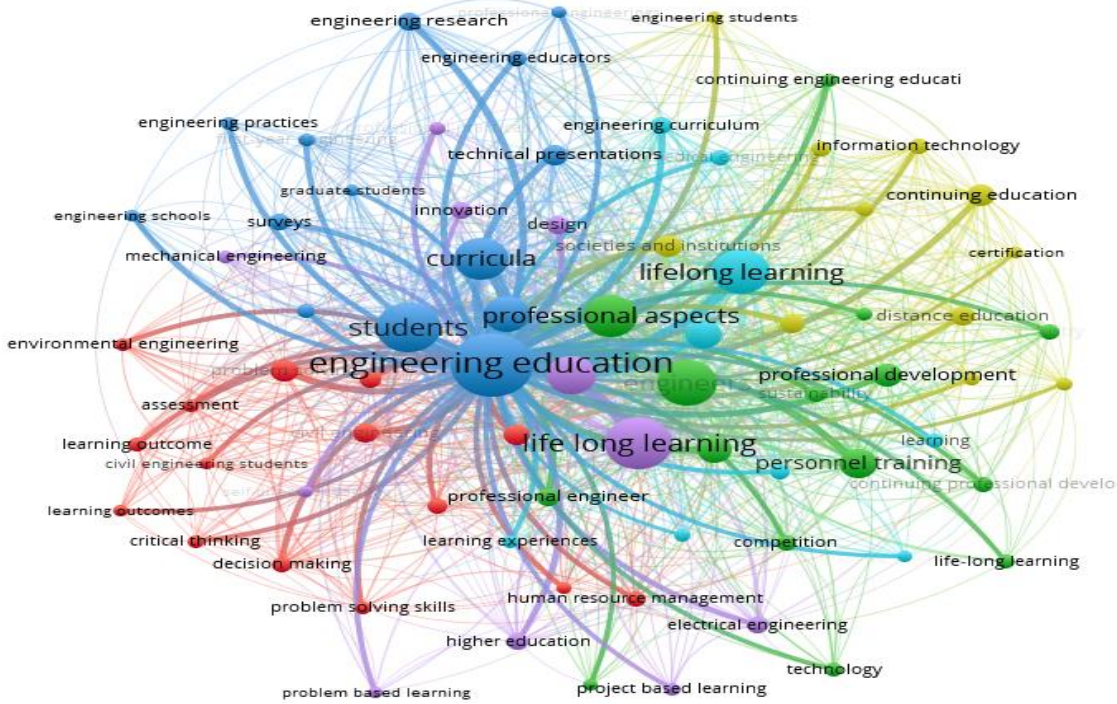

Figure 3. Retrieved Keywords (ScienceDirect)

Table 2. Search strings and keywords

SEARCH NUMBER	ADDITION to SEARCH STRING	Science Direct	SCOPUS	Google Scholar
1	TITLE-ABS-KEY (“LIFELONG” AND “LEARNING” AND “ENGINEERS”)	3897	342	35,100
2	TITLE-ABS-KEY (“LIFELONG” AND “LEARNING” AND “ENGINEERS” AND “FORMAL” OR “NON-FORMAL”)	3897	32	7620
3	TITLE-ABS-KEY (“LIFELONG” AND “LEARNING” AND “ENGINEERS” AND “SELF-DIRECTED LEARNING”)	110	10	5750
4	TITLE-ABS-KEY (“LIFELONG” AND “LEARNING” AND “ENGINEERS” AND “TEAMWORK”)	468	29	21700
5	TITLE-ABS-KEY (“LIFELONG” AND “LEARNING” AND “ENGINEERS” AND “PROBLEM-BASED”)	247	12	9360
6	TITLE-ABS-KEY (“LIFELONG” AND “LEARNING” AND “ENGINEERS” AND “GROUP-BASED”)	166	1	2450

Table 3 provides a summary of the search strings and keywords used to gather relevant literature on lifelong learning for engineers from ScienceDirect, Scopus, and Google Scholar, that is in all search strings, ScienceDirect produced the most hits, with Google Scholar generating the most results for search string 2. Search strings that included terms like "self-directed learning," "teamwork," and "problem-based" yielded fewer results but were more specific to the research question.

Eligibility Criteria

Eligibility criteria were applied to assess whether articles fulfilled the requirements for admission or rejection.

Inclusion criteria

Learning issued between 1990 and 2022; authored in English; included primary and secondary sources; peer-reviewed; published through proper channels; focused exclusively on lifelong learning for engineers; online availability.

Exclusion criteria

Publications that were distributed using unorthodox or grey means; articles that are not peer-reviewed; studies irrelevant to the research topic; evidence syntheses, editorials, and commentaries; sources authored before 1990; articles with abstracts only.

Approach of Inquiry

An inductive approach of inquiry was applied as opposed to a deductive one and, especially in the case of primary literature sources, was mostly rooted in grounded theory. Based on the collected data related to the topic of lifelong learning for engineers, theories were developed inductively. The thematic analysis was carried out in phases —the familiarization phase comprised an overview of general information related to the research topic; the selection phase comprised identifying themes after coding data from the 15 selected sources based on trends, research gaps, and patterns; and review phase comprising a review of selected articles and proper definition of selected themes.

Results

Literature Search

The Database search identified 5342 hits. Removal of duplicates resulted in 2217 studies and applying the qualification criteria resulted in 1779 studies, whose abstracts and names were looked over to see if they had any relevance to the thematic analysis. After 21 articles had been eliminated, they were reviewed for eligibility using the time-span criterion, and seven articles were added after the timespan restriction was lifted. Finally, 28 articles were found to successfully satisfy the predetermined qualifying requirements (see Figure 4).

Morise flowchart for researching databases and choosing literature

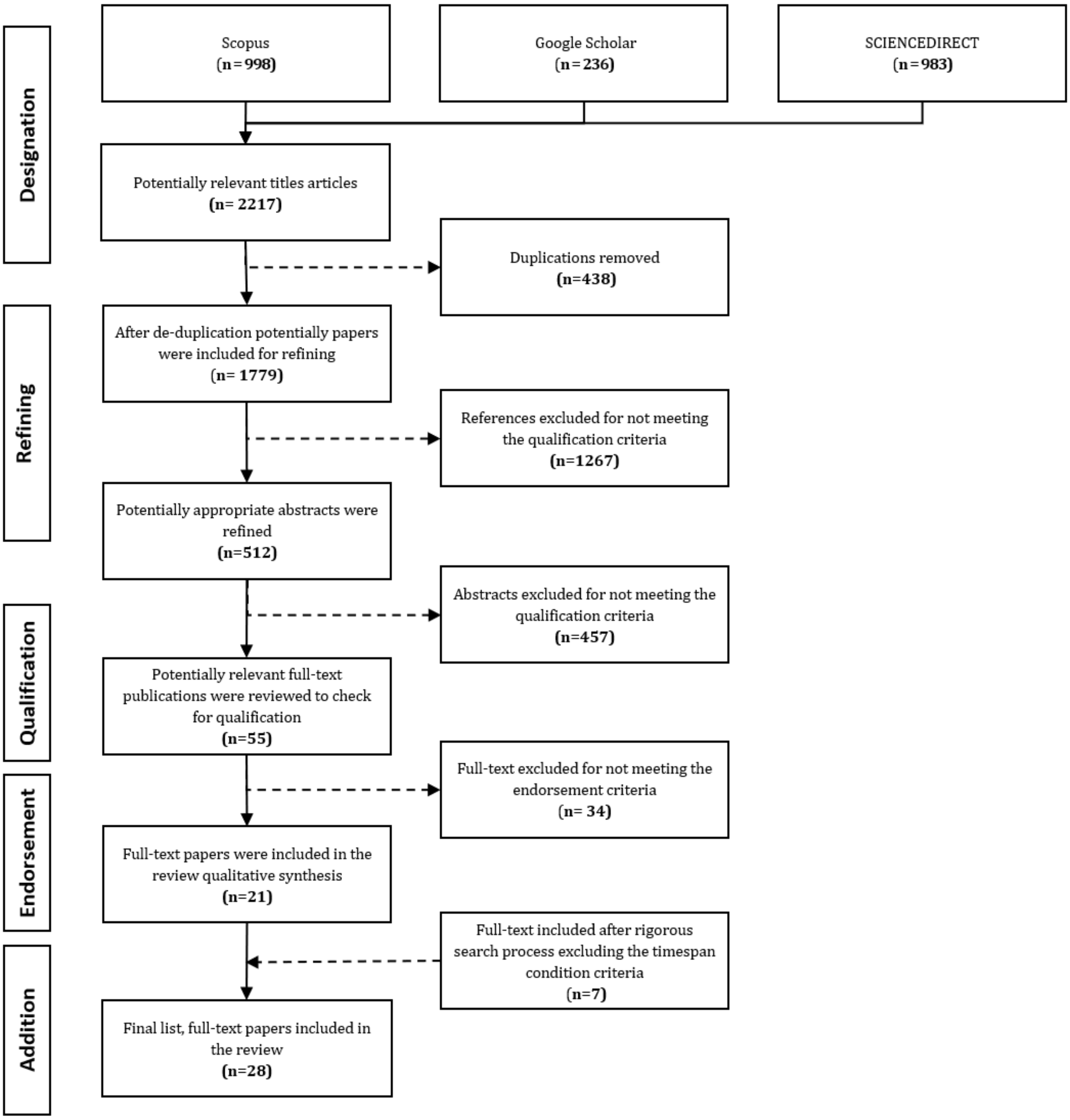

Figure 4. Morise flow chart

Data Extraction

Table A1 contains data and conclusions from 28 research that satisfied the qualifying requirements, including the writer's name, year of publication, results, nation, technique, and objective. The findings in all the featured research emphasized the suggested remedies for professionals' continuous education. There was no unclear information, and no assumptions were made. Detailed data extraction information is attached to the appendix (Refer Table A1).

Research on continuous development in architecture is included in the table of contents, along with a few research studies on education and career advancement. It includes information such as the author, year of publication, purpose of the study, methodology used, country of origin, and outcomes. The studies were conducted using a variety of methodologies, including content analysis, Tobit analysis of survey data, thematic analysis of interview transcripts, qualitative analysis, module analysis, group-based project analysis, survey analysis, program analysis, review, and systems theory framework.

The countries of origin for the studies varied and included the United Kingdom, the Netherlands, the United States, Belgium, Greece, Spain, and Norway. The outcomes of the studies suggested a variety of approaches to lifelong learning and professional growth, including the use of coaching and mentoring, the numerous advantages of instruction based on problems, the significance of autonomous learning, and the need for continual updating of knowledge and skills. The studies also highlighted factors that can influence training participation, such as the use of innovative production methods in companies, industry competitiveness, and the characteristics of employees and their jobs.

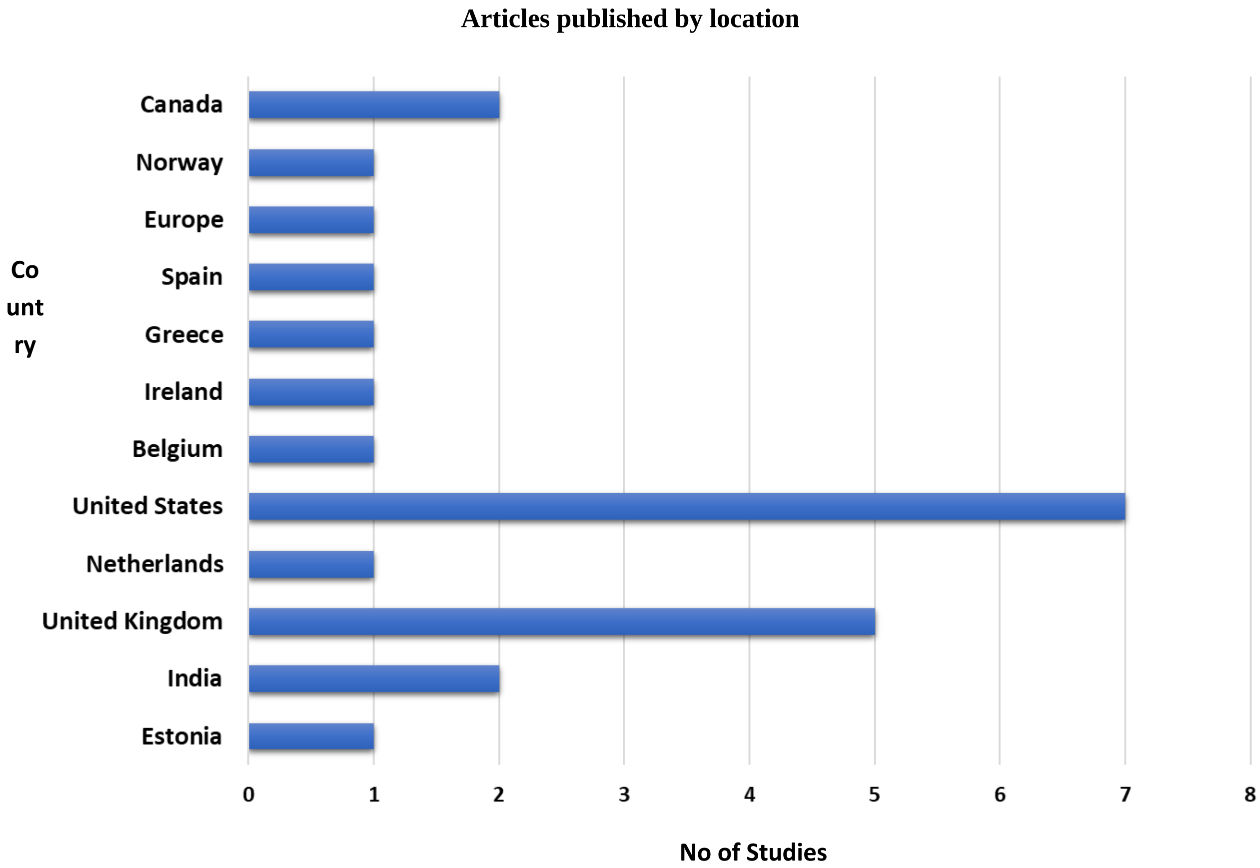

Figure 5. Articles Published by Country

Most articles were published in the United States followed by the United Kingdom. There is limited research on the topic in developing countries such as those in Africa. Additionally, there may be an immediate connection connecting the quantity of publications released by a nation and the amount of money spent on engineers' ongoing education.

Articles published by Database Sources

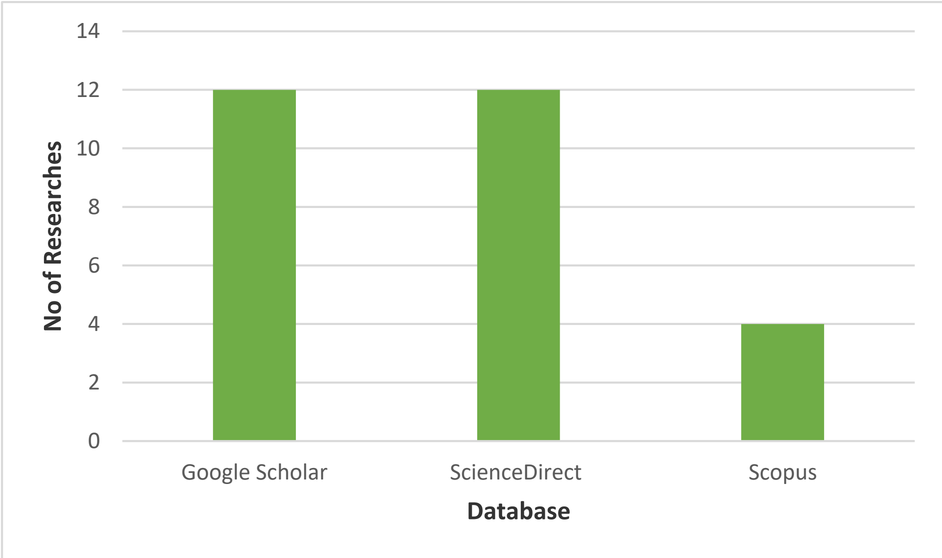

Figure 6. Count of Sources by Databases

As shown in Figure 6, more articles on lifelong learning were retrieved from Google Scholar and ScienceDirect than Scopus. Google Scholar and ScienceDirect had a wider scope and index a larger number of academic journals than Scopus, which specializes in scientific, technical, medical, and social sciences literature.

Methods used for procurement in the project environment

As shown in Figure 7 and Table 5, more articles on statistical and descriptive analyses were retrieved than other methods.

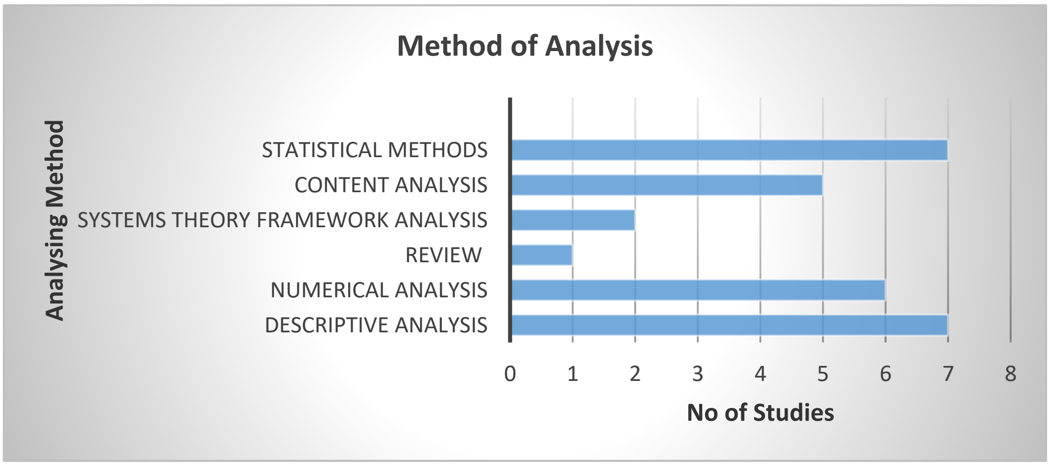

Figure 7. Count of Authors by Method of Analysis

Table 5. Methods of analysis of data used for each study included.

Method	Authors
Descriptive Analysis	Martinez-Mediano & Lord (2012), Uden & Dix (2000), Guest (2006), Uden & Dix, (2004), Parkinson, (1999), Porter, Patil, & Dutta (2012), Evans (2018)
Numerical Analysis	Skrentny & Lewis (2022), Vardiambasis et al. (2007), Patterson, Labun, & Eikenaar, (2016), Marra, Camplese, & Litzinger (1999), El Mawas et al. (2017), Nimmi, Zakkariya, & Rahul (2021)
Review	Latinopoulos (2005)
Systems Theory Framework Analysis	Saxe, Mahmoud & Razavinia (2022), Berzina et al. (2019)
Content Analysis	Andries de Grip (2012), Franklin, S., Taylor, C. E., and Peat, M. (2005) Lenschow (1998), Patterson, L., Labun, C., & Eikenaar, J. (2016), Deveci & Nunn (2018)
Statistical Methods	Froehle,et al. (2022), Aerts, (2020), Stolk & Martello (2015), Litzinger et al. (2001), Witt, E., & Lill (2012), Das (2011), Williams, Blowers & Goldberg (2004)

Table 5 and Figure 6 show the analysis method utilized for qualitative research. Descriptive analysis and statistical methods were the most used methods, with several authors utilizing this approach. Review, systems theory framework analysis, and other methods were used less frequently.

Analysis of Themes

Specifically, there are five main areas: learning on your own, coaching and mentorship, formal and informal learning, and group-based approaches) (Table 6) were identified from 28 articles that were fully derived inductively.

Table 6. Themes analysis

Theme	Articles
Formal and Informal Learning and Training	Saxe, Mahmoud & Razavinia, (2022), Lenschow (1998), Latinopoulos (2005), Graham Guest (2006), Martinez-Mediano & Lord (2012), Skrentny & Lewis (2022), Martinez-Mediano & Lord (2012), Andries de Grip (2012), Aerts et al. (2020), Porter, Patil, & Dutta (2012), Parkinson, (1999), Marra, Camplese, & Litzinger (1999), Deveci & Nunn (2018), Berzina et al. (2019), Litzinger et al. (2001), Witt, & Lill (2012), Das (2011), Williams, Blowers & Goldberg (2004), Nimmi, Zakkariya, & Rahul (2021)

Problem-based Learning	Lorna Uden & Alan Dix (2014), Peat, Taylor & Franklin (2005), Ioannis Andries et al. (2007), Patterson, Labun, and Eikenaar (2016), Uden & Dix (2004), Litzinger et al. (2001)
Self-directed Learning	Aerts et al. (2020), Froehle et al. (2022), Andries de Grip (2012), Graham Guest (2006), (Uden & Dix, 2004), Marra, Camplese, & Litzinger (1999), El Mawas et al. (2017), Litzinger et al. (2001), Evans (2018), Bowman (1997).
Group-based Approach	Gavin Duffy & Brian Bowe (2010), Patterson, Labun, and Eikenaar (2016)
Coaching and Mentoring	Froehle et al. (2022), Graham Guest (2006), Stolk & Martello (2015)

Table 6 provides a comprehensive analysis of the themes identified in the studies reviewed for the research question on the trends, themes, and gaps in lifelong learning for engineers. The table presents five main themes, namely Formal and Informal Learning and Training, Problem-based Learning, Self-directed Learning, Group-based Approach, and Coaching and Mentoring, alongside the studies that discussed each theme. Formal and Informal Learning and Training is the most frequently discussed theme in the table, with 18 studies mentioning it. This indicates that the concept of lifelong learning for engineers is being considered in both formal and informal contexts. Several studies, including Nimmi, Aerts et al. (2020), & Martinez-Mediano & Lord (2012) Zakkariya, & Rahul (2021), focused on the importance of continuous learning through formal training programs, workshops, and courses. In contrast, other studies, such as Graham Guest (2006) and Lenschow (1998), emphasized informal learning through on-the-job training and learning from colleagues.

Uden & Dix (2014) and Peat, Taylor & Franklin (2005) identified that professionals' ability to solve problems is improved by training based on problems, leading to lifelong learning in practice. Aerts et al. (2020) and Andries de Grip (2012) found that self-directed learning is necessary to bridge the gap between formal education and the rapidly changing demands of industry. Three studies discussed group-based learning, indicating that group-based learning facilitates teamwork and collaboration among engineers, leading to lifelong learning. On the other hand, two studies discussed the importance of coaching and mentoring, indicating that mentoring programs help to transfer knowledge and skills from experienced engineers to the younger generation.

The table shows that various approaches can be used to facilitate lifelong learning for engineers, with formal and informal learning and training being the most frequently discussed theme. The studies reveal the importance of engineers being proactive in their learning through self-directed learning and taking charge of their learning to bridge the gap between formal education and the rapidly changing demands of industry. The table highlights the need for organizations to consider different learning approaches, to support scientists' continuous education, tutoring, and mentorship programs as well as problem-oriented instruction, collaborative instruction, and mentoring are included.

Themes

Theme 1: Formal and Informal Learning and Training

Initially, competence, knowledge, and skills were measured based on educational background mostly depending on formal learning and training history. According to Andries de Grip (2012), "Academic scholarship on the establishment of outstanding durability organizations is also centered on unstructured education." According to the author, informal learning is very significant especially for engineers because the accumulation of technology takes place through diverse learning processes and may depreciate if the processes are absent leading to stagnation. Graham Guest (2006) cited provision as one of the facets associated with the continuous professional development of informal learning in the workplace. Organizations should assess to what extent they offer lifelong learning opportunities to their employees and consider collaborating with other bodies to promote the process. Universities have a responsibility to promote lifelong learning through education programs and online learning (Latinopoulos, 2005). Training is an important aspect of lifelong career growth and development that can go on for years (Skrentny & Lewis, 2022).

According to Andries de Grip (2012), one's level of education is not complementary to their history of participation in formal training. The research identified certain behavioral patterns among engineers with bachelor's degrees wherein they take part less often in formal or informal training from which they can learn, and female engineers have a different informal learning pattern compared to men; they spend a limited amount of time self-teaching (Andries de Grip, 2012). The gap in formal or informal learning and training based on educational background is a major issue.

Aerts et al. (2020) highlighted the evolution of lifelong learning in terms of technology to meet current needs. According to the authors, formal and informal training should remain practice-oriented and remain specific and relevant to the field of profession. Aerts et al. (2020) suggested that learning from peers through platforms such as LinkedIn and podcasts should be encouraged. The existence of alternative strategies such as online platforms eases access to the process of lifelong learning. There is a shift of focus towards more informal learning owing to the development of technology and the fact that in many cases formal learning is not sufficiently tailored toward existing practical needs. Both formal and informal learning and training are significant and should be promoted, especially in workplaces.

Theme 2: Problem-based Learning

According defined by Uden & Dix (2014), problem-centered education is "...the knowledge that emerges from striving for the comprehension of, or settlement of, an issue." and is a significant component of lifelong learning for engineers. Uden & Dix (2014) created and executed an end-of-course information technology module to help students appreciate the value of problem-based instruction. According to the findings, problem-based learning encouraged deeper and independent comprehension of the learning material as opposed to the conventional superficial understanding of course material. In their research, students were placed in small groups to encourage teamwork and appreciation for diversity. Students gained significant skills such as self-management, information retrieval, proper communication, and time management. Engineers need to learn continuously throughout their work life both as part of learning teams and independently, the requirement for the incorporation of problem-based instruction into educational programs. A growing trend in education is the use of projects in education, which is related to problem-centered education in the engineering industry faster compared to the slower rate in educational institutions (Peat, Taylor & Franklin, 2005).

Vardiambasis et al. (2007) reported the results of the Technical Educational Institute of Crete (TEIoC) student survey, which demonstrated that the introduction of problem-based learning benefited the students who became more academically and adequately trained to meet the needs of the engineering job market. Patterson, Labun, and Eikenaar (2016) reported the significance of problem-solving processes in lifelong learning, which help learners in the identification of information gaps, fill the gaps efficiently to develop a full perspective of the problem, and come up with an effective solution. Therefore, educational institutions, as well as workplaces, should consider integrating more problem-based approaches and processes to promote lifelong learning.

Theme 3: Self-directed Learning

The most significant and prominent competencies for lifelong learning are self-reflection and self-regulation, both of which, according to Aerts et al. (2020), allow students to identify aspects that require improvement and acquire the discipline to act. The importance of self-directed education through experiences and one-on-one contacts like mentoring and coaching was emphasized by Froehle et al. in their study from the year 2022. Independent education has become a crucial part of continuing education since it encourages freedom and originality in personal development.

Andries de Grip (2012) identified a pattern of self-directed teaching based on gender and the type of employment, according to which, female engineers generally spend less time on self-teaching compared to their male counterparts. Additionally, engineers who identify a gap in their skills have a significant chance of investing in self-directed learning. There is a correlation between the types of employment and self-directed learning; those who work in positions that demand advanced skills in leadership are more inclined to engage in independent education. Andries de Grip (2012) also reported that certain categories of engineers do not sufficiently invest their time in self-directed learning.

It is important for engineers to document their major achievements in engineering, such as successful technical projects and significant contributions to management and administration. This can help them recognize their strengths and demonstrate their capabilities to others. Engineers should aggressively pursue self-directed lifelong learning activities, such as attending formal credit and non-credit courses, workshops, seminars, and other learning experiences (Bowman, 1997). They should maintain comprehensive records of their successful completion of these activities to ensure Professionals keep apprised of the most recent developments in their specific field and learn fresh abilities to increase their general competency (Bowman, 1997).

According to Graham Guest (2006), in the future, all lifelong learning will be characterized by self-directed learning to promote individuality and independence during the continuous professional development process. Therefore, self-directed learning is inevitable and should be integrated into learning institutions as well as in employment training to promote lifelong learning for engineers (Uden & Dix, 2004).

Theme 4: Group-based Approach

Currently, greater significance is placed on the comprehension of engineering knowledge and possession of the necessary abilities at the cost of elements like initiative, collaboration, interaction, and learning by yourself. Standards for accreditation have changed and are now characterized by increasing abilities in the required skills for undergraduate engineering students. Duffy and Bowe (2010) argued for the necessity of a shift from the conventional approach to a more group-based approach, which is quite compatible with simultaneous technical as well as non-technical learning outcomes' development.

Practical and personal skills are equally significant for lifelong learning for engineers; the latter is often ignored. According to Duffy & Bowe (2010), technical skills, personal skills should also be developed in a progressive and structured manner. In their research, the authors found that a group-based approach helped the student become an independent individual, well-equipped with the personal and technical skills required in the market.

Duffy & Bowe (2010) proposed the implementation of an approach where students learn to work Extremely difficult, flexible assignments that depend on subject-specific content are worked on both in groups and individually. An integrative understanding of learning, which encourages students to create their autonomous understanding of the material being learned, is the foundation of the approach that puts the student first. Patterson, Labun, and Eikenaar (2016) proposed the use of peer assessment of learners' group participation to promote the development of personal skills through structured activities. Personal skills are significant lifelong learning for engineers and can be developed through implementing a group-based learning approach.

Theme 5: Coaching and Mentoring

Providing coaching and mentoring are underutilized forces in continuing education. According to the findings of the investigation conducted by Froehle et al. (2022), approximately 86% of the participants recognized learning from a second party as a significant component of their development. Additionally, some participants in the study reported that formal programs involving the placement of new hires with mentors contributed to their growth. Froehle et al. (2022) highlighted peer mentorship and experience as primary learning methods; they emphasize team learning and general teamwork. According to Graham Guest (2006), the trends show that conventional management, training, and other mechanistic techniques are being replaced by mentoring and coaching that is based on dialogue as opposed to instruction. The individualistic nature of the strategy is among the most significant merits of coaching and mentoring.

Discussion

Lifelong learning is a never-ending process of continuous learning of skills and knowledge throughout one's life. The emphasis has evolved to continuous education as opposed to the use of educational background as a metric of measuring the capacity of an individual in terms of their proficiency. Many elements of lifelong learning highlight the significance of continuous professional development in a knowledge economy through vocational and educational organizations (Naimpally, Ramachandran & Smith, 2011).

the paradigm changes in learning about engineering from conventional educational methods to more practical methods are necessary to prepare learners for the changing demands of the engineering profession (Lenschow, 1998). Unfortunately, informal learning patterns revealed an inverse relationship between an engineer's level of education and the probability of participating in informal learning activities (Andries de Grip, 2012), which indicates that individuals with higher levels of education have a lower probability of participating in informal learning. Because there is a need to fill the gap in perceived differences between educational background and informal learning, organizations should consider introducing programs that encourage every individual, regardless of their educational background, to participate in learning activities, whether formal or informal (Aerts et al., 2020; Andries de Grip, 2012; Saxe, Mahmoud & Razavinia, 2022). Additionally, formal, and informal learning and training should remain practice-oriented, relevant, and tailored according to the profession (Aerts et al., 2020; Andries de Grip, 2012). Uden & Dix (2000; 2004) suggested that organizations should consider implementing an effective learning culture to create a supportive environment that promotes self-directed learning and on-the-job training.

Problem-based learning is among the most impactful techniques that promote and allow students to gain important personal skills. Unfortunately, greater importance is placed on understanding engineering knowledge at the expense of one's abilities and capabilities (Duffy & Bowe, 2010). However, modifications in accreditation requirements with an increased focus on personal interaction and resolving issues competencies were used. Integration of a problem-based approach will promote a deeper and independent understanding of the learning material, and learning skills such as self-management, information retrieval, proper communication, time management, and problem-solving capabilities (Vardiambasis et al., 2007; Patterson, Labun, and Eikenaar, 2016; Uden & Dix, 2014) that are crucial for lifelong learning in the engineering domain (Deveci & Nunn, 2018). Integration of a group-based approach enables the promotion of both technical and non-technical abilities improvement necessary for lifelong learning for engineers (Vardiambasis et al., 2007; Patterson, Labun, and Eikenaar, 2016; Uden & Dix, 2014).

In this regard, learning and vocational institutions should consider the implementation of an approach where the learners can operate both individually and in groups to solve multifaceted flexible problems with content that is specific to the engineering field. Additionally, they should invest in the development of non-technical skills of their employees or students as much as they do for technical skills; both aspects are equally significant.

Institutions can demonstrate their commitment to lifelong learning by integrating it into their internal and external departmental reviews and accreditation procedures (Bowman, 1997). This can help to ensure that the institutions remain up to date with the most recent research in the area and can provide its pupils with the most comprehensive instruction feasible (Bowman, 1997). Institutions can offer courses tailored for engineers who have graduated more than ten years ago or those who are transitioning into a new career (Bowman, 1997). These courses should focus on senior undergraduate topics in areas experiencing rapid technological changes (Bowman, 1997). This approach can help to update the skills and knowledge of practicing engineers and ensure that they are equipped with the latest tools and techniques in their field (Bowman, 1997).

Self-reflection and self-regulation are important skills required regarding architects' ongoing education (El Mawas et al., 2017) as these skills enable them to identify their traits, whether in terms of technical or non-technical skills that require improvement, allowing them to take the necessary steps to acquire the required expertise (Aerts et al., 2020). The gap identified by Andries de Grip (2012) where female engineers spend a limited amount of time on self-teaching in comparison to their male counterparts should be filled by developing programs that encourage all engineers, especially women and those in lower management levels, to take part in self-directed learning activities.

According to Graham Guest (2006) encompasses the most recent findings in the field and can give its students the most in-depth education possible (Bowman, 1997). The future will be characterized by self-directed learning to support individuality and independence during the continuous professional development process. Therefore, self-directed learning should be implemented in learning and vocational institutions to promote individuality in self-assessment and self-regulation.

It is crucial for practicing engineers to enhance certain essential skills such as delivering presentations, writing reports and memos, managing projects, and budgeting, as well as interpersonal communication (Martínez-Mediano & Lord, 2012). Studying scientific publications is an effective way to stay current on market developments. Collaborating with colleagues who share similar interests can also aid in professional development (Martínez-Mediano & Lord, 2012). When working in a team, all members can pool their strengths to accomplish the team's objectives, identify and solve issues, enhance their work, and foster innovation, resulting in valuable synergies (Martínez-Mediano & Lord, 2012).

Many consulting and management firms may offer in-house training programs, but most of the learning comes from participating in various initiatives with a range of clients (Bowman, 1997). Nevertheless, scientists who work for themselves or small companies frequently lack access to these programs, and their education is mostly restricted to on-the-job training with customers. As a result, all engineers must have an organized framework for ongoing development that could involve accredited colleges and universities to augment their on-the-job training (Bowman, 1997).

Professional licensing bodies should establish practical approaches and practices that support the lifelong learning process for their members. To do this, they should develop and monitor guidelines that facilitate ongoing education and training (Bowman, 1997). Maintaining documentation that demonstrates designers' ongoing ability, particularly proof of attendance at official programs and acknowledgment of accomplishments in the industry, constitutes a best practice (Bowman, 1997). This can help ensure that engineers remain up to date with the latest developments and maintain their expertise throughout their careers. Establishing continuous education requirements for architects who hold managerial roles, especially those having monetary, monetary, and staffing duties, was another excellent practice (Bowman, 1997). Such guidelines can help ensure that engineers in leadership roles remain competent and able to make informed decisions that benefit their organizations and the wider profession (Bowman, 1997).

Lifelong learning is imperative for the continuous professional development of engineers. The principal obligation for professional development must ultimately rest with the specific engineer (Martinez-Mediano & Lord, 2012). Engineers have a responsibility to establish their occupational paths and ensure their technical and non-technical competencies develop to meet the challenges faced in their profession. The current literature review proposed the implementation of numerous approaches to promote lifelong learning for engineers including mentoring and coaching, group-based approach, self-directed learning, group-based learning, and formal and informal learning and training. Education and vocational institutions as well as workplaces should consider implementing these strategies.

Conclusions

Our database search identified 5342 hits of which 28 articles met the predefined eligibility criteria. Most of the hits were from the United Kingdom, USA, and Europe, as well as a substantial number from India, and more articles were retrieved from Google Scholar and ScienceDirect than Scopus. Statistical and descriptive analyses formed a major proportion of the total, which resulted in the identification of five themes - instructional methods such as mentoring and guidance, both conventional and unconventional learning, and team-based strategies. Our thematic analysis found a shift in focus towards more informal learning owing to the development of technology and the fact that in many cases, formal learning is not sufficiently tailored toward existing practical needs.

Both formal and informal learning and training are significant and should be promoted, especially in workplaces. Further, educational institutions, as well as workplaces, should consider integrating more problem-based approaches and processes to promote lifelong learning. In addition, self-directed learning is inevitable and should be integrated into learning institutions as well as in employment training to promote lifelong learning for engineers. Also, well, a group-based approach confers independence and equips the trainee or worker with the personal and technical skills required in the market. Lastly, conventional management, training, and other mechanistic techniques are being replaced by mentoring and coaching that are based on dialogue as opposed to instructions delivered in a one-way fashion. Our findings will provide a fillip to justify the need for continuous professional development of engineers.

Limitations

The number of studies included in the current literature review was a significant limitation. The inclusion criteria may have been too restrictive, leading to the exclusion of studies that may have been useful for the current thematic analysis. For instance, the time restraint and language limitation may have resulted in the exclusion of studies that would have been impactful for the current literature review. In some cases, there was incoherence in the available themes resulting in their exclusion from the thematic analysis.

Future research works based on lifelong learning for engineers should aim to overcome the limitations identified in this research and study detailed into key themes. A more thorough understanding will be ensured by extending inclusion criteria to cover a more expanded geographical and language range of studies. Comprehensive investigations into specific subjects like mentoring, problem-based learning, and the importance of self-directed learning should also be addressed using a variety of research approaches. Research ought to study the impact of new digital tools on engineering education as technology develops, and long-term studies should assess how the integration of lifelong learning concepts affects engineers' professional growth and career paths.

Implications

Particularly in organizations, only a few organizations support professionals' continuous education. Patterns discovered through the present thematic assessment brought to light shortcomings in the application of plans to support engineers' lifelong learning. The knowledge gained from the topical examination may help with the creation of strategies to support professional growth on an ongoing basis.

Author Contributions

The only relevant assignment selection, assessment, examination, data as well as details extraction process, analysis of themes, as well as data synthesis activities in which the author engaged fully, were those. The final draught was examined and authorized by the person who wrote it.

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Appendix.

Table A1. Data Extraction

Author	Year	Purpose	Methodology	Country	Outcomes
Graham Guest	2006	Think about what the 21st century has in store for continuing education and professional growth and include some relevant topics like coaching and mentorship.	Content Analysis	United Kingdom	Coaching and mentoring, which emphasize individual professionals and include communication rather than teaching, are replacing training, management, and other "mechanistic" techniques.
Andries de Grip	2012	To add to the conversation of what factors influence scientists' and engineers' training participation and informal learning (S&Es)	Tobit analyses of survey data	Netherlands	S&Es working for companies that use innovative production methods are more likely to take part in formal training programs and profit from the opportunity for on-the-job learning. In companies with lots of product breakthroughs, lifelong learning is not stimulated. S&Es work less frequently in formal training programs when they are engaged by companies in very

Author	Year	Purpose	Methodology	Country	Outcomes
					competitive industries. By analyzing employee characteristics, and job and business characteristics, the paper contributes to a reservoir of information on the elements impacting the growth of human resources, together with educational institutions and other types of informal education.
Froehle K. et al.	2022	Examine lifelong learning in engineering! Workplaces.	Thematic analysis of interview transcripts	United States	Understanding from knowledge, acquiring knowledge through coaches, and gaining knowledge through asking inquiries are all essential.
Aerts et al.	2020	Find the ideal learning environment for professionals and competencies that must be trained.	Qualitative Analysis	Belgium	As LLL is often spread around the curriculum and not directly named as such, its presence may be lost on some students.
Uden & Dix	2000	Examine the benefits of problem-based learning for learning (PBL)	Module analysis	United Kingdom	PBL may be used to develop abilities for lifelong learning.
Duffy & Bowe	2010	The results in all	Group-based	Ireland	A project-based,

Author	Year	Purpose	Methodology	Country	Outcomes
		the featured research emphasized the suggested remedies for professionals' continuous education.	project analysis		collaborative educational approach should be implemented to promote lifelong learning.
Vardiambasis et al.	2007	To determine the requirement for Greek engineers to continue their education	Survey Analysis	Greece	To support the industry's requirement to sustain high research and innovation potential, summer courses in "hot" engineering disciplines are organized using a more research-oriented approach.
Patterson, Labun, and Eikenaar	2016	Examine how the CEAB graduate qualities of "Lifelong Learning" can be provided with instruction and evaluation in the APSC 176 and APSC 201 communication courses, both of which are part of an engineering program at the UBC Faculty of Medicine.	Content Analysis	United Kingdom	Given the relatively limited enrolment in such courses, co-curricular programs like I2E and communication courses like SOE's APSC 176 and 201 offer chances for major effect among undergraduate engineering students. Additionally, communication training and practice serve as models for

Author	Year	Purpose	Methodology	Country	Outcomes
		Investigate the following stages in creating relevant criteria for judging if these courses successfully satisfy this accreditation requirement.			the continual and self-directed nature of lifelong learning.
Lords and Martinez-Mediano	2012	to emphasize the value of continuous education and competencies required in the engineering field.	Program Analysis	Spain	An engineering-specific program for the ongoing development of skills is described in the paper. This program is made to assist professionals in maintaining their understanding and abilities to stay relevant in their industry. The program focuses on five key competencies: critical thinking and problem-solving, communication, teamwork, leadership, and lifelong learning.
Uden & Dix	2000	To evaluate case studies of how PBL might be used to obtain lifetime learning	Program Analysis	United Kingdom	Students are being forced to use more autonomous and learner-centered strategies because of

Author	Year	Purpose	Methodology	Country	Outcomes
		skills			the decreasing resources available in higher education. After running the instructional software design program for two years, studies showed that students who took it improved academically and could apply what they learned to other courses and jobs.
Latinopoulos	2005	To examine the present state of lifelong learning practices for civil engineers in Europe, considering the historical evolution of general European policies, particular aims and target audiences, providers, and forms of provision, as well as teaching and learning methodologies.	Review	Europe	All higher education institutions should prioritize lifelong learning as they adjust their strategic objectives to encourage a larger and more effective involvement in these activities.
Skrentny & Lewis	2022	To statistically evaluate each factor related to	Survey Analysis	United States	The findings as a whole provide broader perspectives

Author	Year	Purpose	Methodology	Country	Outcomes
		the pipeline character of STEM education using data from the National Assessment of University Students.			on STEM education and employment and add to research on the diversity and workforce transitions in the sciences and engineering.
Lenschow	1998	To provide information about fresh measures implemented to support utilizing technology for information and communication enabling project-based learning in both small- and large-scale initiatives.	Content Analysis	Not Specific	In industry, project-based learning is growing, but more slowly in colleges and institutions.
Peat, Taylor & Franklin	2005	To assess the significance of project-based learning	Content Analysis	Norway	When PBL is used effectively in the correct courses, students learn more and become more competent, combining an appropriate mindset, ability, expertise, and skills is referred to as competency.
Saxe, Mahmoud & Razavinia	2022	A complete structure for continuing education in undergrad design	Systems Theory Framework	Canada	Self-directed learning promotes lifelong learning. Evaluation of the issue, research,

Author	Year	Purpose	Methodology	Country	Outcomes
		programs will be described.			creation, and application of technical instruments professionalism are all traits and skills that require constant amelioration throughout one's career. Lifelong learning transcends all graduate attributes because it is imperative for each of their development and improvement.
Parkinson, A	1999	Discuss how attributes required for lifelong learning can be developed	Descriptive Analysis	United States	The strategy being used is based on several fundamental principles, including setting clear expectations, expecting students to be accountable for their learning while enrolled in school, providing opportunities for learning outside of the classroom, motivating students, and teaching them how to learn.
Porter, Patil, & Dutta	2012	Analyze the significance of lifelong learning	Descriptive Analysis	Not Specific	Lifelong learning is significant for lifelong learning.

Author	Year	Purpose	Methodology	Country	Outcomes
		for engineers.			
Marra, R. M., Camplese, K. Z., & Litzinger	1999	Discuss ideas for evaluating students' lifetime learning while summarizing the findings of the first literature research on the topic as it relates to engineering education.	Numerical Analysis	United States	Engineers should be taught to learn independently in preparation for lifelong learning.
Deveci & Nunn	2018	Give an example of how engineering education uses intrapersonal communication as a lifetime learning ability.	Content Analysis	United States	Within a constructivist learning framework, reflective writing, visualization, and progress reporting can encourage intrapersonal dialogue and experiential learning, empowering students to take on the responsibilities of lifelong learning.
Berzina et al.	2019	Additionally, there is a brand-new continuing education program in substances, layout, and function for electrical and optical devices that is currently	Content Analysis	United Kingdom	Programs can be applied to help engineers in lifelong learning.

Author	Year	Purpose	Methodology	Country	Outcomes
		underway at the National Excellence Centre for Lifelong Learning in Electrical Engineering at RTU.			
Stolk & Martello	2015	If disciplinary integration fosters students' attitudes and abilities for lifelong learning in project-based engineering courses.	Statistical Analysis	Not Specified	All engineering students, particularly female students, can benefit from developing a feeling of social relatedness that fosters greater learning by placing human context at the core of technical instruction.
El Mawas et al.	2017	To emphasize the value of self-controlled learning for lifelong learning.	Numerical Analysis	Not Specific	From a lifetime learning viewpoint, the investigation provided an autonomous method of learning that incorporated technological, working, and aesthetic components.
Litzinger et al.	2001	To concentrate on assessing students' capacity for self-directed learning and making some early steps to improve the	Statistical Analysis	United States	Although the need for faculty and curricula to educate students for continuous learning is recent, the engineering

Author	Year	Purpose	Methodology	Country	Outcomes
		course to help students grow in this capacity.			profession places importance on lifelong learning, particularly continuing education. Independent instruction is essential for continuous development.
Witt, E., & Lill	2012	To explain the research of learner views on lifelong learning and Estonia's skill needs for the construction sector.	Statistical Analysis	Estonia	The results indicated a wide range in learners' perceptions of what constitutes present and future industrial requirements, a lack of satisfaction with how well HEIs are meeting those needs, and a reluctance to adopt the required position of lifelong learner—all of which pose challenges to the model.
Das, A. K.	2011	To assess critically the way open learning material (OER) activities have evolved in India, with a focus on how the OER movement	Statistical Analysis	India	The study provided examples of OER's role in democratizing venues for lifelong learning, which ultimately aid in skill development.

Author	Year	Purpose	Methodology	Country	Outcomes
		evolved from an open access revolution against the background of growth based on the information economy.			
Williams, Blowers & Goldberg	2004	To demonstrate how fostering information literacy in students will enable them to exercise greater control over their education, inside as well as outside of the classroom.	Statistical Analysis	United States	Developing information literacy skills is significant for lifelong learning.
Evans G.J.	2018	To promote the explicit teaching of metacognition as a means of promoting lifelong learning and self-directed learning.	Descriptive Analysis	Canada	There are simple ways to include metacognition education into current undergraduate engineering courses, which might have a significant positive impact on students.
Nimmi, Zakkariya, & Rahul	2021	to find out if continuous education makes human resources more valuable when assessing the likelihood of employment.	Numerical Analysis	India	The results support lifelong learning's position as a mediator in the relationship Because they reveal an advantageous connection between

Author	Year	Purpose	Methodology	Country	Outcomes
					human resources and one's perceived employment.
Bowman	1997	To determine the key issues faced by engineers during lifelong learning.	Content Analysis	N/A	Career success requires the maintenance of competence.

Exploring Gender Equality and Feminism among Indigenous People in Malaysia

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Abstract: Gender equality refers to society's equal recognition of men and women's similarities and differences, as well as the roles they perform. Unlike Feminism, which may be described as the promotion of women's rights based on gender equality. Gender equality on the other hand is built on men and women working together as equal partners in the family, community, and society. Therefore, this paper explores the gender equality and feminism concept among indigenous women in Malaysia. Our exploration of gender equality and feminism in the context of research activities, has been focused on the identification of gender equality and the understanding of the concept of feminism among indigenous women. Moreover, we also explored the aspects in their culture that are considered gender equality and have feministic values. This study utilizes a qualitative case study as the research design of this study. A questionnaire and a semi-structured interviews instruments were employed for data collection. In this study, 40 indigenous women from Mah Meri and Jakun tribes were selected as the participants for this study. For the semi-structured interview sessions, only 10 indigenous women from this sample were chosen. The research study was based on Theory of Gender Equality and Theory of Feminism approach that can be used to assess the existing environment concerning perception of gender-based discrimination. This study reveals that the indigenous women play a significant role in promoting gender equality and feminism concept in the indigenous community. These results point to the development and empowerment of indigenous women by mainstreaming their interests to achieve their full potential in national planning and policies and development to achieve gender equality in Malaysia.

Keywords: Gender equality, Feminism, Indigenous people, Women

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Introduction

In the era of global development, every country all around the world works to achieve various national goals and aims that can improve, enhance, and contribute to the enhancements of their country. Among the many global and national aims and goals, the subjects of gender equality and feminism are not the exceptions and have been the topic of discussions throughout the efforts of achieving the progress for a certain country. Scholars and experts believe that gender equality in all sectors is crucial to be achieved as this can positively impact the advancement of a country, as supported by the report from International Monetary Fund (IMF,2022) in which it was stated that gender equality is correlated with the macroeconomic and financial stability, in which it can also spur economic growth, improve public and private sector achievements, and lessen income inequality. As much as how crucial the subject of gender equality is in achieving the development of a country, the subject of feminism also cannot be ruled out from the discussion. Gender equality aims to promote the equality in advancements from both gender poles, male and female groups, while feminism on the other hand focus more in bringing forward the discussion of development mainly for the female group. In achieving the full development of a country, every individual without exceptions, be it from the majority or minority communities of a certain country, play important roles to achieve this goal. In the Malaysian context, the indigenous community known as Orang Asli, is the minority community of the country, and due to their status as minority group, many issues arise that may hinder the development of the individuals who belong to this group. Among the many problems faced by this community, gender equality and feminism issues are among the problems that arise within this community.

Literature Review

Gender Equality

The field of gender studies is no longer the newly formed field of study, and this field has been a topic of discussions among researchers and scholars for a long time. Among the many topics of discussion related to gender studies, one of the most debated topics is gender equality. Milner et al. (2021) stated that the term gender equality describes the claim that people of all genders are entitled to the same opportunities, rights, and treatment Gender equality refers to the equal participation of men and women in various spheres of life, including the political, social, and educational spheres (Abendroth, 2014). Gender equality also highlights the concept of all humans are entitled with the same rights regardless their gender, and it means that everyone should be allowed to reach their full potential in life. It was also further emphasized that gender equality benefits not only women but all the society as it can contribute to increase the economy. Globally, numerous efforts have been made to tackle the issues related to gender equality. Although there has been progress made in certain area, such as enrollment to the primary and secondary education, gender equality is still far from reach in several other critical areas including enrollment in tertiary education, equal employment and salaries rate, and leadership roles (Shang, 2022). The study conducted by Karim et al. (2023) showed essential findings related to the gender equality issue among Orang Asli women. They conducted a study to explore the contributions and roles played by women of the Jahai tribe in Royal Belum State Park's sustainable development and one of the objectives of their study was to explore the Jahai women's perceptions on gender equality. One of the findings presented in their study was in the Jahai community, women were treated equally and there was no practice of gender bias especially in terms of household tasks division. The results presented that majority of the Jahai women agreed that they received assistance from their husbands in conducting the house chores, hence they achieved equality in terms of house chores distributions.

Feminism

In discussing the gender studies topic, the other element of studies that cannot be pushed aside is the topic of feminism. Feminism is a topic that is closely related to the gender studies fields, as the main subject being discussed within the topic are mainly related to women. According to N.S. (2017), feminism is a movement that promotes women's rights, writes about women's issues, and denounces the injustices imposed out to women in the current context. Council of Europe (2023) defined feminism as a women's movement that is formed by men and women to advance gender equality and elevate the lives of women as a social class. Jasim et al. (2019) also further explained that several feminism patterns had addressed a range of concerns, including male treatment of women, their oppression, women's role in families and society, female awareness, and these difficulties. From this, it can be understood that feminism deals with the effort to protect the rights and welfare of women as well as to enhance the opportunities for women in the society. Jasim et al. (2019) also further illustrated in their paper that feminism occur due to the male dominancy in the society traditionally, and to protect their rights women opt for feminism. They stated that the vast majority of societies are patriarchal, which means male posses the dominancy over the family in the social setting. Men have traditionally exerted pressure on, suppressed, and controlled women both inside and outside of the home, and despite the dominancy of men, women always fight for survival and try to secure their rights. İn terms of the study related to feminism and women's rights among Orang Asli community, the study conducted by Thambiah et al. (2018) presented profound findings. They conducted a study on the Semai community's indigenous religion in Malaysia and the study also aimed to highlight the contributions Semai women have made to religious life. One of the findings presented in the study stated that in every facet of Semai religious life, men outnumber women in participation, and they are also in charge of overseeing and coordinating rites. İt was also further stated that only the ritual preparations are performed by women, and the religious positions held by Semai women are gradually disappearing. They highlighted that Semai women were losing their rights in participating in their religion's affiars, and that more efforts need to be done in order to ensure that they can reclaim their rights in practicing religion.

Indigenous Community in Malaysia

A nation or a country is formed through the existence of its people, and in some countries their citizens are constituted out of various communities and races of people. Malaysia, a nation that is situated in the Southeast Asia, is a very well-known country due to its uniqueness in terms of its multi-racial citizens. The largest group or the majority citizens of Malaysia consists of three main races namely Malays, Chinese, and Indians. In addition, the minority community known as Orang Asli can also be found in the Peninsular Malaysia. Masron et al. (2013) stated that the term "Orang Asli" is a Malay phrase that translates to "original people" or "first people" and it is a collective name used by anthropologists and administrators to refer to the 18 Orang Asli sub-ethnic group which are commonly classified into three official groups Senoi, Negrito, and Proto-Malay. The Orang Asli in Peninsular Malaysia are protected by the government, specifically by the Department of Orang Asli Development (JAKOA), the Malaysian national department which holds the responsibility and has the authority over all affairs pertaining to Orang Asli. JAKOA is also the organization that holds, stores, and collects various essential data related to the Orang Asli community for the purpose of Orang Asli's welfare protection. According to JAKOA (2022), the Senoi group is the largest group while the Negrito is the smallest group of Orang Asli community. Table 1 shows the distribution of all 18 sub-ethnic groups of Orang Asli which are classified into the three main ethnic groups, based on the data obtained from the JAKOA department.

Table 1. 18 Sub-Ethnic Groups of Orang Asli

Senoi Ethnic	**Proto-Malay Ethnic**	**Negrito Ethnic**
Semai	Temuan	Kensiu
Temiar	Jakun	Kintak
Jah Hut	Semelai	Jahai
Che Wong	Orang Kuala	Lanoh
Mah Meri	Orang Seletar	Mendriq
Semoq Beri	Orang Kanaq	Bateq

Source: The Department of Orang Asli Development, (JAKOA, 2022)

As how a certain race differs from another races, same goes to the 18 tribes of Orang Asli community. Although all the 18 tribes of indigenous people of Peninsular Malaysia are constructed under the same umbrella mainly known as Orang Asli, each tribe however possesses very distinctive characteristics from each other. A certain tribe of Orang Asli have its own unique culture, beliefs, and also language that help to differentiate one tribe from another. A same study that is conducted among Orang Asli people from different tribes may present different results and findings, thus make it interesting to conduct the study of Orang Asli people from two or more tribes. The subjects of this study were chosen from two specific tribes of Orang Asli, hence it is believed that the results and findings from this study are prominent and can contribute to the study field related to indigenous people studies.

Purpose of the Study

The purpose of this study is to explore the gender equality and feminism concept among indigenous women in Malaysia. In this study, the exploration of gender equality and feminism in the context of research activities, has been focused on the identification of gender equality and the understanding of the concept of feminism among indigenous women. The aspects in their culture that are considered gender equality and have feministic values are also explored in this study. The objectives of the study are as follow:

1. To investigate the perceptions of gender equality among Mah Meri and Jakun tribes in Malaysia
2. To investigate the perceptions of feminism among Mah Meri and Jakun tribes in Malaysia
3. To explore the gender equality and feminism aspects in Mah Meri and Jakun tribes' culture

Method

This study used a qualitative case study as the main research design. We employed a questionnaire and a semi-structured interviews instruments for data collection. The study involved 40 indigenous women from Mah Meri and Jakun tribes in Malaysia. For the semi-structured interview sessions, only 10 indigenous women which are five participants from Mah Meri tribe and five participants from Jakun tribe were selected for this study. For sampling, we use different sampling techniques to collect quantitative and qualitative data. In quantitative data collection, to administer questionnaires, we used a stratified random sampling technique. Based on each tribe, a random sample of 40 Orang Asli women were selected. For qualitative data collection, snowballing technique was used to select five respondents from each tribe. Five respondents were selected from women leader in the tribe, married women with family and literate women that suggested by Tok Batin (The Headman). The research sites were selected based on these two selected tribes : Mah meri tribe in Pulau Carey, Selangor and Jakun tribe in Tasik Chini, Pahang. Thematic analysis was used as the analytic approach for the qualitative data. The semi-structure interviews were transcribed and analysed using Atlas.ti, 8 (2019) qualitative data analysis software. Data collected for the questionnaire was analysed using SPSS software version 27.

Research Sites

This study is a study that took place in the settings of the settlement areas of indigenous community. There were two specific research sites involved in this study which were in Pulau Carey, Selangor, Malaysia as well as in Tasik Chini, Pahang, Malaysia. Pulau Carey in Selangor was chosen in this study as it is the settlement area of the Mah Meri Orang Asli community while Tasik Chini in Pahang on the other hand was chosen as it is the settlement area for the Jakun Orang Asli community.

Figure 1. Research Site 1: Pulau Carey, Selangor, Malaysia

Figure 2. Research Site 2: Tasik Chini, Pahang, Malaysia

Data Collection

In this study, two instruments were used to collect data in this study, and the questionnaire and semi-structured interviews were utilized for this purpose. This study included 40 indigenous women from the Mah Meri and Jakun tribes as participants and only 10 of these women were selected from the sample for the semi-structured interview sessions. The semi-structured interview was utilized to collect the qualitative data while the questionnaire was utilized to collect the quantitative data. The questionnaire questions were constructed and consisted of 9 demographic items and 36 perspective items, and the total number of items in the questionnaire used for this study was 45 items.

Data Analysis

The data collected in this study was analyzed quantitatively and qualitatively. The quantitative data collected using the questionnaire was analyzed using the quantitative data analysis software, SPSS. The software Atlas.ti 8 on the other hand was utilized to facilitate the analysis process for the qualitative data, collected using the semi-structured interviews.

Results and Discussion

The results of the case study were presented in two main sections which were the quantitative data from the questionnaire and the qualitative data from the semi-structured interviews. First, the data described the profile of the women indigenous for this study (see Table 2).

Profile of the Women Indigenous

Table 2. Profile of the Respondents

Characteristics	Frequency	%
Tribe		
Mah Meri	20	50
Jakun	20	50
Age (years)		
Below 20 years	1	2.5
20-29 years	14	35.0
30-39 years	9	22.5
40-49 years	11	27.5
50 years and above	5	12.5
Marital Status		
Married	37	92.5
Unmarried	2	5.0
Divorcee	1	2.5
Widow	0	0
Number of Children		
None	2	5.0
1-3 children	27	67.5
4-6 children	8	20.0
7-9 children	3	7.5
Level of Education		
Higher Institution	2	5.0

Secondary School	6	15.0
Primary School	10	25.0
Not schooling	22	55.0
Husband Level of Education		
Higher Institution	1	2.5
Secondary School	18	45.0
Primary School	15	37.5
Not schooling	3	7.5
Are you working?		
Yes	25	62.5
No	15	37.5
Does your husband work?		
Yes	32	80.0
No	7	17.5
Position in Society		
Yes	10	25.0
No	30	75.0

The results of the study were arranged based on the structures of the questionnaire. The interpretation for the mean values in this study was divided into five parts: Strongly Agree (4.21-5.00), Agree (3.41- 4.20), Uncertain (2.61-3.40), Disagree (1.81-2.60) and Strongly Disagree (1.00-1.80). In the Likert scale section, we described the results of the three highest mean and the three lowest mean values of the items

Table 3. Perceptions of Gender Equality

Item	Statement	M	SD	Interpretation
	Culture and Customs			
1	Women in this village practice Orang Asli culture more than men	3.17	1.11	Uncertain
2	I learnt Sewang dance from my mother	2.50	1.30	Disagree
3	I do Sewang and I maintain the ancestral beliefs more than men	2.63	1.30	Uncertain
4	I respect the taboos of my tribe more than men	3.38	1.30	Uncertain
5	I use the language of my tribe in daily conversations more than men	2.80	1.18	Uncertain
6	Women in this village protect the culture of their tribe more than men	3.32	1.05	Uncertain
	Psychology Aspects			
7	I take care of the children more than my husband	4.05	1.01	Agree

8	I like to help other people in Orang Asli community more than men	3.33	1.21	Uncertain
	Economy Aspects			
9	I plant trees to earn money	3.32	1.33	Uncertain
10	I produce baskets (handicraft) to earn money	3.00	1.40	Uncertain
11	I search for things from the jungle to earn money	3.20	1.40	Uncertain
12	I hunt for animals in the jungle to earn money	2.25	0.95	Disagree
13	I can go to work to earn money	3.90	1.11	Agree
	Basic Needs			
14	I have food to eat everyday	4.20	0.69	Agree
15	I have clothes to be worn everyday	4.48	0.51	Strongly Agree
16	I have a house to live in	4.48	0.51	StronglyAgree
17	I can easily get medicine when I am sick	4.00	1.04	Agree
18	I can use telephone to speak to others	4.07	1.14	Agree
	Total average	3.60	0.45	Agree

Table 4. Perceptions of Feminism

Item	Statement	M	SD	Interpretation
	Freedom			
1	I can voice out my opinion in every matter without my husband's permission	3.35	1.23	Uncertain
2	I believe my ideas/opinions can be accepted by other people	3.55	0.90	Agree
3	I can go anywhere I want without my husband's permission	3.23	6.38	Uncertain
4	I am free to go to work to earn money without my husband's permission	2.60	1.30	Disagree
5	I feel safe in my community	4.63	0.49	Strongly Agree
	Legislation and Human Rights			
7	I know my rights as an Orang Asli woman	4.20	0.99	Agree
8	I know that since a long time ago Orang Asli women are treated the same as Orang Asli men	4.05	1.04	Agree
9	I know that I am not supposed to get beaten	4.15	0.74	Agree
10	I get anything that I want in my life	4.45	0.50	Strongly Agree
	Discrimination and Prejudice			
11	While studying at school, I was constantly getting bullied by people from other races	3.20	0.97	Uncertain

12	While in school I felt that my friends from other races did not like to talk to me	2.48	1.26	Disagree
13	While in school, my teacher looked down on me	2.27	1.12	Disagree
14	I was stared weirdly by the outsiders when I went to the city	2.35	1.35	Disagree
15	The government aids given to Orang Asli women are unfair	2.87	1.27	Uncertain
	Leadership			
16	In my village, women can become a leader	3.15	1.35	Uncertain
17	In any cultural ceremony I can voice out my opinion	3.93	0.89	Agree
18	I help Tok Batin to solve the problems in the community	4.07	0.80	Agree
	Total average	3.21	0.50	Uncertain

Thematic Analysis Results

The semi-structured interview session in this present qualitative research was conducted between the researcher and an informant with no third parties present. The acquired data and information in the in-depth interview are analysed and synthesized to get a clearer picture regarding gender equality and feminism concept among indigenous women in Malaysia specifically Mah meri tribe in Pulau Carey, Selangor and Jakun tribe in Tasik Chini, Pahang. Based on the interview results with the information, the data revealed five major themes concerning (1) family source of income, (2) equal treatment and freedom, (3) Gender responsibilities and leadership, and (4) decision making opportunities

Theme 1: Family source of income

Theme	Examples of evidence
Family source of income	"I weave to earn a living and my husband is self-employed". Respondent 1 (Mah Meri tribe) "Hmm…my husband works but I am not. I am a housewife". Respondent 2 (Mah Meri tribe) "Yes, we both do cultural related work. My husband is involved in carving while I am involved in weaving. We are self-employed". Respondent 3 (Mah Meri tribe) "I used to work before…but not anymore. My husband also is not

working".
Respondent 4 (Mah Meri tribe)

"Yes…my husband works as excavator operator. I do not work. I am a housewife". Respondent 5 (Mah Meri tribe)

"Yes…we work together to support our children. I used to work as a rubber tapper before and my husband is a motorcycle mechanic.
Respondent 1 (Jakun tribe)

"Yes…my husband and I work as rubber tappers. We have our own plantation and we sell the latex products to support the family.
Respondent 2 (Jakun tribe)

" I work as a rubber tapper and I am unmarried. I have no husband". Respondent 3 (Jakun tribe)

"My husband is self-employed and I operate a grocery store." Respondent 4 (Jakun tribe)

"I am not working…My husband works at hardware company to support the family and pay off the debts". Respondent 5 (Jakun tribe)

The results from the thematic analysis showed the first theme emerged was family source of income. The main occupation of this category of orang asli from Mah Meri and Jakun tribes are rubber tapper, weaver, carving, excavator operator, workers at grocery store and hardware company. Both of these tribes reported that the money gained from these activities is minimal and only can be used for their daily cost routine activities. This experience highlights the considerable struggle reported by the unskilled tribes, who are predominantly engaged in agricultural activities and petty trade. Remarkably, it has been observed that the Mah Meri and Jakun women from Pulau Carey and Tasik Chini provided positive responses from the interviews pertaining their insights of their family source of income.

Based on the interview sessions, Respondent 1 and 3 from Mah Meri tribe answered the same expressions that they used to work as a weaver as their source of income. They also involved in forest conservation practices in the village to sell forest products. However, Jakun women rely on tapping rubber to generate income for their family as their main source of livelihood. The statement of participant 1,2 and 3 represent from Jakun tribe indicated that they work as a rubber tapper to support their livelihood.

Theme 2: Equal Treatment and Freedom

Theme	Examples of evidence
Equal Treatment and Freedom	"No…..we are being treated the same as men. They allow women to go to school. No… I was not given the chance to speak". Respondent 1 (Mah Meri tribe) "No…there was no unfair treatment between men and women. We are treated the same...we are allowed to go to school. Yes…we can share our opinion". Respondent 2 (Mah Meri tribe) "Women are given the same opportunities to go to school like men. I am not sure about that…I never give my opinion before". Respondent 3 (Mah Meri tribe) "No…we are treated the same as men. The government supports and allow Orang Asli women to go school. Yes…I can…when I have problems, I voiced out. Respondent 4 (Mah Meri tribe) "No…we are treated the same as men. They allow women to go to school. No, I was not given the chance to speak. Respondent 5 (Mah Meri tribe) "No…we are treated the same as men. For instance, in terms of working, I can also help my husband to do rubber tapping, lift woods and so on. The government supports us to school. No…I don't think so…for me I am not sure but the other women can give opinions". Respondent 1 (Jakun tribe) "We are treated the same and fairly as men. The government supports and gives the chances for Orang Asli women to go to school. I am not sure, but I think maybe they can speak. There are no restrictions to do so. Respondent 2 (Jakun tribe) "In my village, we are treated the same. The treatment between men and women must be the same because whatever men can do, women can do as well so there cannot be unfair treatment". The government allows women to go to school. It is also necessary for women to go to school because in every field there are male and female workers…so education is necessity. Not all women will get married, so they need a career". Yes, we are given the same opportunities to voice our opinion. Women must

	also have the right to speak because we also have our own idea, and we may also have better ideas and opinion. Respondent 3 (Jakun tribe) “We are treated the same and fairly like men. The government allows us to go to school…I think women also need to go to school so that they can have their own career, then they will be less dependent towards their husbands. Respondent 4 (Jakun tribe) “From what I can see…in this village we are treated the same. We can go to school like men…for me no matter what the gender is…going to school is compulsory for both gender. Normally, it is up to one’s choice. If a woman wants to she can voice out her opinions…that is also her right. Women also have the same rights. Respondent 5 (Jakun tribe)

Based on the semi-structured interview results, we established the second theme which was equal treatment and freedom. All the respondents agreed that they were treated equally, especially in terms of education. As postulated by Kamaruddin and Jusoh (2008), education is a vital determinant of wellbeing, job opportunities and income for the Orang Asli communities. Education was considered as the main point of discussion in the interview groups. Most of the interviewees were concerned about their current education level and their own children. Because most of the Orang Asli have not completed their formal education until secondary school level, their low academic achievements drive them away towards unskilled jobs or low paying job. Most of them did not finish formal educational studies. Therefore, that is why they highly encouraged their children to futher their studies at higher level of education.

The interviewees raised concerns about education awareness among Orang Asli. According to participants, a view expressed in this interview was that that every child should complete formal education. The discussion is in line with the findings of Khor and Shariff (2008), suggesting that, in the case of Orang Asli that live in remotes areas, they have minimal awareness regarding the importance of formal education compared with those that live in urban areas. The interviewees themselves had either little or no formal education at all. Therefore, attending to formal school is the only way to teach their children to read and write in a formal environment. Their suggestions expressed that by attending to formal education, it can provide a relaxed and condusive environment to the children that promotes their interest in study. Respondent 3 from Jakun tribe stated that in her village they were fairly treated particularly when it come to education.

The treatment between men and women must be the same because whatever men can do, women can do as well so there cannot be unfair treatment. The government allows women to go to school. It is also necessary for women to go to school because in every field there are male and female workers. Therefore, education is a necessity. The respondent also added that they were given the same opportunities to voice our opinion. Women must also have the right to speak because they also have our own idea, and they might also have better ideas and opinion.

Theme 3: Gender responsibilities and leadership

Theme	**Examples of evidence**
Gender responsibilities and leadership	"Men of course…they are more responsible to help the society. No…there are not many women leaders ". Respondent 1 (Mah Meri tribe) "We have equal responsibilities in society. Women have fewer opportunities to become leader". Respondent 2 (Mah Meri tribe) "We have equal responsibilities in the society…for example during the wedding ceremonies both men and women work together during the ceremonies. I am not sure about that…but if she qualified, she could become a leader. Respondent 3 (Mah Meri tribe) "We have the same responsibilities. There is no women leader in society". Respondent 4 (Mah Meri tribe) "Men have bigger responsibilities. No…women cannot become leaders". Respondent 5 (Mah Meri tribe) "Yes…we do various works such as searching for bamboos, rubber tapping and work at plantations. There are no women leaders. Normally people will pick men to become leaders. It is difficult for women to become leaders. Respondent 1 (Jakun tribe) "Yes…women have bigger responsibilities than men. We have to do many things. Yes..women are given the opportunities and women can become the leaders in the village. There are women leaders in the village". Respondent 2 (Jakun tribe) "We have the same responsibilities…men may have better skills in certain areas so does women. So, both have certain responsibilities. Women can become leaders in this village but currently there is no women leaders here". Respondent 3 (Jakun tribe" "Men have bigger responsibilities. Yes…women are given opportunities to become leaders. Respondent 4 (Jakun tribe)

	"Normally from what I see, women have more responsibilities. When it comes to work…it is must for women in this village to work and responsibilities at home and for children also must be fulfilled by women, everything must be done by women. Women needs to sacrifice more than men. In this village we do not mind who wants to be a leader as long as they can lead. If a woman has the capabilities, we all can agree for he to become a leader". Respondent 5 (Jakun tribe)

The third theme emerged from the interviews was gender responsibilities and leadership. The respondents agreed that the responsibilities are given equally for both genders. Orang Asli women from these tribes must also be bold enough to try and venture themselves in leardership skills in order to break with tradition in their efforts in empowering gender equality which is this role is usually done by men. The indigenous women from Jakun and Mah Meri tribes who originally only served as housewives, can now strengthen their roles by involving themselves in leadership aspects and carry out more responsibilities if they are given opportunitiy to be a leader in their community. Some of the respondents have a higher potential to be a leader in their community. However, they prefer if Orang Asli men to be a leader and they just voice out their insights and point of views to men. Thier lifestyle nowadays has promoted women's independence in expressing their thought where their ideas are value and heard. Apart from that, it also communicates women's right to carry out more responsibilities and rights at work through gender-responsive policies which addressing their different needs and priorities regardless of their gender. By doing so, it ensures that all members of Orang Asli community from Jakun and Mah Meri tribes are equally valued and live in productive surroundings.

Theme 4: Decision making opportunities

Theme	**Examples of evidence**
Decision making opportunities	"Yes…I can decide for myself…for the decision related to my children, I need to ask my husband. Respondent 1 (Mah Meri tribe) "I need to ask my husband first when I make decisions for myself and for my family…same goes to when making decisions for the society". Respondent 2 (Mah Meri tribe) "Yes, I can make my own decision. I also can make decisions for my family and society". Respondent 3 (Mah Meri tribe) "No. I have to ask my husband in making decisions for myself, family and society. Respondent 4 (Mah Meri tribe)

	"No…only my husband can make decisions. Respondent 5 (Mah Meri tribe) "Yes…I can make decisions for my family". Respondent 1 (Jakun tribe) "Yes…I can make decisions for my family and communities". Respondent 2 (Jakun tribe) "Yes…I can make decisions for myself, family and community". Respondent 3 (Jakun tribe) "Yes…I can make my own decisions for myself. In making decisions for my family , I can also do, but need to discuss according to the situation. If I am in the community, I can also make decisions. Respondent 4 (Jakun tribe) "I will need to discuss with my husband. As for the community, sometimes we have the right to make decisions but sometimes we do not. Respondent 5 (Jakun tribe)

This study also revealed the women Jakun and Mah Meri contribution in decision making opportunities. Based on the theme decisions making opportunities, most of the interviewees agreed that they are given equal opportunity to make their own decisions. Nevertheless, in a certain situation, women Jakun and Mah Meri tend to seek opinion from their husbands before they make any decision. They have a mind-set that by having both men and women involved in decision-making, it diversifies the pool of talents and competences among themselves, improves the process of decision-making, broadens the perspectives to gain better understanding about issues, increases creativity and innovation as well as it reduces conflicts. Most of the respondents mentioned that they are free to decide in their community. Thus, the Orang Asli women also play their roles as a decider in their community and they felt satisfied of being valued. Furthermore, a better lifestyle emerges when the leadership is gender balanced among female Jakun and Mah Meri tribes. The female Orang Asli was given chances to make decision that also contributes to the benefits of diversity in Orang Asli community whereby women pay closer attention to people's needs especially when it comes to family matters or dealing personal relationship. They are also ready to share point of views with other people in their population and make efforts to reach mutual agreements among Orang Asli community. When the conflicts arrive, they are inclined towards the prevention and solution of the conflicts as well as they monitor, provide feedback and responses more comprehensively.

Conclusion

This study reveals that the indigenous women Jakun and Mah Meri play a substantial role in promoting gender equality and feminism concept in the indigenous community. There are four main themes emerged from this study which are family source of income, equal treatment and freedom, gender responsibilities and leadership, and decision-making opportunities. These results point to the development and empowerment of Orang Asli women by mainstreaming their interests to achieve their full potential in national planning and policies and development to achieve gender equality in Malaysia. This study is also limited geographically, as only respondents from women Jakun in Tasik Chini , Pahang and women Mah Meri in Pulau Carey, Selangor participated in this study, which may have excluded other indigenous people of other villages. Nevertheless, the findings and implications of this study will serve as a reference and an inspiration for subsequent research to further discover the Jakun and Mah Meri tribe women contributions toward gender equality and feminism concept in the indigenous population in Malaysia.

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Addressing Science Anxiety in German Fifth-Graders through Mindfulness

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Abstract: German primary school students' reading skills have declined between 2016 and 2021, with a deficit of up to one third of a school year. The most significant portion of the decline is attributed to the Covid-19 pandemic experiences. These delays are critical because children have to catch up on skills and knowledge they should already have while continuing to acquire new skills and knowledge. Students who are ill prepared in core readiness skills for secondary schools are simultaneously having to cope with the stressful experiences of school transition. Anxiety generally impedes participation in science classes, but the specific concept of science anxiety is less explored. Mindfulness has been successfully implemented in schools to alleviate stress as well as being somewhat effective in positively supporting student anxiety. This paper presents background to a current study that aims to address the significance of the issue of science anxiety amongst German post-transition students, and whether science anxiety can be improved through the implementation of a mindfulness program.

Keywords: Science anxiety, School transition, Mindfulness

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Introduction

Since early 2020, the Covid-19 pandemic has been interfering with global life in all its facets. Although the severity of the situation has since calmed somewhat, its aftereffects can still be noted. It is the younger generations in particular that have felt a significant impact as the pandemic has formed a large proportion of their current lifespans. In addition, we are now seeing the implications for children, as evident through various recent research publications. In Germany, the large-scale COPSY study has been central to demonstrating this. Evaluations early on into the pandemic already showed that the pandemic was significantly impacting the mental and physical health of German children (Ravens-Sieberer et al., 2020), and later follow-ups of the study regularly confirmed these initial insights (e.g., Ravens-Sieberer et al., 2023).

School based education has been a key area impacted by the pandemic. While schools were reasonably quick to adapt to sudden changes in their teaching approaches during long periods of home-based learning here, too, we are seeing the consequences of the pandemic: children's learning progress has slowed. When children leave primary school, they now have less advanced skills, leaving secondary schools having to adapt to a changing cohort of students. As part of the ongoing Progress in International Reading Literacy Study, a recent publication highlighted how German primary school students' skills in reading had declined from 2016 to 2021, with a deficit of up to one third of a school year (Ludewig et al., 2022). The authors attributed the most significant portion of the decline directly to the Covid-19 pandemic experiences. This seems more directly supported by other recent studies showing the same declines in other areas such as mathematics (Schult et al., 2022). These delays in learning are critical because not only do children have to catch up on skills and knowledge they should already have, they also have to continue acquiring new skills and knowledge.

There is thus clearly a problem that needs to be addressed early. However, school transition – moving from primary to secondary school – adds a further layer of difficulty to the existing problems. School transition is generally associated with student anxiety, which is by no means a new observation; students have to cope with environmental and social changes but also have to deal with educational changes such as new teachers, new demands, and new subjects (Tay & Hast, 2022). School transition remains an ongoing issue with high global consistency, and again with specific reference made to the Covid-19 pandemic that seems to exacerbate these experiences (Bagnall et al., 2020). This means, students who are ill prepared in core readiness skills for secondary schools are simultaneously having to cope with the already stressful experiences of school transition.

Most subject-specific anxiety research has typically focused on mathematics education. However, it is known that mathematics self-efficacy and anxiety have an impact on interest in science (Huang et al., 2019). At the same time, there is also recognition of a direct concept of science anxiety. It is already known that anxiety generally impedes participation in science classes, thereby directly affecting achievement and performance (Ucak & Say, 2019) and even more specifically knowledge acquisition (Theobald et al., 2022). However, the specific concept of science anxiety is less well explored despite having been formulated quite some time ago (cf. Mallow, 2006). Recently, an adapted rating scale for measuring science anxiety was developed (Megreya et al., 2021), only here establishing it as a distinct concept of anxiety from test anxiety and general anxiety. And since science relies on various skills that are now seen to be in critical delay – reading, working with numbers, comprehension – it is critical to prevent a knock-on effect that starts with unpreparedness at the end of primary school.

Focusing on science education is crucial. The most recent PISA evaluation (OECD, 2019) revealed German students are not particularly interested in science careers, and this may have become more exacerbated by the pandemic experiences. This may become a long-term problem for Germany since the student of today is the worker and active citizen of tomorrow, and as its future in Industry 4.0 is predicted to rely increasingly on a workforce that is science and technology literate (Hernandez-de-Menendez et al., 2020). By middle school age students have developed certain attitudes towards science in schools, and consequently also an interest or absence of such (see e.g., Moote et al., 2020). In addition, children, as indicated by the COPSY study (Ravens-Sieberer et al., 2020, 2023), are generally reporting greater anxiety levels, which are known to affect learning and engagement.

Theobald and colleagues (2022), in their study on anxiety, have suggested that training sessions designed to improve study strategies can help students who are anxious about an exam, and this can also positively impact their knowledge acquisition. Future research, according to them, should focus on the development of interventions that facilitate effective knowledge acquisition to improve the educational prospects of highly anxious students.

Mindfulness is one particular strategy that has been gaining more attention in recent years. In mindfulness, individuals are attending to the present moment, becoming aware of it and accepting it. It includes five key exercises around breathing, concentration, bodily awareness, tension release and walking. Mindfulness has been successfully implemented in schools to alleviate stress by improving attention and emotion regulation (e.g., Lam & Seiden, 2020) – skills which children who are transitioning from primary to secondary school are still in the midst of mastering due to significant brain developments. Mindfulness has also been shown to be somewhat effective in positively supporting student anxiety in the particular context of school transition (Hutchinson et al., 2018). In the context of science education, however, mindfulness appears to have been limited to post-compulsory college level education (e.g., Calderón, 2017).

What, therefore, can be done to buck the observed trends at this point in time? By drawing together the different domains observed, and in light of the overall problem identified, the presently ongoing research seeks to address the following questions: 1) How significant is the issue of science anxiety amongst German 5th-graders following school transition, and 2) can science anxiety be improved through the implementation of a mindfulness programme?

Method

Sample

The sample currently consists of three classes of fifth-graders (N = 67) at a public regular school in the north of Germany who transitioned from primary to secondary school in the summer of 2023. In the German context, regular schools are to be distinguished from the academically more selective gymnasiums or from special schools, with regular schools being more inclusive and academically more heterogenous in their student body that will typically cater for high and low academic performance as well (see e.g., Ditton et al., 2022). A regular school was thus selected for the evaluation as it allowed for a more meaningful evaluation of the nature of science anxiety in a broader group of ability levels. The three classes are approximately equal in student numbers and gender distribution.

Design and Procedure

The study, still in progress, is employing a quasi-experimental intervention format with a pretest-intervention-posttest design. Children in all three groups have to-date completed a translated form of the abbreviated science anxiety rating scale at the start of the school year. The results of this form the baseline measure.

Preliminary Results

To-date, only the pre-test has been conducted, which is to serve as a baseline measure. The results are shown in Table 1. Comparing the pre-test scores, a Kruskal-Wallis test shows that the three groups do not differ significantly in their mean scores, indicating that the occurrence of science anxiety is not greater in one group than in another. Although no qualifier is provided to evaluate the degree of science anxiety, as per the descriptors for the abbreviated science anxiety scale (Megreya et al., 2021) it is assumed that the average scores, which range from 2.54 to 2.66 across the three groups, indicate moderate anxiety.

Table 1. Mean pretest scores

	Group 1	Group 2	Group 3
All	2.66	2.54	2.57
Boys	2.25	2.38	2.09
Girls	3.11	2.72	2.93

Overall, girls (M = 2.92) reported significantly higher mean scores than boys (M = 2.25), U = 347, $p < .05$, r = .33. This observation is in agreement with some other studies showing similar gender effects in relation to science anxiety (cf. Megreya et al., 2021). However, no significant gender differences were notable within the individual groups, though for each group the mean scores were higher for girls than for boys.

Next Steps

Currently, each of the three participating classes has been allocated a different sequence of tasks. Groups 1 and 2 are currently receiving six weeks of mindfulness activity at the start of each science lesson. Group 3, acting as control group, is continuing their lessons in the usual approach. Teaching activities, materials and so on have not been amended in any way. Each lesson begins with the Silent 60 exercise. The students sit quietly for 60 seconds to prepare themselves for learning, focusing on a specific sound in the room, a provided image, or their breath. In the first week, it lasts 30 seconds, and the duration is then gradually extended to 60 seconds. This is then followed by a different mindfulness exercise lasting for around 3 to 4 minutes. The different exercises are shown in Figure 1.

After six weeks, children in all three groups will again complete the science anxiety rating scale. While Group 3 may possibly show some improvement in science anxiety levels due to having developed familiarity with the school subject, it is anticipated that any improvements will be more notable in Groups 1 and 2. To assess potential delayed effects of improvement, Group 1 will subsequently continue with the mindfulness activities for another six weeks, but not Group 2. At the end of the second six weeks, all three groups will again complete the abbreviated science anxiety rating scale. Continued improvement in Group 1 over Group 2 could indicate a longer need for mindfulness implementation, whereas improvement in Group 2 might imply delayed improvements in form of an incubator effect.

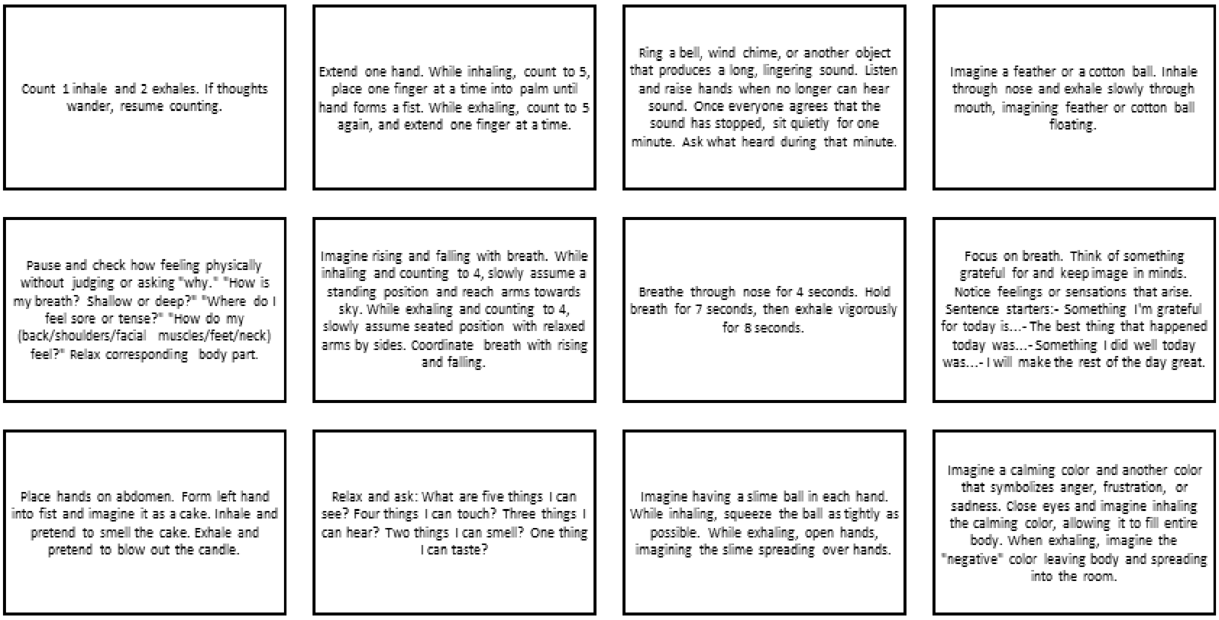

Figure 1. Selection of mindfulness activities

Conclusion

From the preliminary results it is evident that science anxiety, as measured through the science anxiety rating scale, is present in German fifth-graders following school transition. Already ahead of time it is likely that regardless of intervention outcome different additional variables will be relevant to understanding the fuller picture of science anxiety in German classrooms that are not covered by this study but that give scope to further research. These include teaching styles, as these have not been standardized or amended across the three classes, factors linked to immigration and resulting higher efforts to include, such as the influx of students displaced through the Ukraine war which has resulted in greater classroom diversity, or separating science anxiety from how it is affected by transition related anxiety.

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No More Miss Perfect: Deconstructing Gender Stereotypes in the Middle East Tradition

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Abstract: Television production plays a significant role in shaping and exposing cultures around the globe. This paper is an attempt to address multiple fundamental concerns and challenges underlying TV production in the Middle East and the perception towards women in the region. The study population consists of a sample of 1010 college students at Al-Najah National University in Palestine and Zarqa Private University in Jordan. It also investigates overviews of relevant individuals and influencers. The paper findings emphasize the prevalence of an inferior view towards women in the region and media reinforcing similar notions. Recommendations provided by the researcher include organizing social and media activities to spread awareness in the communities and conducting further studies regarding women issues in culture.

Keywords: Stereotypical image, social culture, gender-based discrimination.

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Introduction

According to reports, despite some privileges women have recently restored in the Middle East, 2022 has witnessed a remarkable increase in violence against women in different ways. In Jordan, 44% of women experienced violence by male strangers in cyber-space in 2017, according to European Institute for Gender Equality.

Background

Women have been fighting for their rights since the beginning of human existence. Despite women's rights becoming widely recognized in the majority of countries, women in several communities continue to struggle to achieve their rights daily and to fight violence performed against them. According to WHO (World Health Organization), 30% of women globally have subjected to physical and/or sexual partner violence or non-partner sexual violence in their lives (WHO, 2021).

It has been found in several studies that The MENA region performs worse than any other region concerning women in business and legal policies, including mobility issues (i.e., the ability to travel independently), choosing workplace, entrepreneurship, and pay. In addition to family duties and expectations, an inhospitable working environment discourages thousands of women from fighting to enter the workforce because they fear the expected low pay, insufficient workplace protections, and poor benefits in comparison with men in the same work environment (Asi, 2021).

The Arab women's participation in the Arab Spring movements has resulted in new changes. For example, they are not just housewives, wives, or mothers, but partners in the present and the future. They are rebellious and effectively demanding the rights of everyone, offering sacrifices and facing death to liberate the Arab world (Rabadi, 2014). Yet, in most of Africa, the Middle East, and Asia, married women have no legal protection against marital rape. Unfortunately, social actors continue to contest the concept since even if marital rape occurs, men are usually not charged, and convictions never happen (Htun and Jensenius, 2020).

According to Bleakley and Ellithorpe, scientists at Annenberg School for Communication, teenagers are often affected by what they watch on TV. They published a study in the Journal of Youth and Adolescence in 2016 concerning the race and gender of characters in shows popular with 14- to 17-year-olds. The study focused on TV-viewing preferences and their influence on the youth. Consequently, founded evidence supported the suggestion that adolescents chose to watch TV shows with characters similar to themselves, probably due to the belief that these characters help teenagers build their being and identify their identity. Therefore, this paper's sample had been carefully selected from ages 18-22 who are known to be interested in TV shows such as Watan Ala Watar (Bleakley and Ellithrope, 2016).

Methodology

A convenient sample of university students in Jordan and Palestine was used to test the study hypotheses of perceptions towards females in the region. The researcher developed a questionnaire and pretested it before its final use to gather the necessary data. She distributed the questionnaires in August 2022 through direct distribution to students in Palestine and through online forums in Jordan. Research data has been admitted into an Excel spreadsheet and then checked for accuracy. The data was imported for analysis. Frequencies, cross-tabs, and correlation analyses were conducted to assess the findings and results.

Study questions and hypothesis:

Despite women obtaining several opportunities in education and leading positions in communities, Arab communities still suffer a set of confining unfair customs and traditions to women. These notions are widely dominant in media productions that continue to affirm and promote the negative stereotypical image surrounding women in these communities in different life aspects. Therefore, the research aims at studying the following questions:

1. What is the public-stereotypical image of women in the Middle East (in Palestine and Jordan)?
2. How far does gender-related information broadcasted in the media affect genders' stereotypical images and social standards?
3. How far does the stereotypical image of women impact media productions and repercussions concerning violence practiced against women?
4. Which concepts/terms require cancellation or replacement in media productions to alter the negative stereotypical image of women?

Procedures

This chapter addresses the methodology and procedure of the researcher used to identify the study's population and sample and explains the practical actions and methods used to build and describe the study's instrument. And then, the researcher explained the scheme of the study's design and its variables, with references to the statistical tests used in the study.

Approach of the study

The researcher used the descriptive approach for its relevance to the current study in that it provides an integrated theoretical framework, as this approach describes the stereotypical image of women in the Middle East (Jordan and Palestine) and includes an interpretation of the data and information obtained to conclude. It also discusses current events and things, whatever they may be. Its type or field the researcher implemented this approach by describing the study variables and the demographic characteristics of the respondents.

Population of the study

The study's population consisted of all the students of Al-Najah National University on the West Bank in Palestine who were (10,525) male and female students, and students of Zarqa Private University in Jordan, who were (3212), according to the statistics of the Palestinian and Jordanian Ministry of Higher Education for the academic year (2021-2022 AD).

Sample of the study

The researcher used the random non-probable method to choose a sample. The sample included (1010) male and female students from the Al-Najah National University in Palestine and Zarqa Private University in Jordan.

Instrument of the study

The researcher developed a questionnaire to identify the stereotypical image of women in the Middle East (Jordan and Palestine). The instrument consisted of two parts: the first included preliminary data about the respondents represented in gender, place of residence, and average income, while the second consisted of the items that measured the stereotypical image of the woman in the Middle East (Jordan and Palestine).

Procedures of the study

1. Gathering secondary information from books, articles, reports, and other sources.
2. Gathering the primary information by distributing the questionnaires to get enough information to answer the study's questions.
3. Gathering the questionnaires, verifying their validity, and excluding the irrelevant ones.
4. Computerizing the information where the researcher inserted the information into the computer using (SPSS) program, then she classified the data to be ready for analysis.
5. Treating the data after analyzing it to get information about the dependent and independent variables of the study.
6. Conducting statistical analysis that answered the questions of the study and tested the hypotheses to achieve the study's objectives.
7. Discuss the results to explain the study's findings related to the stereotypical image of women in the Middle East (Jordan and Palestine).

Design of the study:

Data was treated using SPSS to conduct the following statistical treatment:
1. Means and percentages for the responses
2. Independent T-test to examine the hypotheses related to gender and place of residence.
3. One-Way Analysis Variance to examine the hypothesis related to the monthly average income
4. Cronbach's Alpha to measure the stability
5. (Sample K-S(test to identify the kind of the information.
6. Person Correlation Coefficient to verify the validity of the items.

Results related to the questions of the study

To interpret the results and to determine the stereotypical image of women in the Middle East (Jordan and Palestine), the score ranged from (1-5) degrees, and the level classification included five periods to separate between high and low degrees. Accordingly, it involved five main domains.

The sequence of the domains based on the stereotypical image of women in the Middle East (Jordan and Palestine)

1. The total degree of the stereotypical image of women in the Middle East (Jordan and Palestine) was high,

with the average value of the total percentage of respondents responding to all items in this field (69.57%).

2. The sequence of the domains based on the stereotypical image of the woman in the Middle East was as follows:

First: Watan Ala Watar program.

Second: Women and education.

Third: social networks.

Fourth: Women and work.

Fifth: Women and traditions.

Results related to hypotheses

There are no statistically significant differences at the significance level ($a \leq 0.05$) in the degree of the stereotypical image of the woman in the Middle East (Jordan and Palestine) due to the gender variable. To check the hypothesis, the researcher used an independent t-test.

Research Limitations

This research paper has potential limitations. Therefore, the study results should be interpreted in the light of the following limitations: Thematic Limitation:

The stereotypical image of Arab women in the Middle East, this theme has caught the attention of the researcher, giving the significance of the phenomenon which echoes social, health, and psychological dimensions.

- Regional Limitation:
  The study has been conducted in Palestine and Jordan.
- Sample Limitation:
  Men and Women aged from 18-24.
- Time Limitation:
  The year 2022, focusing mainly on the last quarter of the year.

Watan Ala Watar Content Analysis

The main reason for choosing Watan Ala Watar in this research paper is that it is a Jordanian-Palestinian comedy show that mocks reality in a satirical approach through various satirical clips shedding light on a challenging reality for men, women, youth, and the poor. It also shows Arab culture, traditions, and ambitions of the Arab community. Watan Ala Watar is widely followed by millions of viewers all over the region, especially school and university students. Imad Farajin, the leading actor and producer, has about 4 million followers on his Facebook page.

Going thoroughly through Watan Ala Watar 2022 episodes, a total of 90 implications had been found, such as verbal abuse, gender-based terminology, and physical abuse. Table (1) lists the content observation notes with coding for each episode.

Episode number	verbal	physical	gestures	Total number of implications/reoccurrences
Episode 1	1	2	1	4
Episode 2	5	0	1	6
Episode 3	0	0	1	1
Episode 4	1	0	1	2
Episode 5	3	0	1	4
Episode 6	1	0	1	2
Episode 7	2	0	2	4
Episode 8	1	1	2	2
Episode 9	0	0	1	1
Episode 10	3	0	1	4
Episode 11	0	0	2	2
Episode 12	0	0	2	2
Episode 13	1	0	0	1
Episode 14	7	0	1	8
Episode 15	6	0	0	6
Episode 16	1	0	1	2
Episode 17	2	0	0	2
Episode 18	0	0	1	1
Episode 19	3	0	1	4
Episode 20	3	1	1	5
Episode 21	4	0	0	4
Episode 22	0	1	0	1
Episode 23	3	0	1	4
Episode 24	3	0	1	4
Episode 25	2	0	0	2
Episode 26	1	0	0	1
Episode 27	1	0	1	2
Episode 28	5	0	1	6
Episode 29	1	0	0	1
Episode 30	1	0	1	2

Observations and Notes

Scenes on the TV series implied a variety of injustices against women, such as inequality in payment, as in the scene in episode 7 where the man takes 300$ while giving the woman only 100$. Scenes of women who are threatened to be divorced have reoccurred frequently. In addition, verbal abuse was most dominant in episodes and indicated an overview of inferiority towards women and their feelings and struggles.

Discussion

This study supports previous studies on the presence of stereotypical images against women in the region of the Middle East, especially among youth and college students. Results were consistent with what was expected regarding the societies' perceptions of women.

As usual, women are present in society in various forms and models. As usually said, media is a mirror of society that reflects what exists in reality, albeit in a framework of exaggeration and a dramatic character. We cannot expect TV series to be full of ideal characters. They are often uninteresting and unrealistic. But to reflect an image that is closer to reality and at the same time present characters and events that attract the viewer without monotony and teach lessons and sermons, assuming that there should be a diversity of characters, and that be three-dimensional.

We cannot deny the women's negative or positive stereotypical images in every country. Some of them depend on reality, and some focus on the media. Let's take the example of Saudi women. Until recently, it was globally known that they were not allowed to drive a car in their country. That was true, but it does not reflect the presence of women's truth in the public space despite this restriction on their movement. We, Saudi women, are eagerly waiting for the day of the implementation of the supreme command that allows women to drive, even if we choose not to drive cars. At least we have the right to do so.

As for the other stereotypical images of Saudi women, they are veiled, covered in black from head to toe, not allowed to leave their house without an unmarriageable person (Mahram), and she is not allowed to do their affairs without their guardian's permission. There is some truth in the whole matter. For example, not all Saudi women are veiled or even wear hijabs. The obligation of Mahram and guardian in some legal affairs and government departments, the domination of some men, and their misuse of the concept of the Mahram and the guardian did not prevent Saudi women from challenging their circumstances and achieving their ambitions to get the highest positions. That is, the reflected image in the media is fragmented and incomplete. We must change the reality to change this image.

In the current study, the interviews involved opinions about restoring awareness of the religious discourse and the tribal system, perpetuating several misconceptions about women, their role, status, and rights. There is also a need to review the image of women in school curricula at all stages that show the role of women in a limited way is incompatible with change and progress happening in the community. Some women asked media institutions and others to empower women, enhance their presence in various job positions, and positively highlight their achievements and issues, not to provoke. Others blamed the women for not taking advantage of opportunities to highlight their roles and accepting what happened to them related to rights abuse and exploitation. Consequently, it is necessary to pass laws, regulations, and codes of honor to preserve rights and dignity.

Conclusions

The researcher conducted interviews with a number of prominent figures and influencers, including Imad Farajin, Tariq Hamdan, Nuha Ziadah, Sama Oweida and Samar AlShinnar. Connections and conclusions have been established between the questionnaire's results and the interviews.

Tariq believes women's essential responsibility as community expects revolves around home and children. Samar thinks women are partners to men and can lead several leading roles in societies. This result is consistent with the findings of the first question that the stereotypical image of women in the Middle East (Jordan and Palestine) was high, indicating an inferior view of women by Arab societies, especially in Jordan and Palestine. Men are more confident than women. It is not acceptable for women to go out to work at night in these communities.

Tariq thinks that women have not achieved their legal rights yet nor obtained sufficient work opportunities. Nuha shares that belief with Tariq and explains how women are usually viewed as burdens rather than partners, as women in the Jordanian parliament only represent 11%.

This result is consistent with the findings of the questionnaire in the domain of women and works in that women can hold high-level positions in municipal councils. Women have fewer opportunities for professional development than men at work. They must have high achievements and qualifications to obtain a job promotion. Therefore, women must face more challenging situations than men in these communities.

As for violations against women, Tariq notes how physical and sexual violence against women exists in these communities. He also affirms that denying women the right to work or get an education is a violation. The responses of Samar show agreement as she emphasized the importance of achieving women's rights, such as the right to inheritance and independence. On the other hand, Imad assured that by presenting scenes of injustice against women, they aim to shed light upon injustices against women.

This result is consistent with the findings of the questionnaire in the domain of women and traditions concerning that the public media contributes to revealing violations of women's rights by supporting women's achievement of justice and equality. Women in your community can inform the concerned authorities if they or others encounter harassment or sexual violence. You can do this when you face passive situations in your surroundings due to being a man or a woman.

Nuha assumes media and TV productions are some of the resources of a society's awareness. Tariq states that the culture in these communities and traditions allows such TV shows to become more popular. This result is consistent with the results of the questionnaire in the domain of the Watan Ala Watar program in that males always appear to be in control. We must continuously address the issues of violence against women through various programs.

Nuha believes there is a notion of inferiority against women in these societies, while Samar emphasizes the challenges various women still face despite obtaining high degrees or excellent work positions.

This result is consistent with the results of the questionnaire in the domain of the Watan Ala Watar program in that males always appear to be in control. We must continuously address the issues of violence against women through various programs, for example, comedy programs, and encourage producing more programs similar to Watan Ala Watar in the future.

Tariq emphasizes how the TV industry is a significant force when it starts spreading awareness. Similarly, Imad states that comedy speaks for communities and pushes for people to discuss community issues.

This result agreed with the results of the questionnaire that satirical comedy and vitriolic criticism are official spokespeople for community issues. When you hear about crimes against women, you interact with them through comments or posts. You can also interact and express your views regarding violence against women with complete freedom in your country.

The result of the question is consistent with the results of the questionnaire in that the media, especially commercial advertisements, television dramas, and caricatures perpetuate the inferior view of women as trivial and superficial. They claim that women have nothing to do except shop, care about their beauty and appearance, enjoy their time with their friends, and plot against each other. On the other hand, they show their roles as wives, mothers, or a weak and submissive housewife. Even serious programs like news and talk-show programs often focus more on the presenter's looks than her skills and culture. Discussion raged somewhat, especially among the participating men, concerning these stereotyped images of existing models of women in society. As for the role of a devoted wife and mother, we are proud of such an image, so why not show it?

Samar agrees that women in the Middle East are endangered due to the lack of legal protection for women. The result is consistent with the questionnaire's results that the media plays a significant role in shaping public opinion, raising awareness, and affecting decision-makers. The images of the Islamic world, Islam, and Muslims are nearly negative, distorted, superficial, stereotypical, and often ignored as being portrayed by the media.

Recommendations

The study made several recommendations, including:

1. Benefit from the successful experiences in the member countries of the Organization of Islamic Cooperation on enhancing the role of women in society through establishing a network of female media professionals under the supervision of the Organization and documenting the achievements of women pioneers.
2. Release a periodic report on women in the media and prepare a manual guide on best practices to empower women in media institutions and through the media.
3. Organize media activities to correct misinformation and stereotypes about Muslim women in the Western media.
4. Conduct studies on women in the media in member countries and Muslim women in the Western media.

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Watan Ala Watar. Directed by Husam AlIbrahimi, 2022. uploaded by shahed4u, https://shahed4u.team/home2/?gt=138085

Appendixes.

Table 1. Description of the study sample based on its independent variables (n=500)

Independent variables	Levels of the variable	F	(%)
Gender	Male	334	33.0
	Female	676	67.0
	Total	1010	100%
Place of residence	Jordan	491	49.0
	Palestine	519	51.0
	Total	1010	100%
Average income	>200 JD / 1000 NIS	136	13.0
	200 JD / 1000 NIS - >400 JD / 2000 NIS	154	15.0
	400 JD. / 2000 NIS - >400 JD / 3000 NIS	124	12.0
	600 JD / 3000 NIS - >800 JD / 4000 NIS	321	32.0
	800 JD / 4000 NIS - >1000 JD / 5000 NIS	193	19.0
	≤ 1000 JD / 5000 NIS	82	9.0
	Total	1010	100%

Table 2. Distribution of the instrument's items on its main theme.

DOMAIN	ITEM NO. IN THE DIMENTSION	NUMBER OF ITEMS
Woman and work	12-1	12
Woman and education	8-1	8
Woman and traditions	12-1	12
Watan Ala Watar (TV. program)	10-1	10
Social media	8-1	8
Total		50

Table 3. Values of the internal consistency validity coefficients for the items of the dimensions of the study and the total degree of the dimension

Item	Correlation with the dimension	Sig.	item	Correlation with the dimension	Sig.	item	Correlation with the dimension	Sig.
1	.643**0	0.00*	18	.721**0	0.00*	35	.698**0	0.00*
2	.619**0	0.00*	19	.672**0	0.00*	36	.720**0	0.00*
3	.681**0	0.00*	20	.533**0	0.00*	37	.589**0	0.00*

4	.690**0	0.00*	21	.582**0	0.00*	38	.573**0	0.00*
5	.680**0	0.00*	22	.669**0	0.00*	39	.721**0	0.00*
6	.621**0	0.00*	23	.813**0	0.00*	40	.732**0	0.00*
7	.632**0	0.00*	24	.530**0	0.00*	41	.532**0	0.00*
8	.715**0	0.00*	25	.692**0	0.00*	42	.813**0	0.00*
9	.734**0	0.00*	26	.580**0	0.00*	43	.672**0	0.00*
10	.582**0	0.00*	27	.720**0	0.00*	44	.533**0	0.00*
11	.580**0	0.00*	28	.589**0	0.00*	45	.632**0	0.00*
12	.813**0	0.00*	29	.670**0	0.00*	46	.715**0	0.00*
13	.681**0	0.00*	30	.630**0	0.00*	47	.619**0	0.00*
14	.721**0	0.00*	31	.690**0	0.00*	48	.589**0	0.00*
15	.690**0	0.00*	32	.589**0	0.00*	49	.734**0	0.00*
16	.680**0	0.00*	33	.580**0	0.00*	50	.669**0	0.00*
17	.582**0	0.00*	34	.560**0	0.00*			

**The correlation is statistically significant at the significance level (0.01) * Significant at the significance level (0.05)

Table 4. Results of stability coefficient test by Cronbach's Alpha method on the dimensions of the instrument

α	Number of items	Domain
0.895	12	Woman and work
0.794	8	Woman and education
0.767	12	Woman and traditions
0.810	10	Watan ala Watar (TV. program)
0.862	8	Social media
0.825	50	Total score

Table 5. the significance value for all domains of the study were greater than (sig. > 0.05), indicating that the data follows a normal distribution. (1-Sample K-S) test

Sign.	Z	Domain
.710	.7000	Woman and work
.890	.5730	Woman and education
.970	.4860	Woman and traditions
0.87	0.542	Watan ala Watar (TV. program)
0.83	0.369	Social media
.850	.5340	Total score

Table 6. Means, standard deviations, and percentages of the score of stereotypical image of the woman in the Middle East (Jordan and Palestine) based on woman and work domain, arranged in descending order by score.

Sequence	Item	µ	SD.	%	Degree
1	Women can choose any job they want.	3.8509	1.03809	77.02	High
2	Women have better opportunities in the west comparing to theirs in their countries.	3.6708	1.09987	73.42	Hugh
3	Women have equal opportunities with men at work.	3.5528	1.14510	71.06	High
4	Women can run in elections with equal opportunities to men in your country.	3.3333	1.09495	66.60	Moderate
5	Women can hold high-level positions in municipal councils.	3.2410	1.11721	64.80	Moderate
6	Men have greater job security than women.	3.2169	1.20531	64.30	Moderate
7	Women have fewer opportunities for professional development than men at work.	3.1767	1.10757	63.50	Moderate
8	Men get higher salaries than women for the same work.	3.1526	1.09655	63.00	Moderate
9	Men get better appreciation and support than women in the same work.	3.1442	1.09578	62.34	Moderate
10	Women must have high achievements and qualifications in order to get a promotion at work compared to men.	3.1342	1.09369	62.10	Moderate
11	Women must have high qualifications to achieve professional development at work compared to men.	3.0884	1.07774	61.70	Moderate
12	I might leave my job in the future if I face gender pressures and gender discrimination.	3.0803	1.14016	61.60	Moderate
Total degree of the domain (Woman and work)		3.3035	1.10933	65.95	Moderate

Table 7. Means, standard deviations, and percentages of the degree of stereotypical image of the woman in the Middle East (Jordan and Palestine) based on woman and education domain, arranged in descending order by score.

sequence	Item	µ	SD.	%	Degree
1	Women have equal opportunities with men in education in your country.	4.2422	.827470	82.44	High
2	Men often make decisions about women's	4.2158	.818580	82.00	High

sequence	Item	µ	SD.	%	Degree
	education.				
3	Women can choose any field of education they desire.	3.9565	.950970	79.13	High
4	It is not acceptable for a woman to travel alone for the purpose of education	3.9325	.945250	78.56	High
5	Educated women are more aware of their rights compared to uneducated women.	3.9112	.941240	76.25	High
6	The more aware women are, the less likely they are to be subjected to violence or abuse.	3.7764	1.03667	75.53	High
7	There is no discrimination between men and women in educational institutions such as universities.	3.6770	1.05239	73.54	High
8	It is noticeable that the ratio of educated women in your country increased compared to previous years.	3.4534	1.10085	69.07	High
Total degree of the domain (Woman and education)		3.8934	0.96174	77.18	High

Table 8. Means, standard deviations, and percentages of the degree of stereotypical image of the woman in the Middle East (Jordan and Palestine) based on woman and traditions domain, arranged in descending order by score.

Sequence	**Item**	**µ**	**SD.**	**%**	**Degree**
1	Public media contributes to exposing violations of women's rights by supporting women's achievement of justice and equality.	2.8878	1.36898	55.82	Moderate
2	A woman has to prioritize her home and family first and work later.	2.8524	1.36787	55.66	Moderate
3	Women in your community can report to the relevant authorities if they or others are subjected to harassment or sexual violence	2.7524	1.36598	55.23	Moderate
4	Women in your community can report the concerned authorities if they or others are subjected to violence (verbal, psychological or physical).	2.7142	1.36325	55.23	Moderate
5	Men get higher confidence compared to women.	2.6444	1.36204	52.89	Moderate

6	It is not acceptable for women to go out to work at night in your community.	2.4400	1.31516	48.80	Moderate
7	Women face a greater risk of "honor crimes" in this society than men do.	2.3778	1.36423	47.56	Moderate
8	In this society, there is a negative view about women in general.	2.3733	1.35396	47.47	Moderate
9	Social culture prevents the professional development of women in your community.	2.2311	1.31268	44.62	Moderate
10	In your surroundings, you encountered negative situations because of being a man/woman.	2.2222	1.29713	44.44	Moderate
11	Women have more freedom in the West than in your country.	2.1911	1.21887	43.82	Moderate
12	Women commit suicide more than men.	2.0400	1.42152	40.80	Moderate
Total degree of the domain (Woman and traditions)		2.4772	1.34263	49.36	Moderate

Table 9. Means, standard deviations, and percentages of the degree of stereotypical image of the woman in the Middle East (Jordan and Palestine) based on Watan Ala Watar program domain, arranged in descending order by score.

Sequence	Item	μ	SD.	%	Degree
1	I watched several episodes of Watan Ala Watar.	4.5987	.583690	84.69	High
2	Watan Ala Watar addressed violence against women in its episodes.	4.5145	.571210	84.16	High
3	The actors in Watan Ala Watar demonstrated racial discrimination against women in their performance.	4.4400	.561400	83.77	High
4	The expressions of discrimination against women were repeated in more than one episode of Watan Ala Watar.	4.3667	.508690	83.65	High
5	The scenes of ridicule of women were repeated in Watan Ala Watar	4.1533	.482840	83.00	High
6	Males in Watan Ala Watar seem smarter and better than the women.	4.1400	.434890	82.66	High
7	Males in Watan Ala Watar show that they	4.1369	.432250	82.00	High

Sequence	**Item**	**µ**	**SD.**	**%**	**Degree**
	are always dominant.				
8	Men often make the firm decisions in Watan Ala Watar.	3.8133	.365070	76.11	High
9	Issues of violence against women should be addressed continually through various programs such as comedy programs.	3.5800	0.10076	71.52	High
10	You encourage producing more of such programs that are similar to Watan Ala Watar in the future.	3.5733	0.10123	71.12	High
Total degree of the domain (Watan Ala Watar Program)		4.1316	0.41420	80.26	High

Table 10. Means, standard deviations, and percentages of the degree of stereotypical image of the woman in the Middle East (Jordan and Palestine) based on social media domain, arranged in descending order by score.

Sequence	Item	µ	SD.	%	Degree
1	You heard about news and information regarding crimes against women in your country from social networks.	4.0000	1.12599	80.00	High
2	When you hear about crimes against women, you react to it through comments or posts.	3.9600	1.28980	79.20	High
3	You don't show any reaction to crimes against women in your country.	3.8667	1.16496	77.33	High
4	You post about violence and attacks against women in your community on social media.	3.8044	1.19783	76.09	High
5	Freedom of expression on social media is restricted in your country.	3.6578	1.23680	73.16	High
6	Social media contributes to increasing knowledge about the injustice experienced by women in your community.	3.6533	1.42202	73.07	High
7	Social networks encourage women to become more aware of their rights in your country.	3.6089	1.36536	72.18	High
8	You can interact and express your views on violence against women with complete freedom in your	3.5022	1.35332	70.04	High

Sequence	Item	µ	SD.	%	Degree
	country.				
Total degree of the domain (social media)		3.7566	1.26951	75.13	High

Table 11. Sequence of the domains based on the stereotypical image of the woman in the Middle East, arranged in descending order by score.

No.	Domains	µ	SD.	%	Degree
1	Woman and work	3.3035	1.10933	65.95	Moderate
2	Woman and education	3.8934	0.96174	77.18	Moderate
3	Woman and traditions	2.4772	1.34263	49.36	Low
4	Watan Ala Watar (TV. program)	4.1316	0.41420	80.26	High
5	Social media	3.7566	1.26951	75.13	High
Total degree		3.5124	1.01948	69.57	High

Table 12. Results of the t-test for the significance of the differences and means for the degree of the stereotypical image of the woman in the Middle East (Jordan and Palestine) based on the gender variable.

Gender	Maled (n=334)		Females (n=676)		(t)	Sig.
	µ	SD.	µ	SD.		
Woman and work	3.8000	.913780	4.0469	.804900	-0.620	.530
Woman and education	3.9576	.913450	4.0484	.683550	-1.730	.080
Woman and traditions	5.2144	1.25466	6.2547	0.98575	4.236	*0.02
Watan Ala Watar (TV> program)	3.2548	0.85423	3.6985	0.65498	1.278	0.20
Social media	3.2667	.715310	3.7859	.658410	1.226	.220
Total degree	3.8000	.913780	3.8589	.484450	-0.979	.320

Place of residence	Jordan (n=491)		Palestine (n=676)		(t)	Sig.
	µ	SD.	µ	SD.		
Woman and work	3.7585	.896960	4.2365	.748770	-0.770	.610
Woman and education	3.5688	.754540	5.2147	.565650	-1.887	.090
Woman and traditions	6.2547	1.25554	7.2545	0.99879	5.235	*0.03
Watan Ala Watar	3.2589	0.68955	3.3332	0.52444	1.221	0.32
Social media	4.1255	.724140	3.5878	.365890	1.334	.280
Total degree	3.7255	.865680	3.79663	.472210	-0.888	.350

Table 13. Means of the degree of the stereotypical image of the woman in the Middle East (Jordan and Palestine) based on the monthly average income variable.

Monthly average income / Domains	>200 JD / 1000 NIS	200 JD / 1000 NIS - > 400 JD / 2000NIS	400 JD / 2000 NIS - > 600 JD / 3000 NIS	600 JD / 3000 NIS- > 800 JD / 4000 NIS	800 JD / 4000 NIS - > 1000 JD / 5000 NIS	≤ 1000 JD / 5000 NIS
	µ	µ	µ	µ	µ	µ
Woman and work	4.1481	3.9884	4.0400	4.2365	3.9865	3.5787
Woman and education	4.1405	4.2334	4.0964	4.2514	3.4521	3.5655
Woman and traditions	3.5390	3.5512	3.6786	3.8574	4.1456	4.2225
Watan Ala Watar program	3.4578	3.4687	4.6985	3.6985	3.7414	3.6987
Social media	4.2154	3.7474	4.3254	4.1212	3.2658	3.4578
Total degree	3.9425	3.9243	3.9383	4.0120	3.5645	3.8659

Table 14 Results One-Way ANOVA analysis for the significance of the differences in the degree of the stereotypical image of the woman in the Middle East (Jordan and Palestine) due to the monthly average income variable.

MONTHLY AVERAGE INCOME	VARIATION SOURCES	SQUARES TOTAL	FREEDOM SCORES	SD.	F	SIG.
Woman and work	Between groups	.4870	4	.1630	0.369	.360
	Within the groups	40.136	1005	.2540		
	Total	41.587	1009			
Woman and education	Between groups	0.424	4	0.106	0.421	0.47
	Within the groups	21.263	1005	0.049		
	Total	22.363	1009			
Woman and traditions	Between groups	0.078	4	0.210	0.326	0.31
	Within the groups	20.142	1005	0.395		
	Total	21.342	1009			
Watan Ala Watar (TV. program)	Between groups	.0690	4	.1120	0.241	0.42
	Within the groups		1005	.0410		

	Total	21.029				
		22.211	1009			
Social media	Between groups	.6330	4	.2110	.5250	.550
	Within the groups	22.241	1005	.4140		
	Total	23.252	1009			
Total degree	Between groups	.0110	4	.0120	.1580	.460
	Within the groups		1005	.1890		
	Total	24.526				
		25.312	1009			

Table 15 shows number of reoccurrences of scenes of acts or gestures practiced against women or insinuating gender-based injustice and their variations. The table listed is the content observation notes in relation to different types of implications of gesture, verbal or physical abuse or gender- related comments made against women in episodes discussed.

Episode number	verbal	physical	gestures	Total number of implications/reoccurrences
Episode 1	1	2	1	4
Episode 2	5	0	1	6
Episode 3	0	0	1	1
Episode 4	1	0	1	2
Episode 5	3	0	1	4
Episode 6	1	0	1	2
Episode 7	2	0	2	4
Episode 8	1	1	2	2
Episode 9	0	0	1	1
Episode 10	3	0	1	4
Episode 11	0	0	2	2
Episode 12	0	0	2	2
Episode 13	1	0	0	1
Episode 14	7	0	1	8
Episode 15	6	0	0	6
Episode 16	1	0	1	2
Episode 17	2	0	0	2
Episode 18	0	0	1	1
Episode 19	3	0	1	4
Episode 20	3	1	1	5
Episode 21	4	0	0	4

Episode 22	0	1	0	1
Episode 23	3	0	1	4
Episode 24	3	0	1	4
Episode 25	2	0	0	2
Episode 26	1	0	0	1
Episode 27	1	0	1	2
Episode 28	5	0	1	6
Episode 29	1	0	0	1
Episode 30	1	0	1	2

Episode 1

'If you truly love me, you would announce our marriage'. (Min: 01:23)

'Oh these pretty women on the roof'. (3:23)

A woman hitting another for betraying her with her husband. (9:42)

The man hits a woman for not paying her dues.(10:56)

Episode 2

'No men allowed' the sign says. (01:12)

Verbal harassment of a woman 'hairless chicken'. (02:15)

A woman telling her husband : 'How long do you intend to go after that woman?'. (2:30)

'I wish you would go to hell', the man tells his wife. (03:00)

' If you want me to divorce my wife, I'll do it'. (08:56)

' I shall hit you and knock your sight out!', the man tells a woman. (10:02)

Episode 3

'This is my wife's car I told you, while I go to work and back on foot.', the man tells the mechanic. (03:03)

Episode 4

'I was in love with a hairstylist once but my parents disapproved our marriage because she was 2 months older than me and they feared she would fool me.' The man says when he proposed to a lady for marriage.(05:54). 'It's none of your business!', a man says to his wife as she was giving birth while he was hitting on the nurse.(08:30).

Episode 5

'I would like to tell you that you are divorced from this moment on', the man tells his wife.(03:02).

Men say to a woman that due to plastic surgeries they were unable to recognize that she was the man's wife not his daughter.(05:36).

‘Shut up you have no clue!’, he says to his mother. (06:30).

‘You are divorced for a second time now’, a man tells his wife for disagreeing with him. (07:07).

Episode 6

‘What a lovely body!’ (12:16)

‘He dances with my wife and I dance with his, what a shame!’(13:14)

Episode 7

‘When 5 girls saw me, they dropped themselves from windows!’, a man says proudly pointing out how handsome he is. (01:35).

A man shouting at his wife: ‘Does it take you an hour to open the door, Jawaher? An hour?’, (05:41)

‘And you should divorce this woman’, a man tells his friend because his friend’s wife brought a man home. (07:14).

‘Yes, 100 dollars for you, lady! What do you want a 1000 dollars?’, the man tells a woman as he gave her a 100 dollars while he took 300 dollars for himself. (08:20).

Episode 8

‘If I hear that you talk to other girls I will shoot you in the head’, a woman tells the man she loves. (06:45)

A woman pulls a woman and knocks her to the ground after she found out she was having an affair with her husband (13:00).

‘Shut up!’ the woman shouts. (13:28).

Episode 9

‘All the ladies in the neighborhood love the lizard ring, they just adore it!’,the jewelry shop owner tells the lady. (02:42)

Episode 10

‘ I bet on my mustache that you won’t last fasting even until 11:00 am today.(then laughs aloud)’ speaking to his daughter (01:39).

‘I bet on my mustache that you won’t even last fasting until 10:00 am you skinny girl’ tells his daughter again (03:38).

‘ I divorce you!’ he tells his wife for arguing with her mother in law. ‘I swear I shall slap your face’ he tells her (07:12).

‘ I have no idea why the girl is short while you and I are tall!’ doubting his wife’s morality (07:31).

Episode 11

The man was saying to his wife: ‘I don’t like tuna pizza why should I get you one?’(02:34)

The man clearly showed males engaging in stereotypical gender related behaviors implying he didn’t intend to get the pizza his wife wanted just because he didn’t like it as well.

The man telling his wife he has married another wife. She is in shock but responds: ‘I had a feeling you would do it, yet I won’t cry. ‘(09:20).

The man kept mocking her reactions until he told her that her mother has passed away earlier. She took the news way better than she handled her husband marrying another woman. The situation mocks women’s feelings when husbands approach annoying actions. As if all that matters to a woman in life is her husband. Nothing else compares.

Episode 12

A father is asking his daughter to accept to marry her friend’s husband because the man who had promised to come propose to her didn’t keep up his word. He asked her to say yes only for one day so people don’t spread rumors about her being abandoned by a man. The scene sheds light upon Arab culture and honor-related issues. (04:20).

The friend’s husband talks to his second bride revealing a hidden plan they both agreed upon. ‘Didn’t I promise you to marry you with your friend’s consent who danced in our wedding like a fool?’, he stated (09:32).

The term ’fool’ depicts a notion where a woman is inferior to a man. Her feelings and mind are less important and her opinions are not valued.

Episode 13

‘I swear on my marriage that this is the first time I see you!’(10:48).

The teacher was wondering if he had seen the student before. He swore on his marriage that it was the first time he saw that student.

Swearing on a man’s marriage is a widely known habit in the Arab community. It notions no significance of someone’s marriage and although it is not acceptable from a religious point of view, several husbands tend to do it when they are angry or furious to experience rage. Women have no choice but to abide by these words and follow their husbands wishes or they will be instantly considered divorced.

Episode 14

An old woman is being harassed in the street by a couple of robbers and she calls for help.

One of the robbers steals her yellow scarf (01:15).

A man comes to rescue and the robbers flee. Then he starts asking the woman : ‘Where are you from sweety?’ (01:48).

An older guy passes by while the man who rescued the woman is putting back her yellow scarf on her shoulders. He sees them and says: ‘Shame on you! Don’t you have families?’ (02:14).

The woman’s father tells the man who rescued her: ‘People have seen you with my daughter putting the scarf on her shoulder. You should marry her by our customs as you know.’(03:20).

‘Do you accept that if it were your sister?’(03:37).

‘If it’s ok if your sister was in my sister’s shoes, then it’d be ok by me’(03:51).

The scenes mentioned in this episode definitely emphasis the culture of honor-related crimes and the Arab mentality.

'Shut up!' The man tells his sister (07:02).

'She is insane!' (07:07).

The man says to his wife for forgetting how many children she has. The term 'insane' is used in a funny matter usually but it indicates inferiority.

'I can't say a word until my guardian comes' (07:42).

The scene touches on a woman being incomplete needing a parent or a guardian to speak for her in a variety of situations.

Episode 15

'Do not take women as hostages!' (02:07).

A widely known ritual in Arab wars and conflicts is not to take women or elderly or children as hostages. In this scene, if men took women as hostages, they would appear weak and lose their respect.

'Carry her, my children' 'How will we carry her? It would take a crane to carry her!'(05:35).

Numerous shows and comedies adopt the theme of weight-based teasing in their scenes. This is surely a form of verbal abuse against women socially the woman in the scene being pregnant.

'bring out her hair extensions' (06:14).

As a woman was about to give birth, he husband asks her son to bring her hair extensions and makeup. This only emphasizes making fun of women's obsession with beauty and makeup in times like these.

'I would never walk in on her ,she will keep cursing me' (07:27).

The husband stated this line as his wife was giving birth and his son asked him to go inside. In this scene is a clear indication that this is a community that tends to ridicule women's aches and pregnancy and their expression of their frustration during that phase of their lifetime.

'Come one push! No nagging I'm telling you! Push!' ,the doctor shouts at the woman giving birth (08:13).

The female doctor was telling the woman giving birth as well to push. 'No whining! Push !' (08:19). Again in this scene is a clear indication of mocking women's pains and aches during pregnancy and birth.

Episode 16

'We want no dowry, nor wedding nor gold ! Take the girl as she is since she is starting to lose her sight and hearing!' (09:20).

This excellently delivered scene depicts a culture where marriage is a woman's only answer and getaway. To some families, daughters get married for little or no demands and they completely lose their rights. Allowing men to practice more power over them while women end up helpless.

Episode 17

The man screaming in his wife's face:' Aaaaah I am sure you haven't checked the cooking gas!'(01:41).

This scene points out women being intellectually inferior to a man. Therefore, mocking their decisions and words in home matters for example.

The other man shouts in his wife's face: 'Did you check the cooking gas at home? Get up!' (06:30).

The reoccurrence of the situation only emphasizes the notion of women being intellectually and emotionally inferior to men.

Episode 18

'Did you leave some food for me?', the mom asks her family (02:06).

Episode 19

'Did you forget when your family had me marry you and told me they found relief that they got rid of you?', the man tells his wife. (03:29).

'Did you forget when your family told me that you don't fit in any trousers?', the man tells his wife (03:39).

'I will divorce you twice!' a man tells his wife (03:55).

'I will divorce her now!' he tells his friend because his wife defended the waiter and how her husband addressed him (08:24).

Episode 20

In this episode, the cast is ridiculing the film 'Perfect Strangers'.

'Because I am her mother, I should search her bag' the woman tells her husband (03:11).

The actor takes off his pants in parallel to Muna Zaki's scene in Perfect Strangers when she removes his underwear (04:43).

'My friend is a fool! He should have deleted the message so his wife doesn't see it' the man speaks out loud. His friend's wife responds: 'Isn't that considered treason?' (06:30).

'She will do a plastic surgery on her nose' the man comments (08:53).

Episode 21

'Our neighbor, Deema used to have a fringe so solid like cement.' The man raises his hand mimicking a tower (04:18).

'I see an airport!' the man ridicules his fiancé's girlfriend looks (12:10).

'Your friends are so pretty especially the dude in red, I mean the lady in red' insinuating he thought she were so ugly that he assumed she was a man (12:19).

'Why do makeup artists make brides look like witches?' (13:26).

Episode 22

A man bumped into a woman in the street then touches her hand (01:11).

Episode 23

'I assumed some pretty chick would pass by' the man insinuates he wishes a woman would sit next to him in the bus instead of a man (01:53).

'Remove that bath sponge you have over your head!' the man tells the woman in the bus (03:08).

'I wish I were your pillow' the man tells the woman (05:15).

'I love you and miss you!' the man tells the girl then he tells the policeman: 'let's have some fun' (11:17).

Episode 24

‘Foreign ladies are much less trouble, man!’ he tells his friend (01:18).

‘No offence but looking at your wife, we can see your taste in women’ he tells his friend (01:30).

‘She is dying to be with someone’ a man says about a woman he met at a restaurant (02:47).

‘Thank God the marriage didn’t work out!’ (09:33).

Episode 25

‘Leave me with the maid please, grandma’ he tells his grandmother (06:44).

‘Send me your photos, trust me’ a man tells a woman he has known for 3 minutes (12:24).

Episode 26

‘Are you in a relationship?’ the delivery guy asks the girl (05:38).

Episode 27

‘Do you think I’m a woman in a skirt?’ he tells his friend who was doubting his abilities with a smirk (03:55).

Episode 28

‘I don’t like how she looks, let’s see the second’ a woman says about a possible bride for their son (03:25).

‘Oh she is really not pretty!’ the father says about the possible bride’s sister. Then his wife comments:’ No, son she is too think to have children!’ (03:38).

‘This one is blonde and beautiful!’ the mother says about the third girl (03:55).

‘Ok, I will manage with this bride until you find me someone better’ the man tells his parents (04:56).

The man comes home with a new wife because his first wife didn’t get pregnant after 3 days of the wedding (07:12).

‘I don’t like that one, she is out!’ the son says about a wife of his 4 wives standing before him (10:08).

Episode 29

‘She is driving me insane, man ! She keeps calling me’ the man tells his friends. His friend responds: ‘ Cast a magic spell on her, my wife now sleeps at 8:00 pm!’ (01:47).

Episode 30

‘I will charge you for having the opportunity to flirt with my wife while she was at the hotel for 10 days but you didn’t take it.’ , a man tells the hotel worker (05:52).

‘You shall milk the goats whether you like it or not, or you will go to your family’s home divorced’, a man tells his wife (06:26).

English Questionnaire

Dear students,

This questionnaire has been designed with the aim of carrying out independent scientific investigations concerning the stereotypical image of women in the Middle East (Jordan and Palestine in particular). The data collected will be handled with secrecy and will not be used for any other purposes. We dearly value your time and cooperation.

Personal Data

Please circle the appropriate answer:

1. Gender: a. male b. female

2. Country of Residence: a. Palestine b. Jordan

3. Average monthly income:

a. Less than 200JD/1000NIS

b. 200-400 JD/1000-2000NIS

c. 400-600JD/2000-3000NIS

d. 600-800JD/3000-4000NIS

e. 800-1000JD/4000-5000NIS

f. 1000+JD/5000+NIS

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4. Please put (x) in the space that matches your perspective:

Women and Work

Question	I strongly agree	I agree	neutral	I disagree	I strongly disagree
1.Women can choose any work they want in your country.					
2.Women have					

better opportunities in the West than they do in your country.					
3.Women have equal work opportunities with men in your country.					
4. Women can run for elections equally as men in your country.					
5. Women can occupy high level positions in municipal councils in your country.					
6. Men have better job security than women.					
7. Women have less professional development opportunities than men.					
8. Men receive higher salaries than women in the same jobs.					
9. Men are more					

appreciated and supported than women on the same jobs.					
10.Women have to be high qualified and achieved in order to earn a promotion at work in comparison with men.					
11. Women have to obtain high qualifications in order to achieve professional development.					
12. You may consider quitting your work if you encounter gender-based discrimination issues.					

Women and Education

Question	I strongly agree	I agree	neutral	I disagree	I strongly disagree
1. Women have equal education					

opportunities as men in your country.					
2. Men usually make education related decisions for women in your country.					
3. Women have the freedom to pick any field of study they want.					
4. It is not acceptable for a woman to travel alone to study.					
5. Well-educated women are usually more aware of their rights than women who are not educated.					
6. The more educated women are, the less likely they are to be treated with abuse or violence.					
7. There is no discrimination between men and women in educational					

institutes such as universities in your country.					
8. There is a noticeable increase in the percentage of educated women in your country compared to previous years.					

Women and Customs

Question	I strongly agree	I agree	neutral	I disagree	I strongly disagree
1. There is an overall negative perception of women in your society.					
Women enjoy more freedom in the West than in your country.					
3. In your surroundings, you have encountered negative situations due to your gender.					
Men are treated with greater trust in comparison with women.					

Women tend to commit suicide more than men do.					
6. Public information contributes to expose violations of women's rights and supports women's achievement of justice and equality.					
Women have to prioritize their families and homes over work.					
Social culture prevents women from achieving professional development in your country.					
9. It is unacceptable for women to go to their work at nighttime.					
. Women in your country can report any harassment or sexual abuse practiced against them to					

competent authorities.					
. Women in your country can report any verbal, physical or psychological abuse practiced against them to competent authorities.					
Women face the risk of 'honor killing' more than men do in your community.					

Comedy TV Series: Watan Ala Watar

Question	I strongly agree	I agree	neutral	I disagree	I strongly disagree
1. I have watched several episodes of Watan Ala Watar.					
2. Watan Ala Watar has touched upon violence against women in its episodes.					
3. Actors in Watan Ala Watar have shown gender based discrimination against women during their acting.					
4. Terminology					

of discrimination against women has reoccurred in several episodes of Watan Ala Watar.					
5. Scenes of ridiculing women have reappeared on Watan Ala Watar.					
6. Males on the show are viewed to be smarter and better than females.					
7. Males on the show appear to be always in control of matters.					
8. Men mostly make all the decisive decisions in Watan Ala Watar.					
9. Violence against women should be persistently addressed through a variety of shows such as comedies.					
10. You encourage the launch of similar shows like Watan Ala Watar in future.					

Social Media Networks

Question	I strongly agree	I agree	neutral	I disagree	I strongly disagree
1. You					

have come across news of crimes against women in your country via social media networks.					
2. You react to news of crimes against women by posting or commenting.					
3. You show no reaction towards crimes against women in your country.					
4. You usually share information about crimes and assaults against women on your social media platforms.					
5. There is a restriction of freedom of expression on social media networks in your country.					
6. Social media networks contribute to raising					

awareness of injustice against women in your community.					
7. Social media networks encourage women to become more aware of their rights in your community.					
8. You are completely free to express your perceptions and views concerning violence against women in your country.					

All Done

Thank you

Interviews

Dr. Sama Oweida Interview 30-7-2022

I am Sama Oweida, the Director-General of the Palestinian Centre for Women Studies. I have a BA in Business Management from Beirzeit University, and a master's degree from College University in London and majored in planning. I have been a feminist activist with the Palestinian Women's Labour Committee institutions in 1978. I pursued my activism to be one of the co-founders of the Palestinian Centre for Women Studies which I now run. In addition, I am a writer and a researcher. I have published several books about women in Intifada and 14 stories for children mainly promoting the center's programs regarding social equality and resisting violence in all forms and sexual harassment.

Khalida:
All the best to you, Dr. Now, of course since the discussion revolves around women's stereotyping in the region and in the Middle East in particular. As we are discussing the topic in Palestine, and as an experienced academic in the field of teaching, how do you perceive the overview of women in the Palestinian society?

Dr. Sama:
This question surely rises in the meantime as the stereotypical image of Palestinian women has changed over the years. During the 1948 war and Nakba, the perception of Palestinian women had been fairly positive as women took part in every form of struggle against the occupation, playing a major role in the reestablishment of the Palestinian community and working from abroad such as the Gulf to support their families. Unfortunately, that perception of women has taken a negative aspect lately mainly due to obscurantist forces which keep on expanding within our community aiming to achieve interests of hostile forces targeting neutralization of women from the struggle and to re-imposition the segregation of Palestinian women. The segregation has not succeeded, yet it still serves in breaking the stereotypical image of women.

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If we compare the situation of Palestinian women in the past to it in the meantime, we can clearly state that women are still struggling as resistance has always been a priority for them in terms of making families and actively participating in the society. However, the negative overview towards women remains with attempts to segregate women whose participation and existence can be viewed as a threat to any party who antagonizes the Palestinian cause.

This does not mean in any way that the stereotypical image of Palestinian women is entirely negative. In fact, national forces in Palestine hold a positive image of women due to their prominent roles in families, society and struggle in general.

Without a doubt, women participation in work is huge. However, speaking of women accessing higher level positions remains controversial as women have to fight their way through struggle positions.
Khalida :

Ok, Dr. Since you touched on the shift in mindset, what major changes have you observed recently regarding women opportunities in the academic field in particular?

As you can see, women remain a minority in ministries. And despite proving their competence, they are always encountered with rejection of being included in critical positions. Until now, not a single Palestinian woman has been given the chance to work in one of the major ministries in the country such as Ministries of the Interior and Foreign Affairs.

We have conducted a study regarding female graduates in Palestine and concluded that there are at least 6 majors which provide less opportunities to females in comparison with males due to a deeply rooted culture that believes women could only give less than men do.

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For example, when it comes to IT, the majority of people believe that it requires time, thinking and effort. Therefore, women were not given proper chances in the field. When we called in female IT graduates and provided them with extensive up-to-date training to prepare them for labour market, we have found that IT companies hired those females who have proven to be more qualified than many men. The stereotypical image of women that they are inferior in their abilities has proven to be false in light of trials. Therefore, the stereotypical image against women is difficult to change unless we delve into real experiences. The IT experience of well-trained female graduates resulted in all of them being hired except for one who didn't because she got married abroad. The rest have proven to be worthy or the jobs.

The issue with the stereotypical image rises from the public notion that women are only capable in certain areas while incapable in others requiring thinking or field work where women often get ruled out unless they actively prove themselves.

Several studies we have conducted have also shown discrimination against women in salaries, especially in private institutions. As governmental sectors consist of unified staffs, private sectors usually grant men higher salaries than women. Not all private institutions consider men to be entitled of higher wages but unfortunately, many private institutions still believe men should be paid better. This certainly indicates several issues in this regard and that's why several women organizations exist.

Khalida:

Ok,Dr. Although many women now have access to education and job opportunities, do you think that females still face other problems? Meaning the social phenomenon related to women being vulnerable to physical, verbal, psychological and other forms of violence. Despite that women now have greater opportunities for education and work.

Dr. Sama:

This culture that discriminates women is growing and is being nourished by several obscurantist forces which aim to rule out women from participating in the struggle or work.

This can be referred to about 50% of the Palestinian society being females, and 60% children. 40% whom are not children leaves only 20% adult men in the Palestinian society. Can this 20% population lead and support the remaining 80% of the society? Could they participate in social, cultural and political development?

Ruling women out is a deliberate act by hostile parties which aim at toppling the Palestinian community and feeding off their potentials in resisting the occupation and establishing an independent Palestinian state. That said, I do not consider this cause to be marginal or of low impact. Although a variety of people keep using the religious argument simply for putting on an Abaya and growing out their beards, delving into the history of Islam only proves their argument to be false as women have positioned great leading roles for ages. The matter of stereotyping women is merely politic which targets the toppling of the Palestinian community such as other Arab communities. That's why we must not give in to these attempts.

Khalida:
These incidents you mentioned, Dr., represent our daily life issues when dealing with women. In your opinion, what are the most principal violations committed against women's rights or violations you believe women suffer from in our society?

Dr. Sama:

One of the most striking violations against women is depriving them the freedom of choice regarding their future, their being and this is the most critical violation. Secondly, practices of violence against women. Not only beatings, but also psychological violence such as neutralizing of women of causes they desire to be part of. Disrespect of women and denying them the proper opportunities they aspire is considered in my opinion one of the major violations against women, in addition to daily records of physical violence to the point of being killed.

Legal violence can be reflected through the Jordanian Penal Code which allows the killing of women known as honor killings where women get killed for moral reasons. Amendments to the article have never been approved. Failure to pass a law to protect families from violence is a form of legal injustice against women as well. Despite the Palestinian authority signing conventions which promote eliminating all forms of discrimination against women such as the CEDAW Convention, no amendments have been enacted so as to incorporate the Convention into domestic law. This legal violence impacts all aspects of life.

Let's not forget economic violence we discussed earlier which denies women sufficient job opportunities. Despite the fact that some women work in the same jobs as men, and for similar working hours, men still get paid better than women since institutions believe they do these women a favor by simply hiring them. Therefore, they believe there is no need for them to receive sufficient wages which is a clear exploitation of women. We have legal, physical and most importantly psychological violence practiced against women in our society.

Khalida:
Since we have spoken of the most prominent aspects regarding women in our Palestinian society, do you believe that women’s lives are endangered in our society?

Dr. Sama:

It really depends what danger we are discussing here. If we are discussing physical harm, then yes. Several females in our society suffer this problem. Working in women organizations, we always receive complaints from a huge number of women who suffer violence by their fathers or brothers. Not only physical violence but also financial. For example, religious guidelines guarantee women’s rights in inheritance. However, many brothers dictate the females’ inheritance and prevent them from receiving their shares which harms those females financially. This indicates women are supposed to have a passive role when it comes to their decisions in all cases. As for legal violence I mentioned earlier, we suffer a great deal by laws which discriminate women. In sharia courts, arbitrary divorce is very common where it takes women years to prove harm practiced against them.

The apparent discrimination of women causes harm to women and puts their interests at risk. Being unable to obtain their inheritance or get a job puts women in financial dilemmas and forces them to be passive in every other aspect of their lives. Like I said, today we are struggling for approval of the Domestic Violence Protection Act. Yet, we are faced with opposing opinions which practically threat women that even law won’t protect you from violence which you should always be vulnerable to.

The society usually tolerates violence cases and regards them socially acceptable and as a right for men to discipline women.

Several legal articles endangers women’s lives and promote violations against them to be socially and legally accepted. Not a year passes without records of women being murdered in ’honor killings’ where women usually get framed to cover for inheritance causes. A study has been conducted in Jordan years ago concluded that several women have been killed in ’honor killings’ while the main reason behind their murder had been inheritance. This indicates how powerless women truly are in this community especially with the absence of a protective law or tribe as in the case with men. Yes, women are constantly in danger.

Emad Farrajeen Interview 28-8-2022

As for your question I believe satirical comedy speaks loudly for societies as it sheds light on important matters for communities. Those matters people always struggle with on their daily lives yet fail to express. Here's where satirical comedy sheds light on subjects through laughter and comedy by initiating controversy leading to broader discussions.

When it comes to women, women have always been a focus of attention in Watan Ala Watar through causes of 'honor killings', early marriage and murders against women. In one of the episodes we have discussed women's killings and how tribal customs decide on these crimes instead of law. Tribal customs usually bring up inheritance issues and honor. Therefore, Watan Ala Watar is one of the productions that have fiercely defended women's rights.

The Arab communities are known to be ideal and would despise for anything to harm their reputation. Yet, a variety of factors prove this common belief to be false. Only God is perfect. However, human beings hide several causes whether we refuse to speak of, or feel ashamed of.

Satirical comedy in the Arab communities is still in need of more time due to Arab communities being conservative and tribal based. Customs and traditions often lead to misunderstandings of messages and morals and in some cases to receive absolutely the opposite messages.

Satirical comedy is truly controversial since it involves the viewer, a family member, a neighbor or a certain behavior. It goes beyond regular forms of art. Therefore, it is considered to be of difficulty and complexity especially in the Arab communities.

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When we show a husband hitting his wife on an episode, the main purpose is never to encourage such behavior, but rather to shed light on such a reality. A variety of men treat their women with disrespect and undervalue them as if they were their servants. Bringing these scenes on the show raises them to the surface as we aim to show men how they actually treat women. The phenomenon is widespread in our Arab communities and that's why we shed light on this aspect so as to allow men to see their true image they can't see.

Interview with Dr.Samar AlShinnar 26-7-2022

Dr. Samar:

I am Samar AlShinnar, I have taught communication and public relations at Al Najah University for over 35 years. I have PHD in public relations in addition to research papers related to communication and public relations. Areas of interest include women's rights, human rights, photojournalism, scientific research in addition to a variety of matters. I am married and I have 3 children. The youngest has MA in international relations. The eldest is my daughter Raya who has PHD in Health Facilities Administration. I have worked with a variety of institutions for women's affairs in Nablus. Since my graduation back in 1982, I have served as a board member for several women's associations and non-profit organizations in the city.

Khalida:

All the best to you, Dr. Now, of course since the discussion revolves around women's stereotyping in the region and in the Middle East in particular. As we are discussing the topic in Palestine, and as an experienced academic in the field of teaching, how do you perceive the overview of women in the Palestinian society?

Dr. Samar:

Generally speaking, the current overview of women is one of appreciation and respect, except for some cases that have appeared or have surfaced to oppose this phenomenon. There have been anomalies that have sometimes occurred. It does not match our Palestinian traditions or our Palestinian reality. A woman is a man's friend and companion, and she is patient in all circumstances. She must be the decision-maker, because she has endured all the suffering. Among women are female prisoners, among them are female martyrs and female academics. And I want to emphasize the academic aspect. Back in the day, I remember a student about 20 years ago telling me: ‘ If you would supervise us in this

course, I would not register for it because I hate women.’ I responded: ‘You are free to register or not. I am here, I was educated here and my family has sent me abroad to study. I have the educational qualifications with which I can lead this ship. So, for me, you have the right to reject or accept to be one of the students I teach.’ Later, I met that young man again and he apologized to me and told me that he had made a mistake in his decisions because he came from a family that hated women and did not appreciate them and treated them badly. Then he expressed how he had all respect and appreciation towards me.

That incident I have faced myself sums up the stereotypical image of women. Although some harassments still resurface due to the reactionary opinions of that male which he assumes entitles him to treat females inferiorly within this academic institution, these cases are often tackled with so as to teach these individuals that that way of treating an academic person with a degree is completely improper and that it is absolutely inappropriate to treat a colleague in such an inhumane matter.

This has always been a relative matter. Since the beginning of my career in education, difficulties have been great. However, we were able to devote ourselves and create a new reality despite the harassments which we could reduce through education, scientific research and daily dialogue. We must not give up because these molds forced upon us must be changed and broken through daily practices, patience, and dedication of modern cultural reality. Nothing is impossible, and women can fight battles with new generations through their cultural depth and daily interaction, lectures and discussions with students.

I remember one student telling me : ‘ We have hit rock bottom the moment Palestinian women headed to work.’ I asked : ‘Why do you think that? Who is behind this notion?’

He said, “ I see that when some women go to work , it causes their families to fall apart.” I asked him to give me an example. He responded that their neighbor is a teacher who goes to work leaving her children unattended with no one to look after them. I said to him: "Do you think that if she stayed home, there would be someone who could afford her children?" He said: 'No. Her husband spends most of his time in the café enjoying hookah and hanging out with friends, while she works for a salary to spend on her children and herself.' I responded: ' Now you have the answer regarding that woman's motive to go to work due to default by her partner since a woman could never choose to tear her family apart.' I also gave him an example which is my family whom I consider successful , my children being university graduates and myself contributing to the social, economic and cultural development of the family. A few cases we encounter should not necessarily shape the whole stereotypical image of women in a community. For instance, we have Dr. Hanan Ashrawi, Dean of the Department of Arts at Birzeit University and the press secretary for the Palestinian negotiating delegation in the Washington negotiations. We have Dr. Laila Ghannam, Governor of Ramallah and al-Bireh, one of the best feminist figures whose humane treatment and aid of society is second to none.

There are many cases which contribute to positively shaping new stereotypical molds that we must not lose sight of and for that we should not despair. My message is we should proceed and launch interactive social dialogue to participate together with men as not to lose hope. To have sort of workshops and friendships. Why friendships? Because the mistake made by Palestinian women in the previous feminist movement was that some directed to educate women were not positively implemented in terms of methods and approaches adopted with the aim of leading women towards realizing and gaining their rights. We must engage in this debate in a way that could induce women to realize that man is their friend not their enemy. In addition, we should attract male supporters of women to push relevant authorities to break molds against women and combat stereotypes of women being more suitable for certain jobs than others.

Khalida :

Ok, Dr. Since you touched on the shift in mindset, what major changes have you observed recently regarding women opportunities in the academic field in particular?

Dr. Samar:

Academically, there is no doubt that a large number of women were recently able to achieve high degrees such as masters and PhDs and travel abroad for such qualifications. Women also occupy prestigious positions in academic institutions such as An-Najah National University. At the moment, there are three female deans within the recent crew: The dean of scientific research ,vice president of e-learning affairs and the dean of arts, Ms. Rawaa Al-Ramahi, for instance.

In the past, there was only one dean, but now the number of female academics with high academic qualifications is on the rise due to families starting to let go of the negative marginal overview of women whom are assumed to behave badly if they travel. There are many women who have proven themselves in working for the government, academic and civil organizations.

I perceive a positive gradual change despite the fact that it may account for 1% of the whole community, yet it is considered positive and will hopefully lead to change the stereotypical image in general. I think we have a long way to go and patience so as to change this typical image of women who has been carved in the minds of people for ages. Nothing comes easy.

Khalida:

Ok,Dr. Although many women now have access to education and job opportunities, do you think that females still face other problems? Meaning the social phenomenon related to women being vulnerable to physical, verbal, psychological and other forms of violence. Despite that women now have greater opportunities for education and work.

Dr.Samar:

I don't want to mention stories except for incidents from Palestinian reality which indicates that many women who have assumed high positions and obtained college degrees still suffer a variety of challenges and issues. For example, the husbands of women who have won positions in village and municipal councils usually attend meetings on behalf of their wives and sign meetings' records for their wives, especially when those meeting take place during night time as it's socially unacceptable that women go out at night or spend the night away from home which usually makes women looked down upon. As far as I am aware, there are several cases where men attend meetings instead of their wives and sign for them which in my opinion makes women appear inferior to men as if she had no power of will. She is similar to a puppet whom gets positioned as others wish.

This is an indication of having no trust in women despite the fact that they have been elected by people's free will, yet we still witness the inferiority against women. Although many women have assumed high positions, they are still unable to travel alone unless they had their husbands, brothers or sons as companions in travel, meaning a variety of challenges facing women.

Another incident occurred as I was heading to the municipal library to get a library membership. I was astonished when the librarian requested that I should have had a male retainer or sponsor despite that the face that he was well aware that I was well-educated and worked at a high education institution. Imagine if I had accepted his request! I told him that I lost interest in that membership card and that I would not call for my husband or anybody else to sponsor me since I didn't consider that I lacked anything mentally, spiritually or morally and that I was entitled to that membership card just like everybody else. Later, I kept struggling for that law to be dropped. I headed to Nablus Municipality and confronted them to drop that shameful law and that such a silly behavior shouldn't be tolerated.

One day, I had arrived at the municipality office to pay our Watar and power bills while my husband was in prison. The employee asked: ' Why are you here to pay the bills?'I simply responded: 'Why shouldn't I come?' He replied: ' it's better if your husband or brother came to do it.' I asked him:' Do you know where my husband is?' He responded with a no. I said:' He is in prison. So, who will come to pay the bills? It is no shame to come and pay the bills and I am enough.' I have been through several situations when would go to get things while my husband was in prison when people would ask me:' Why is it you carrying your grocery? You are a lady, you should stay at home.' I would smile and laugh at their backward way of thinking. I kept going out and I still do the shopping and pay the bills as a form of resistance in the face of this way of treating women.

Khalida:

These incidents you mentioned, Dr., represent our daily life issues when dealing with women. In your opinion, what are the most principal violations committed against women's rights or violations you believe women suffer from in our society?

Dr.Samar:

Women are legally and rightfully entitled to their salaries, fortune and inheritance. A male should never dictate her money or fortune. Many co-workers tell me that on their paydays, their husbands take over the money and only give them a little pocket money for the road as a form of control. This is a form of human rights violations. Another example is when a husband requests that his wife cedes her land which she inherited from her father or family to her husband so he controls it as he wishes. There are several violations against Palestinian women performed by their husbands or brothers such as being disinherited. I know of many sisters who have given up their inheritance to their brothers just as to keep a good relationship with them. Despite the fact that these women are well-educated and that males usually inherit double the portion a female does, women willingly give up their rights just to keep good relations with their brothers. Several Palestinian women rights are unappreciated.

Khalida:

Since we have spoken of the most prominent aspects regarding women in our Palestinian society, do you believe that women's lives are endangered in our society?

Dr. Samar:

Let me tell you that women in general are endangered. Meaning there are no laws to protect women from danger. There has to be a legal system to ensure women's rights because no matter how well- educated we are, or how high our positions in society get, there has to be actual deterrent penalties against those who violate women's rights whether she is a president or a common, a woman remains endangered either way.

Therefore, I believe that to protect society's peace and maintain social fabric, a society has to emphasize security for women in general, and Palestinian women in particular as they also face violations by the Israeli occupation which only doubles violations committed against women by their own surroundings and occupation. A woman suffers huge pressure which definitely tackles her productivity and creativity and puts her in a constant state of stress. The stereotypical image of women must be fought through a legal system which constitutes a rampart against a volley of violations against them such as murder, honor killings, rape and incest we often hear of in our community. Hopefully, competent authorities, women's organizations and civil society organizations cooperate to provide solid outcomes to protect women and provide safety. Is a woman who is unsecure capable of creativity? Inventions? Innovations? Certainly not. Despite that there are some women who are creative, these creative women are vulnerable to violence at any given moment.

Nuha Ziadah Interview 18-8-2022

Khalida: Please introduce yourself.

Nuha: I currently work as an executive secretary in the National Public Commission for Women's Affairs in Jordan. This commission follows up women's conditions at the national level. Meaning women's empowerment and supporting their rights since women consist half the society.

Khalida: Do you consider that you have enforced an impact at the political level of the Jordanian government?

Nuha: Our national strategies differ from other countries. We are based as an independent committee with a separate budget. On the contrary, Palestine has Women's Ministry and Egypt for example has a National Council which are considered official entities whereas we work in private sector. Our mission is to ensure that all government institutions take women and their needs in consideration.

Khalida: Which additional issues facing women have evolved recently in Jordan?

Nuha: Women are now vulnerable to violent acts due to lack of independence. For instance, women offer their services free of charge to their husbands and everyone around them. Yet, men do not. I believe the issue rises from legislations regarding divorce and disagreements. The way the community treats women suffers a serious undervalue and our main issue is with our customs.

Khalida: What recent changes have been made that had an impact on the status of women?

Nuha: The issue of women's rights is an educational issue for society as a whole. Unfortunately, women being half the society remain a non-functioning layer. They are viewed as a burden and not a partner. Therefore, development must be sustainable and comprehensive. Do you know that the motto of our committee is "Do not humiliate us!"?

In addition, women still struggle to hold positions in the country. To illustrate, although women consist 48% of the Jordanian society, only 11% are represented in the Jordanian Parliament. Education has definitely bridged the gap between men and women. However, jobs and majors post high school are still categorized for women based on the caretaker roles of women. There are still various jobs and majors that appeal to women who have families to attend to. Meaning, women are limited to certain type of professions. Bringing up any sort of structural change related to a large society group such as women will not have a mass effect unless included within a total of alternations and efforts made. Women are a priority and their issues are no less significant than issues of poverty for example.

Khalida: What are the principal violations committed against women within the Jordanian society?

Nuha: Human rights must be appreciated and respected and human dignity must be preserved. The root of the issue is an integral part of human rights. Violations against women vary but the most striking is violence such as physical violence or sexual harassment which could lead to killing crimes. Women are restricted by laws which often favor men. This striking systematic philosophy is completely unacceptable but unfortunately a part of our culture and customs. Other forms of violent violations in my opinion are denying women the opportunity to pursue their education or work. These rights are unfortunately connected to fathers and brothers consent and can only be achieved with their approval if they perceive these opportunities beneficial.

Khalida: How do you perceive women's image in the TV series Watan Ala Watar?

Nuha: There are various media productions which expose communities long-established cultures. The resources needed to shape society's awareness are strictly related to media productions which discuss acquired concepts derived from curriculums and various widespread briefing materials within the community.

Tariq Hamdan Interview 3-9-2022

Khalida: How would you describe the general overview of women in the Arab communities?

Tariq: Unfortunately women's roles revolve primarily around the caretaking of families and homes. What is even more unfortunate is when young women achieve some sort of professional independence but decide to give it up when they get married or have kids. The society has assigned caretaking strictly to women whereas men brought up in a patriarchal society which assigned specific tasks for both men and women and marked women to a subordinate role. However, there are exceptions especially when it comes to specific social strata in mega cities.

Khalida: Which changes have been brought up concerning women's rights and work and education opportunities?

Tariq: Recently, women have accomplished great progress in work and education. However, this progress remains substandard. The progress has not become a reality due to women's minimum participation in the work market despite women obtaining education. Unfortunately, we still have a long way to go to achieve women's rights. The majority of civil status laws support inequality between men and women and perpetuate injustice against women. These legislations vary among official laws and social restrictions which often have a greater impact on women than government laws themselves. For example, inheritance, custody of children, under-age marriage and denying women a variety of rights are all injustice practices against women. This injustice also stems from social authorities, customs and traditions. The most notable example in this case is the massive demonstration which took place in Hebron to protest against the Palestinian leadership intention to support the adoption of the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) dedicated to provide protection for women and children's rights.

Khalida: Do you believe that satirical comedy and vitriol could speak for communities' causes?

Tariq: The artistic industry is an important tool for bringing up change and raising awareness about various social issues, but in the Arab region, we notice that the dominant aspect is populist commercialism which often contradicts the values of freedom, justice and human rights, and sometimes may even serve as a factor in perpetuating inequality and promoting cultural heritage and contradictory perceptions.

Criticism is one of the most important tools for initiating societal debates on the condition that it does not turn into a room for insult or undervalue the role of women or the role of any other society group.

Khalida: How do you perceive the causes of the Palestinian and Jordanian women in the TV Comedy Watan Ala Watar?

Tariq: It isn't just about Watan Ala Watar. Women in the Arab region suffer stereotypical images emphasized by a trendy TV production and commercials that have been common for decades. The common overview of women tends to undervalue them. And by monitoring commercials and how women are presented we notice that their roles are strictly connected to housework and parenting or beauty that appeals to men. I have seen some episodes of Watan Ala Watar which have been widely shared on social media platforms. The show is unfortunately consistent with the stereotypical image of women and other social groups. The reason this sort of productions is encouraged is the popular base of community which have been brought up in an environment that welcomes this stereotypical image thinking that it's normal. Instead of producing shows that criticize and oppose this image, we still come across productions that encourage it by turning it into a comedy!

Khalida: What in your opinion emphasizes that image assumed to undervalue women and how is it possible to change it?

Tariq: There is a large system in which official government agencies, media institutions and societies are an essential part of. We cannot speak of change without dismantling and reforming this system. The starting point ,of course, is education, whether educational institutions whose curricula lack sexual education, or families which usually assign gender-based tasks to each family member. The media bears a great deal of responsibility and is responsible for banning material that degrades women or any other social group and avoiding neglecting any vital social issue. This type of media is unfortunately missing.

As for the official parties, they are complicit and directly involved in perpetuating gender inequality, whether via laws or the absence of effective policies that protect and support women's rights.

There remains hope, however since lately we have noticed individuals, activists, institutions and initiatives attempting to change that image.

This is very important and will have a great impact, but is it enough? I do not think so. Political will and a broad social movement in which various sectors participate are required in order to change this reality.

A Case Study of Indigenous Women Temiar in Realizing Gender Equality in Peninsular Malaysia

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Abstract: Gender equality is a complex problem that has given rise to different legislation in countries all over the world. Women face discrimination regardless of where they live. It is linked with many aspects of life, including health and nutrition, education, employment, and politics. Women worldwide should have equal rights and opportunities. In this case study, we chose the Temiar tribe, a Senoic tribe indigenous to the Peninsular Malaysia and one of Malaysia's eighteen Orang Asli groupings. The Temiar people mostly reside on the outskirts of the jungle, with only a tiny proportion living in cities. The purpose of the study is to explore the role of indigenous women Temiar in preserving the culture, language, and beliefs in their community. This study utilizes a qualitative case study as the research design of this study. A semi-structured interviews instruments was employed for data collection. We selected 10 random sample of indigenous women Temiar for this case study. The data were analysed to explore the role of indigenous women Temiar in the Orang Asli community. The results of the study showed that the indigenous women Temiar in Peninsular Malaysia had meaningful roles in their community. It is hoped that the findings of the study will elucidate on how indigenous women can contribute their roles in achieving gender equality towards sustainable development in their country.

Keywords: Gender equality, Indigenous people, Temiar, Women

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Introduction

In this era, women’s involvement in various sectors, either at domestic or societal level are increasing and the inclusion of women in the efforts to contribute into the society are highly encouraged by the government. Despite the increasing in the existence of opportunities offered to women, gender inequality is still persistent in the society, and women are still exposed to various kinds of discriminations and stereotypes which can hinder their abilities to achieve and realize their full potential. Gender equality is sometimes misinterpreted as mainly women’s problem, however it can affect the society negatively when not achieved, hence the engagement of both men and women are required to fully realize gender equality. Gender equality can be defined as the right of people of all genders to experience equal opportunities, rights, and treatments, and it recognizes that men and women are not the same and maintains that each gender has the freedom to grow and follow their interests without facing prejudice, discrimination, or stereotypes (Milner et al., 2021). In many nations across the world, gender equality is acknowledged as a crucial political, social, and economic objective, and it is also one to the goals listed in the United Nations’ Sustainable Goals Development (SDGs). In 2015, the United Nations established the Sustainable Development Goals (SDGs) as a global call to end poverty, safeguard the environment, and guarantee that by 2030, everyone lives in peace and prosperity. The SDGs are constructed of 17 goals, and the gender equality, one of its goals, is the fifth goal and is commonly referred as the SDG 5. The SDG 5 goal is to achieve gender equality and empower all women and girls and it consists of nine targets which focus on eliminating all forms of discriminations and violence against women and girls, as well as ensuring women have access to the equal opportunities such as in leadership, property ownership and more. As all SDGs are the global goals, this indicates that, in terms of achieving gender equality all women without exception are included to realize the SDG 5 goal, which also include the indigenous women. Indigenous women can be considered as vulnerable group in a society, as stated by Duhaime and Riverin (2011), due to their dual status as indigenous people and women, indigenous women frequently experience double discrimination, which naturally increases their social marginalization. Therefore, the exploration of gender equality among indigenous community is undoubtedly essential. The indigenous people in Peninsular Malaysia are known as Orang Asli, and this community is comprised of several ethnic tribes, and one of the tribes is the Temiar tribe. In this study, gender equality was explored among the Temiar Orang Asli community and the subjects of this study were the Temiar Orang Asli women. The results of this study are intended to shed light on the ways in which indigenous women may fulfil their roles in advancing gender equality and sustainable development in their nation.

Literature Review

Gender Equality

Among the many global goals that are aimed to be achieved, gender equality is one of the prominent goals that is considered needed to be realized in many nations. Beyond being an aim in and of itself, gender equality is a need for tackling the issues of poverty reduction, sustainable development, and establishing sound governance. Shanti and Mitravinda (2020) stated that gender equality can be defined as recognizing the diversity of various groups of men and women and considering the needs, interests, and priorities of both sexes. It was also stated that equality does not mean that men and women will become the same, but rather it refers to the idea that men and women have the same rights, responsibilities, and opportunities. Rolleri (2013) stated that gender equality refers to a social state where men and women have equal rights and a balanced distribution of opportunities, status, power, and rewards in the society. In terms of study related to gender equality among indigenous community in the Peninsular Malaysian context, the study conducted by Karim et al. (2021) showed profound findings. The aim of their study was to investigate how Orang Asli women contributed to the preservation of their community's culture, language, and beliefs. The findings of their study supported the notion that Orang Asli women played important roles in their culture, education, decision-making, and work for gender equality. Another study that is related to gender equality among Orang Asli community is the study conducted by Asri et al. (2018). They conducted a study on the Mah Meri women’s involvement in the entrepreneurship field which contributed to the effort of eradicating the social discriminations and stereotypes on indigenous women. The findings presented in the study portrayed that the negative view on women as a group of people who are unable to develop themselves and their own community can be dismissed through their involvement in entrepreneurship field. It was also presented that along with men, women’s involvement in the entrepreneurship field can also be seen as a positive act in the participation of eradicating poverty and leading the development of their community. These findings proved that when equality among men and women is achieved, the impact will not only positively impact on only one gender pole, instead it can benefit the whole society.

Indigenous People of Peninsular Malaysia

In Peninsular Malaysia, the indigenous community of the country is widely known as Orang Asli community. Wook (2016) stated that the term “Orang Asli” refers to the original or early inhabitants of Peninsular Malaysia. As per the Malaysian legislation, the Aboriginal Peoples Act 1954 (Act 134), an individual who speaks an aboriginal language, has aboriginal customs and beliefs, and whose male parent is or was a member of an aboriginal ethnic group, is classified as an Orang Asli (Mahmud et al., 2022). The Orang Asli community of Peninsular Malaysia are constructed from three main groups, which are the Senoi, Negrito, and Proto-Malay (Coluzzi et al., 2017). Apart from that, there are also 18 tribal groups of Orang Asli community in which the Semai, Temiar, Che Wong, Jah Hut, Semoq Beri and Mah Meri tribes belong to the Senoi group, the Kensiu, Kintak, Jahai, Lanoh, Mendriq, and Bateq tribes belong to the Negrito group, while the Temuan, Jakun, Semelai, Orang Kuala, Orang Seletar, and Orang Kanaq fall under the Proto -Malay Orang Asli group (JAKOA, 2022). Mahmud et al. (2022) also stated that based on the data obtained from the Department of Orang Asli Development (JAKOA, 2021) there are 178,197 Orang Asli in Peninsular Malaysia, and of these, Senoi makes up the largest group with 97,856 people (54.9%), followed by Proto Malay with 75,332 people (42.3%), and Negrito with 5,009 people (2.8%). They also further stated that being the minority community of Peninsular Malaysia, the Orang Asli community are often at a disadvantage in terms of their socioeconomic, education, and health development, and despite various development supports offered by the government, only a small number of them are wiling to adopt the new lifestyle while the majority of them preferred to maintain their traditional lifestyle. From this, it can be said that the Orang Asli community may face various societal issues, which may include the gender equality issues.

The Temiar Tribe

The Temiar tribe is one of the tribal groups out of all 18 tribes of Orang Asli community. The Temiar tribe falls under the Senoi group, which is the largest group out of all three main groups of Orang Asli community. Endicott (2016) conducted a study that focus on the Orang Asli community and the population of each tribe of Orang Asli community was presented in his paper. It was stated that as of 2010, the total population of Temiar tribe were 30,118 people. As of 2023, the population of Temiar people increase to a number of 37,489 people, where 19,338 of them are male while the remaining 18,151 of the population are women (JAKOA, 2023). Baharom and Zaki (2020) stated that the Temiar community is primarily located in the states of Perak and Kelantan, with a smaller population also found in the Titiwangsa range area of Peninsular Malaysia in the state of Pahang. They also stated that the Temiar community's territory stretches from the Southern Cameron Highlands to Negeri Sembilan border, and this community is located to the north in the western region and near Ulu Kelantan in the eastern region, in which the largest Temiar race settlement is located in the Gua Musang area of Kelantan. Figure 1 shows the map of distribution of Orang Asli tribes settlement area, which also shows the settlement area of the Temiar community.

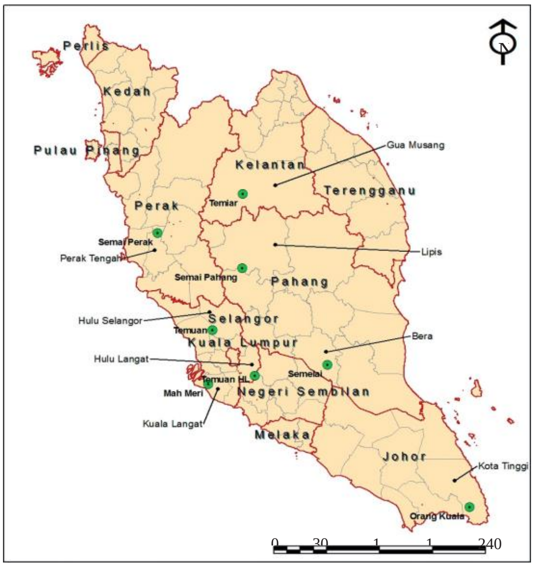

Figure 1. Map of Orang Asli Tribes Settlement Area. Source: Jamil et al. (2020)

The Traditions and Beliefs of Temiar People

Indigenous community is unique group of people as they are the people who possess their own unique beliefs and traditions which distinct themselves from other people. Like other indigenous community, Temiar tribe also have their own unique traditions and beliefs which they practice and retain up until today. Khairuddin and Hanafiah (2021) stated that the practice and belief of animism among Orang Asli community has incorporated into their way of life and they incorporated this belief into their lives since nature has a significant impact on their attitude on life. They believe in the spirits of the inanimate objects, including in the spirits of flora and fauna. They also stated that although many Temiar people still believed in animism, the inflence of other religions brought changes among Temiar community, where some of them were reported to had converted to Islam or Christianity. İt was also stated in their paper that despite the changes in their religions, the Temiar people still practice some of their ancestral traditions which include their practice in taboos and ritual. Some of the taboos that exist in their community are the taboos in the jungle, which include the taboos to collect certain jungle resources such as stinky beans and rattan, and they are prohibited to collect the products due to their beliefs in the existence of spirits in the jungle. Another ritual that the Temiar people still practice nowadays is the "Sewang" dance ritual. İt was stated that the "Sewang" was traditionally conducted for medical and celebration purposes, such as to treat patients, to celebrate the birth of a baby, or as a sign of gratitude. However, nowadays the "Sewang" ritual are still conducted just for the performance purposes, which also serve the function and purpose to preserve their heritage and culture.

Figure 2. The "Sewang" Dance Performed by the Temiar Women

Purpose of the Study

The purpose of this study is to explore the role of indigenous women Temiar in preserving the culture, language, and beliefs in their community. In this study the contribution of indigenous women to their society and how they contribute their roles in achieving gender equality towards sustainable development in their country was explored. The objectives of the study are as follows:

1. To investigate the role of Temiar women in preserving their culture, language, and beliefs of their community
2. To explore the gender equality aspects in Temiar tribe's culture towards the sustainable development of the country

Method

This study explored the gender equality concept among indigenous women, specifically among Orang Asli women from the Temiar tribe. The main research design used for this study was the qualitative case study research design. The data for this study was collected through the semi-structured interviews. In this study, a random sample of 10 indigenous women was chosen, of whom all were from Temiar tribe. The study was conducted in RPS Kuala Betis, Gua Musang, Kelantan, which is the settlement area of the Temiar tribe. The data of this study was analyzed qualitatively. The Atlas.ti 8 software was utilized to analyze the qualitative data. The results and findings of the study, obtained from the data analysis processes were presented in the following section of this paper.

Figure 3. The semi-structured interview sessions conducted with the Temiar women in Temiar village, RPS Kuala Betis, Gua Musang, Kelantan.

Research Site

This study involved the indigenous community and it was conducted within the settlement area of Orang Asli community. This study was conducted inTemiar village, RPS Kuala Betis, Gua Musang, Kelantan. Kuala Betis is known as one of the largest settlement area for Orang Asli community. İn this study, this research site was selected as the area is the largest settlement area of the Temiar people, who were the subject of this study.

Data Collection

This study utilizes a qualitative case study as the research design of this study. The research instrument used to collect data in this study is the semi-structured interviews. This method enables researchers to collect open-ended data, learn about respondents' thoughts, feelings, and beliefs about the topic, and delve deeply into personal issues. This study included 10 random sample of indigenous women Temiar. All 10 Temiar women were interviewed, and all interview sessions with the respondents were recorded for the purpose of notetaking. The recordings of the interviews were transcribed and later were used for the data analysis.

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Data Analysis

The data collected in this study was analyzed qualitatively. Thematic analysis was used as the analytic approach in this study The data collected during the semi-structured interviews were analyzed qualitatively, facilitated by the use of qualitative data analysis software, the Atlas.ti 8 software. The process of data coding and themes derivation during the data analysis process were all performed with the assistance of the software. The results obtained from the analyses of the data were presented in the next section of this paper.

Results and Discussion

Semi-structured interviews were used to obtain data and information. Data were analysed and synthesized to get a clearer picture regarding the role of indigenous women Temiar in the Orang Asli community, Gua Musang. The transcripts of the interviews revealed four major themes concerning Temiar women in Orang Asli community, Gua Musang namely: (1) Equal division of household chores, (2) Managing family income, (3) Temiar cultural practice and belief, and (4) Temiar women equality in workload and responsibilities

Theme 1: Equal division of household chores

The results from the thematic analysis showed the first theme emerged was equal division of household chores. All Temiar women elucidated that they divide household duties fairly with their husband or partner. They still do the bulk of childcare and domestic work together. The data analyses from the semi-structured interviews revealed that the Temiar women are also progressive in many aspects of their life together. All respondents agreed that their spouses were willing to contribute to household chores and helping out for their family. One of the respondents answered that she did the house chores like cleaning the house while her husband took care of their children. Respondent 3 answered she agreed housework should be shared by both men and women because they are both living in the same home. Apparently, Respondent 4 and respondent 6 stated the same expressions that the involvement of house chores between men and women are very crucial because they share the same responsibilities.

A wife does house chores such as cleaning the house. My husband helps me to take care of the children (respondent 2 from woman Temiar, Gua Musang)

My husband mows the lawn, while I do the dishes. I agree that men and women should do the house chores together because we need to cooperate. (respondent 3 from woman Temiar, Gua Musang)

At home, I do the dishes and clean the house. My husband works at the plantation. I agree that men should also help with the house chores because we share the same responsibilities. (respondent 4 and 6 from woman Temiar, Gua Musang)

Impressively, it has been observed that the Temiar women from Gua Musang provided positive responses from the interviews pertaining their equity of household chores with their husbands at home. Even though women Temiar still handle main household tasks at home, but they also have shared their responsibilities by letting their husbands to take care for children daily.

Theme 2: Managing family income

Based on the semi-structured interview results, we established the second theme which was managing family income. In terms of economic aspects, data obtained from the tribal elders elucidated that the majority of Temiar people in Gua Musang are aware in terms of their family income and budgeting. Concerning to the family source of income, the Jahai women said that their husbands work to support the family. The responses of interviews revealed the types of work the husbands do to accommodate daily life in Gua Musang. In this research, the data discovered that the pressures of life are forcing many Temiar families in Gua Musang to give priority to securing food for the family. That is why the women Temiar let their husbands work in enduring their economic hardships. The results showed that most husbands work as palm oil face labor, rubber tapper, security guard and a driver. Women Temiar encourage their husbands work as their husbands have to struggle to gather resources just to feed their family for the day. It also provides opportunity to develop their full potential and enable them to contribute to society.

My husband works as palm oil face labour. I am a housewife (Respondent 1 and 2 from women Temiar, Gua Musang)

I am a housewife. My husband works as a rubber tapper (Respondent 3 from woman Temiar, Gua Musang)

I am not working. My husband works as a driver (Respondent 4 from woman Temiar, Gua Musang)

I am not working. My husband works as a security guard (Respondent 6 from woman Temiar, Gua Musang)

Therefore, from the responses, the results indicated that women Temiar and their husbands have their mutual aspirations to uplift income and standard of living of their families.

Theme 3: Temiar cultural practice and belief

Like other indigenous people, Orang Asli from Temiar tribe strive to preserve their own distinctive culture and identity, which is linked by physical, economic, social, and cultural aspects. The third theme emerged from the semi-structured interviews was cultural practices and beliefs among Temiar Women. Orang Asli culture is indeed unique because it has the diversity of traditions being practiced until now. This study indicates that the Temiar tribes still practice traditional cultural practices and beliefs. The role of traditional healers and shamans to preserve this culture is still strong in the Temiar community. The respondents from Temiar tribe answered that they normally practice their tradition. They also joined the Sewang dance during the feasts and ceremonies. Sewang is a type of ritual dance performed in groups for reasons such as celebration, spirit worship, and medicine. They also incorporated traditional healers like using shaman in their community as it plays a prominent role in helping their tribe even though they can afford better medications for modern health services due to their beliefs.

We cannot put make-up on during funerals and seven days after (Respondent 1 from woman Temiar, Gua Musang)

We practice the traditions because we love the traditions. We cannot look in the mirror at night. (Respondent 2 from woman Temiar, Gua Musang)

We cannot look in the mirror at night. (Respondent 3 from woman Temiar, Gua Musang)

If our children are sick we will send them to the shaman. We also cannot put make-up on during funerals and seven days after. If we still put make-up on, that means we break the taboo. (Respondent 5 from woman Temiar, Gua Musang)
We practice the traditions. For instance, during the "Sewang" we cannot make noise.

(Respondent 6 from woman Temiar, Gua Musang)

From the responses, it demonstrated that they practiced Temiar traditional superstitions, traditions and beliefs in the community. Some traditional superstitions are still held and practiced by Temiar people and for them this is a preservation of their tribal identity.

Theme 4: Temiar woman equality in workload and responsibilities

Based on the semi-structured interview results, we established the fourth theme which was Temiar woman equality in workload and responsibilities. The Temiar community have not usually imposed a rigorous system of occupational specialization, although they do sometimes express generalized ideas about the different roles of men and women. Temiar women were more engaged and preferred in indoor areas of household labour than Temiar men. In this study, we asked whether the Temiar women agreed to be given equivalent workload and responsibilities with their spouses. We received similar feedback from the ten interviewees from the village.

I think men should go to work, while women should stay at home and do the house chores as well as take care of the children (Respondent 1 from woman Temiar, Gua Musang)

I think men should hold more responsibilities because they are strong and capable than his wife (Respondent 6 from woman Temiar, Gua Musang)

I think men should have more workload, because they have bigger responsibilities (Respondent 7 from woman Temiar, Gua Musang)

I think men should have more workload, because they have bigger responsibilities (Respondent 8 from woman Temiar, Gua Musang)

I think it depends on the partner. If the husband and wife, have less dependents, they should share the workload (Respondent 9 from woman Temiar, Gua Musang)

Therefore, these current findings showed that women Temiar preferred to do household chores and let their husbands to work outside carrying more workloads and responsibilities. Their perceptions lead to the aspects that their husbands should have bigger responsibilities as they are the breadwinners to their family. They also believed that their husbands play a vital role juggling work and family life.

Conclusion

This study discovered that Temiar women have their own distinctive perceptions pertaining gender equality among Orang Asli. There are four main themes emerged from this study which are equal division of household chores, managing family income, Temiar cultural practice and belief as well as Temiar woman equality in workload and responsibilities. Regarding division of household chores, Temiar men do participate in helping their wives in managing the household errands. Based on this case study, there are still some of women Temiar who still practice cultural practices and traditions in the Temiar community. All parties seem to work together to lift the traditional culture and practices, not just to uphold their dignity but more than that is to make sure it does not become extinct and lost in time. Hence, we should look for opportunities to do just about anything to ensure the cultural life of this community of practice to get recognition. Since this study has its own unique background, situation, methods and participants, the above findings cannot be generalized due to such limitations, until more studies in various contexts are conducted. Therefore, it is an opportunity of further research of this area concerning this finding. This study is also limited geographically, as only respondents from women Temiar in Gua Musang participated in this study, which may have excluded other Temiar people of other villages. Nevertheless, the findings and implications of this study will serve as a reference and an inspiration for subsequent research to further explore the Temiar tribe women contributions toward gender equality in Gua Musang.

Acknowledgements

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Engineering Courses' Assessment: Rubrics Added Value Using Time Factor

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Abstract: Assessment is not an end in itself but a vehicle for educational improvement. Assessment is vital to the educational process as it enhances teaching and learning, promotes accountability, motivates students, guides instructional decisions, and drives systemic improvements. Assessment plays a crucial role in the educational process as it serves multiple important functions. Firstly, assessment provides feedback to both students and educators, allowing them to gauge the effectiveness of teaching and learning strategies. It helps identify areas of strength and areas that need improvement, enabling targeted interventions and adjustments in instruction. Furthermore, assessment fosters accountability by objectively measuring student performance against predetermined standards or learning outcomes. It ensures that educational goals are being met and provides evidence of achievement to various stakeholders, such as parents, educational institutions, and policymakers. Assessment also promotes student engagement and motivation. When students understand how their progress is being measured and evaluated, they are more likely to take ownership of their learning and strive for improvement. Meaningful assessments can inspire a growth mindset, encouraging students to embrace challenges, reflect on their strengths and weaknesses, and develop a lifelong love of learning. By embracing effective assessment practices, educators and institutions can create an environment that nurtures student growth, fosters academic success, and prepares learners for future challenges. Time factor in practical course work is essential to show how much professionality and confidence of student to do practical work. this paper has real example how can educators can judge learner's professionality depending on time factor added on Rubrics.

Keywords: Assessment, Rubric, Time factor, Engineering, Scoring.

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Introduction

Assessment plays a crucial role in the educational process as it serves multiple important functions. Firstly, assessment provides feedback to both students and educators, allowing them to gauge the effectiveness of teaching and learning strategies. It helps identify areas of strength and areas that need improvement, enabling targeted interventions and adjustments in instruction. Teaching Engineering courses has its own special terms and distinguished provisions , unlike other subjects and courses e.g. humanities and linguistics that depend on pedagogical thinking based on memorizing and recalling facts and expression, which can be summarized into pure knowledge based in human mind. On the other hand engineering studying and understanding is based on rules to build knowledge to be used in practical thinking to produce object, this object can be tangible (e.g. control sensor) or can be intangible (e.g. code to control sensor) Pinter, R., Radosav, D., Cisar, S.M. (2012)..

We can say in any engineering course there is a pedagogical (theory) part and practical division , to be fair enough 30 percent is theorical that needs build up knowledge and develop related hypothesis used for problem solving that based on rules and problem systematic understanding and analysing (Reynders, G., Lantz, J., Ruder, S.M. et al. (2020) , and about 70 percent is practical work to apply the conducted rules and related knowledge into real application , which can be considered as skills (T. Sasipraba, R. Kaja Bantha Navas, and others (2020)) . One of main factors of teaching and learning process is assessment, even for case of when self learning , assessment is judging the level of learning and understanding. Basically if we are talking about engineering education assessment , so we need to methods to measure how much knowledge is comprehended and how much accurate skills are performed (Rajohane Matshedisho (2020)) .

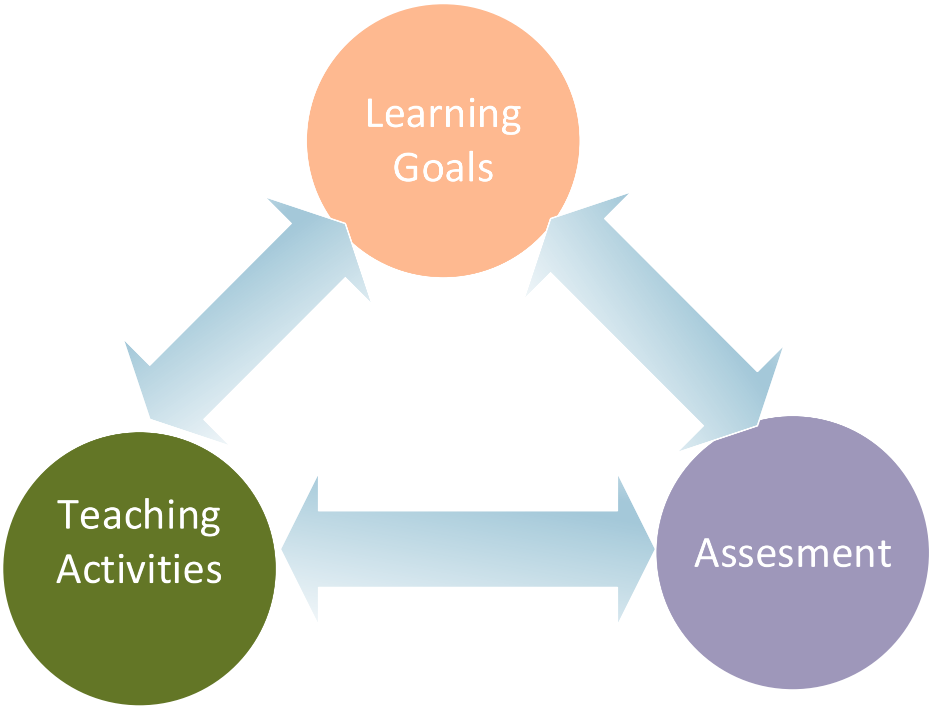


Figure 1. Assessment is main factor of learning and teaching

Assessment is considered one of the main factors in education, [1] the assessment method set by teacher must be: clear and understandable for students There are five considerations to examine when designing an appropriate assessment method that will reflect the established learning goals and activities (Mustapha et al., 2016):

1. Reliability
2. Standardization
3. Validity
4. Practicality
5. Timeline

Reliability is the extent to which a questionnaire, test, observation or any measurement procedure the same results over a period of time. ***Standardization*** establishes a set precedence, therefore enhancing an assignment, test or projects' *reliability*. ***Validity*** is defined as, the extent to which the instrument measures what it sets out to measure. Teachers must identify the expected learning outcomes and goals of the course in order to appropriately assess student work. ***Practicality*** refers to the action of the assessment method and its relevance to the overall learning goals in the course. It also addresses whether or not the workload for the instructor is reasonable. ***Timeline i***s added consideration for *practical work* , this assessment is considered for time taken for practical job accomplishment (Martin, 2022).

Assessment of practical courses focuses on evaluating a student's hands-on skills, ability to apply theoretical knowledge in real-world scenarios, and problem-solving capabilities. The assessment methods for practical courses can vary depending on the nature of the subject and the specific learning objectives. Here are some common assessment approaches for practical courses that can be simplified in ***Rubric assessments***:

1. **Lab Work**: Students perform experiments or practical tasks in a laboratory setting, and their performance is assessed based on the accuracy of their work, adherence to procedures, and the quality of results obtained.

2. **Projects**: Students undertake practical projects that require them to design, build, or implement solutions to real-world problems. The assessment includes evaluating the project's effectiveness, innovation, and overall execution.

3. **Fieldwork**: For certain disciplines like environmental or civil engineering, fieldwork may be involved. Students conduct site visits, collect data, and analyze it to solve practical challenges. Their abilities to analyze data and propose solutions are assessed.

4. **Practical Examinations**: These assessments are conducted in a controlled environment where students must perform specific tasks or solve problems in real-time, demonstrating their practical expertise.

5. Portfolios: Students compile a portfolio showcasing their practical work throughout the course. This can include project reports, lab notes, photographs, and reflections on their learning experiences.

6. ***Simulations***: In some cases, simulations or virtual environments are used to assess practical skills. Students interact with these simulations, and their performance is evaluated based on the outcomes.

7. ***Peer and Self-Assessment***: Students may assess their peers' work, providing valuable feedback, and also evaluate their own progress and learning.

8. ***Industry Collaboration***: Collaborating with industry partners on practical projects can provide authentic assessments, as professionals from the field can evaluate the students' work.

9. ***Documentation and Reports***: Students are required to document their practical work and present detailed reports that showcase their approach, methodologies, and results.

The rubric assessment methods aim to assess not only the technical skills of students but also their ability to think critically (Pravin G Kulkarni, Ami R Barot (2019), troubleshoot problems, work collaboratively, and effectively communicate their findings. It's essential for practical courses to provide a well-rounded evaluation that prepares students for real-world engineering challenges.

Methodology

Certainly! Rubrics plays a significant role in engineering courses assessment, providing practical applications and hands-on experience. It allows students to understand the principles of practical courses such as automation, control systems, and mechanical design. Rubric method also integrates the assessment of various interdependent disciplines such as mechanical engineering, electrical engineering, and computer science. By studying robotics, engineering students can gain insights into cutting-edge technologies and develop skills in programming, mechatronics, and system integration.

Overall, rubrics offers a valuable platform for exploring the intersection of engineering . it considered as a successful assessment techniques embody creativity, adaptability, reliability, and validity. Through the use of multiple methods, triangulation, and the measurement of knowledge and performance over time, effective assessment techniques can begin to capture and reflect the complex nature of learning.

Assessment method is considered one of the most important item in education, it is the pointer that point to the quality assurance , and auditing the whole education process , if there is no assessment method take in consideration the upper mentioned (in introduction section) items in assessment exams that means the entire education method has defect and must be revised , and it may reach teacher dishonesty and cheating. The good teacher will take in consideration the result of test to reassessment for students that comprehend knowledge and weakness for skill accomplishments.

A rubric is typically an evaluation tool or set of guidelines used to promote the consistent application of learning expectations, learning objectives, or learning standards in the classroom, or to measure their attainment against a consistent set of criteria. In instructional settings, rubrics clearly define academic expectations for students and help to ensure consistency in the evaluation of academic work from student to student, assignment to assignment, or course to course. Rubrics are also used as scoring instruments to determine grades or the degree to which learning standards have been demonstrated or attained by students (Chony & Romkey, 2012).

In courses, rubrics may be provided and explained to students before they begin an assignment to ensure that learning expectations have been clearly communicated to and understood by students, and, by extension, parents or other adults involved in supporting a student's education. Rubrics may take many forms, but they typically include the following information:

Rubrics are generally designed to be simple, explicit, and easily understood. Rubrics may help students see connections between learning (what will be taught) and assessment (what will be evaluated) by making the feedback they receive from teachers clearer, more detailed, and more useful in terms of identifying and communicating what students have learned or what they may still need to learn.

Educators may use rubrics midway through an assignment to help students assess what they still need to do or demonstrate before submitting a final product. Rubrics may also encourage students to reflect on their own learning progress and help teachers to tailor instruction, academic support, or future assignments to address distinct learning needs or learning gaps. In some cases, students are involved in the co-creation of rubrics for a class project or for the purposes of evaluating their own work or that of their peers (Juneidi, 2020).

Since rubrics are used to establish a consistent set of learning expectations that all students need to demonstrate, they may also be used by school leaders and teachers as a way to maintain consistency and objectivity when teaching or assessing learning across grade levels, courses, or assignments. While some schools give individual teachers the discretion to create and use their own rubrics, other schools utilize "common rubrics" or "common assessments" to promote greater consistency in the application and evaluation of learning throughout a school.

In most cases, common rubrics are collaboratively developed by a school faculty, academic department, or team. Some schools have common rubrics for academic subjects, while in other schools the rubrics are utilized across all the academic disciplines. Common rubrics and assessments can also help schools, departments, and teaching teams refine their lessons and instructional practices to target specific learning areas in which their students tend to struggle. Rubrics are often locally designed by a district or school, but they may be provided by outside organizations as part of a specific program or improvement model.

Actual class scoring

In undergraduate session we had applied the upper mentioned rubric on an IoT assignment, the scores of the student for a given project are shown in Table 2 with no time factor is added. The project is reading and collecting data from installed sensors for temperature and humidity then transmit the data every 10 minutes to cloud to be stored in file in bigdata system, the distribution of the scores are given in Figure 2 the final score with no time factor of accomplishment's is given in Figure 2 .

Table 1. Rubric scoring criteria for engineering Internet of Things (IoT) project

Assessment	Criteria	Sub-criteria	Leve l	1	2	3	4	5
Simple Project Using Programming Arduino that collecys data from sensor	Ability to apply and collect data type or data	Appropriate choice of variable names or data structure (i.e. array/ linked list)	P3	Unable to identify required data type or data structure e	Able to identify required data type or data structure but does apply correctly	Able to apply required data type or data structure but does not produce correct results	Able to apply required data type or data structure and produce partially correct results	Able to apply required data type or data structure and produce correct results
	Ability to apply required control structure and program	Correct choice of sequential, selection or repetition control structure	P4	Unable to identify required control structure	Able to identify required control but does apply correctly	Able to apply required control structure but does not produce correct results	Able to apply required control structure and produce partially correct results	Able to apply required control structure and produce correct results
	Ability to run/debug Data are collected and transmitted to Cloud	Free from syntax, logic, and runtime errors	P3	Unable to run IoT System	Able to run IoT System but have logic error	Able to run IoT System correctly without any logic error	Able to run IoT System correctly without any logic error and display inappropriate ate readings	Able to run IoT System correctly without any logic error and display appropriate e readings
	Ability to perform input validation Transition	Validate input for errors and out-of- range data	P3	The IoT System produce s incorrect results	The IoT System produces correct results but does not display correctly Does not check for errors and out- of- range data	The IoT System produces correct results but does not display correctly. Does little check for errors and out- of- range data	The IoT System works and meets all specifications. Does some checking for errors and out- of- range data	The IoT System works and meets all specifications. Does exception al checking for errors and out- of- range data

Table 2. Fifteen students' scores with no time factor using rubric described in table 1

Criteria	St1	St2	St3	St4	St5	St6	St7	St8	St9	St10	St11	St12	St13	St14	St15
Ability to apply and collect data type or data	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Ability to apply required control structure and program	5	5	5	5	5	5	5	5	3	5	3	5	5	5	5
Ability to run/debug Data are collected and transmitted to Cloud	5	4	5	5	5	1	4	2	2	5	3	4	5	5	5
Ability to perform input validation transmition	4	4	5	5	4	1	4	1	1	5	1	3	5	2	5
Total	19	18	20	20	19	12	18	13	11	20	12	17	20	17	20

Table 3 shows the scores of the same fifteen students with time factor added , Considering that for each criteria 5 points and we have 4 criteria that means the full mark will 20. We must notice that practical work can be partitioned and categorized into steps, each step is depending on the previous one so if student is failed to do the first step he/ she will never be able to continue to the next step, that means zero score, but students some time start to search for solution using web or ask teacher assistant to figure out to do one step , that means he/she might will find solution but with delay of time , so lets say the time needed to do this project needs 40 minutes (10 minutes) for each step then the student who solve all steps on time will gain 40 score over the project steps scores (5 max for each step) , if he/she late for each step more than 10 minutes or late to deliver the project more than 40 minutes this time will be subtracted from the time score.

Table 3. Fifteen students scores with no time factor using rubric described in table 1

Criteria	St1	St2	St3	St4	St5	St6	St7	St8	St9	St10	St11	St12	St13	St14	St15
Ability to apply and collect data type or data	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Ability to apply required control structure and program	5	5	5	5	5	5	5	5	3	5	3	5	5	5	5
Ability to run/debug Data are collected and transmitted to Cloud	5	4	5	5	5	1	4	2	2	5	3	4	5	5	5
Ability to perform input validation transmition	4	4	5	5	4	1	4	1	1	5	1	3	5	2	5
Time accomblish	40	38	36	33	30	30	30	28	23	20	20	17	17	15	15
Total	20	19	19	18	16	14	16	14	11	13.3	10.7	11.3	12	10.7	11.67

As engineering subjects and practices is a profession. We need to judge and estimate the professionality and confidence of student when accomplish a job. Rubrics with no time factor will fail to estimate professionality as all students finally will do the job as required but these students are not equal because some finished correctly on time or less, and other do the job after searching and hesitation that means he/she not well trained. The following equation with give more accurate values in students assessments which depicted in Figure 3 - A rubric no time factor assessment , and Figure 3 - B with rubric time factor added assessment

$$\text{Time accomplish} = \text{Criteria}_{\text{Time}} - \text{Latency}_{\text{Time}}$$

$$\text{Time factor} = \text{Criteria}_{\text{time}} + 2*\mu\ \text{criteria}_{\text{time}}$$

Total score = $\sum_{k=1}^{n}(scores + time\ accomplished)$ * Full score / Time factor.

Where **µ** is the average of time criteria.

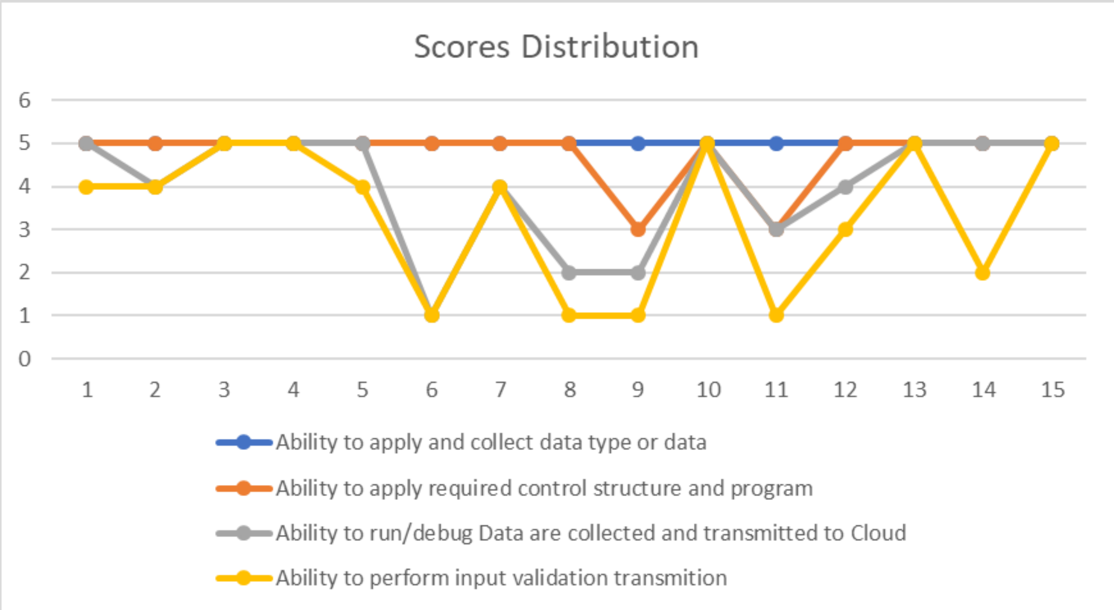
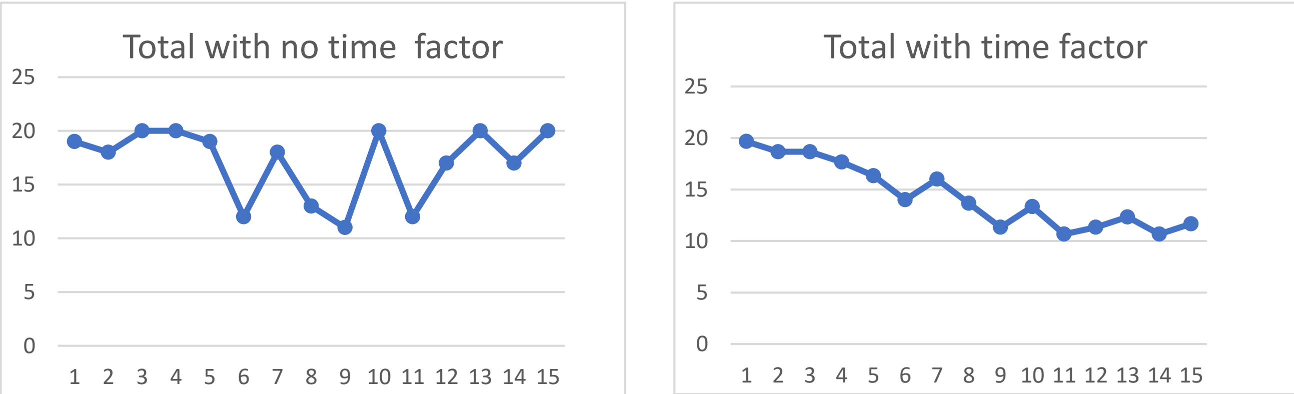


Figure 2. Actual scores of students for each step in rubric



(A) (B)

Figure 3. Total score for project without time factor (A) and with time factor (B)

We can see from Figure 3 that the students scores are arbitrary distributed with no normalized distribution, and no justice in this assessment , this result is caused because we did not consider the time of accomplishment. Turnes out that all student may be above 90% and some below 70% , which indicates that some thing is wrong and there is a huge gap. But if we took into consideration Figure 3 (B) we see the student who has some late time will lose scores as they showing in-confidence in solving project steps and they may get some help from internet assistant or asking for other help .The result in this part scores shows a normal distribution , notice for example student number 10 he/she has full mark in first method but he/she has 13.3 only instead of 20 , and notice the student number 15 who has the largest late time even though he /she has all steps done as 5 score but total score declined from 20 into about 12, this method is more accurate and honest to be used for engineering courses, because their must be differentiation between student that do activity without assistant and hesitation and other student who may be waiting assistant to make sure the all steps are done. Well, this differentiation means unprofessional and professionality.

Conclusion

This paper is pointing out two things , First the assessment is an essential component in education, , so assessment is not the end but the start to enhance course work, it is appropriate tool to overcome teaching/ learning pitfalls by defining weaknesses to be overcome . Engineering courses normally have more than 70% of practical work and project. This paper shows the important of time factor to do a practical work and projects , from long experience projects can be done correctly by students sooner or later , but we need to distinguish between the one who is doing project with confidence and professionality, and the other who need more training or assistant to get job done , This paper presents formulas depended on time factor that can be added to any kind od rubric items. From a case study, we find that when we added time factor for practical work we have seen more normal distribution and more rational scores which are more reasonable and more convincing to student to know his/ her weaknesses.

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Unlocking Success in the App-Generation: Empowering Higher Achieving Students in the Digital Age

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Abstract: The "App-Generation"—the present student population that grew up in a world of digital technology and mobile apps—faces obstacles explored in this article. It explores their traits, such as multitasking, limited attention spans, and technology fluency, and how these affect their involvement in and experiences with learning. The article offers tactics and answers to address these issues and promote academic accomplishment among such students. It highlights project-based learning, collaboration, gamification, multimodal learning, customized learning, and personalized learning as successful strategies for involving and inspiring students in the digital era. The advantages of educational applications are also emphasized, including greater collaboration, access to rich learning materials, higher learning outcomes, and increased student engagement. However, the research also highlights the ethical dilemmas and difficulties with app-based learning, including issues with data protection, the digital divide, teacher preparation, and infrastructure. The study compares and contrasts its benefits and drawbacks to thoroughly understand app-based learning's influence on education.

Keywords: App-Generation, Personalized Learning, Gamification, Multimodal Learning, Project-Based Learning, Collaboration, Educational Apps, Student Engagement, Learning Outcomes, Digital Divide, Data Privacy, Teacher Training

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Introduction

Background and Significance of the App-Generation

The present student age, known as the "app generation," was raised in a world dominated by mobile applications and digital technologies. These students set themselves apart from earlier generations thanks to their qualities and experiences. "digital natives" is often used to describe them (Prensky, 2001). People raised in a digital environment and used to utilizing technology in everyday life are known as digital natives. They were introduced to digital technology at a young age and have become proficient users of digital tools and programs (Prensky, 2001).

In the sphere of education, it is essential to comprehend the effects of the app generation. As technology develops, it is critical to understand how students' learning experiences are impacted. The particular characteristics of the app generation affect their engagement and learning preferences. Short attention spans, multitasking skills, and technology fluency are a few of these characteristics (Prensky, 2001). The capacity to carry out many tasks simultaneously while moving between them continually is called multitasking. The frequent exposure to information and external stimuli in the digital era contributes to the short attention spans of the app generation. The ability to use digital tools and programs proficiently is called technological fluency (Prensky, 2001).

Importance of Understanding the Impact of Digital Technology on Education

Digital technology has a significant and unavoidable influence on schooling. The "app generation" was raised in a digital age when technology played an essential role in everyday life. To successfully meet student requirements and provide impactful educational experiences, it is crucial to understand how digital technology affects their engagement and learning experiences.

Digital technology may improve educational performance and engage students in fresh, creative ways. For instance, it has been shown that educational applications promote student engagement, enhance learning outcomes, and provide access to extensive learning materials (Maaß et al., 2022). These applications offer dynamic, individualized learning opportunities that may be adjusted to meet the requirements of each learner (Maaß et al., 2022). Teachers may use these tools and techniques to design engaging and efficient learning environments by understanding how digital technology affects education.

However, the ethical issues and difficulties related to app-based learning must also be acknowledged. These include challenges with infrastructure, teacher preparation, the digital divide, and data privacy (Maaß et al., 2022). Since educational apps have the potential to capture and keep student data, data privacy is a significant issue while utilizing them. The differences in educational possibilities that might result from uneven access to technology and internet connection are known as the "digital divide." Teacher preparation and digital literacy are essential for successfully incorporating educational applications into their teaching techniques. The deployment of app-based learning might also be hampered by infrastructure problems, such as restricted device access and stable internet connection (Maaß et al., 2022).

In conclusion, for educators and policymakers to successfully handle the possibilities and difficulties posed by digital technology in education, they must thoroughly grasp the traits and effects of the app generation. Teachers may use educational apps to create more accomplishment and engagement among students in the digital age by identifying the app generation's specific demands and learning preferences.

Characteristics of the App-Generation

Multitasking Abilities

The ability to multitask has emerged as a distinguishing quality of the "app generation," the present cohort of students who grew up in a world of digital technology and mobile applications. The capacity to do many things at once while often moving between them is known as multitasking. Numerous studies have been conducted on the impact of multitasking on learning and attention.

Research on the Effects of Multitasking on Learning and Attention

According to research, chronic media multitasking, which entails interacting with many informational streams simultaneously, has been linked to specific information processing methods (Ophir et al., 2009). According to research by Ophir et al. (2009), heavy media multitaskers are more prone to distraction by irrelevant external stimuli and irrelevant memory representations. Due to this vulnerability to interference, one may do less well on activities that call for task switching (Ophir et al., 2009). Furthermore, it has been shown that multitasking decreases the amount of declarative learning about a task, even while it does not always result in a reduction in total education (Foerde et al., 2006). These results imply that multitasking may harm task performance and learning. Multitasking may have an impact on classroom engagement and teaching in the setting of education. According to studies, multitasking activities like texting or using social media in class might distract students' attention and make it harder for them to concentrate on the lesson (Rosen et al., 2011). For instance, research indicated that students who received and sent texts during a lecture performed worse on a memory test than those who did not (Rosen et al., 2011). According to another research, students who multitask by using the internet for purposes other than learning during lectures score worse academically (Simanjuntak et al., 2022). These results highlight the possible harm multitasking may have to kids' classroom learning.

Implications for Classroom Instruction and Engagement

Educators must know how multitasking affects learning and attention to create successful teaching practices. Educators may use techniques to reduce distractions and encourage focused involvement in the classroom by recognizing the difficulties presented by multitasking. Multitasking tendencies may be reduced by, for instance, establishing a technology-free zone or clearly defining expectations around device usage in class (Eseryel et al., 2021). Incorporating active learning tactics, such as group discussions or hands-on activities, that demand active involvement and limit possibilities for multitasking may also improve student engagement and lessen the likelihood of multitasking (Kane et al., 2017).

The ability to multitask is a trait of the app generation, yet studies have shown that multitasking may be detrimental to learning and concentration. Instructors must be aware of these consequences and put distraction-reduction measures in place that encourage focused involvement in the classroom.

Short Attention Spans

Factors Contributing to Shorter Attention Spans in the Digital Age

Particularly the app generation, the digital age has brought us several issues that lead to people having shorter attention spans. The exposure to television and video games is a significant impact. According to research, early television exposure has been linked to attentional issues in youngsters, according to Christakis et al. Similarly, playing video games has been linked to attention issues (Swing et al., 2010). It may be challenging to pay attention to less engaging jobs due to the high excitement and frequent shifts in concentration often present in television programs and video games (Swing et al., 2010).

Background TV is another element that leads to decreased attention spans. Exposure to television shows that are not the main subject of attention is referred to as background TV. According to studies, background television may be distracting and harm attention spans, especially in young children (Anderson & Pempek, 2005). Due to its potential to harm attention and development, the American Academy of Pediatrics (AAP) has advised against exposing children younger than 24 months to television (Anderson & Pempek, 2005).

In the digital era, technology and media gadgets like smartphones and tablets are being used more and more often. According to research, increasing technology usage, including online gaming, social media use, and internet surfing, is associated with attention issues in kids, preteens, and adolescents (Rosen et al., 2014). Shorter attention spans and difficulty maintaining concentration on activities may be caused by continual access to digital gadgets and their rapid satisfaction.

Strategies to Enhance Focus and Attention in the Classroom

Teachers may use tactics to improve concentration and attention in the classroom, given the difficulties brought on by younger students' shorter attention spans in the digital era. These tactics are designed to reduce interruptions and provide a setting that encourages continuous focus.

One efficient teaching method is active learning strategies that include students in hands-on activities and encourage active involvement (Bonwell & Eison, 1991; Prince, 2004). Students must actively absorb knowledge as part of active learning, which may help them stay focused and improve learning outcomes (Chi, 2009). Group discussions, problem-solving exercises, and interactive simulations are active learning techniques (Hmelo-Silver, 2004; Johnson & Johnson, 1999; Savery & Duffy, 1995).

Another tactic is establishing clear expectations and standards for device usage in the classroom. By setting

limits and regulations for technology usage, teachers may reduce interruptions and provide a focused learning atmosphere. This may include designating places or times when utilizing electronics is forbidden while doing a specific task. Rosen et al., 2011, ""
Additionally, by grabbing students' attention, visual aids and multimedia assets may enhance engagement. Visuals may provide the learning material with greater context and support, enhancing student engagement and retention. Infographics, videos, photos, and interactive presentations may be used.

Regularly taking breaks and moving around may also help with attention and concentration. According to studies, focus and cognitive performance may be enhanced by brief breaks for physical activity (Tomporowski et al., 2007). Students might be helped to reenergize and concentrate their attention by including movement breaks in the classroom routine, such as stretching exercises or brief physical activities (Tomporowski et al., 2007).

In conclusion, variables including exposure to television and video games, background TV, and more significant technology usage may be blamed for lower attention spans in the digital era. However, teachers may use various techniques to improve students' concentration and attention in the classroom. These methods include mobility breaks, visual aids, active learning approaches, and explicit device use rules. By implementing these methods, educators may establish a learning environment that encourages sustained engagement and attention.

Technological Fluency

The Digital Divide and Its Impact on Students' Technological Fluency

The separation between people or groups who have access to and utilize digital technology and those who do not is known as the "digital divide" (Deursen & Dijk, 2013). The technical fluency of students—their capacity to utilize digital tools and apps proficiently and effectively—can be significantly impacted by this gap.

According to research, those with lower socioeconomic positions and levels of education are more likely to have restricted access to digital technology (Livingstone & Helsper, 2007). For instance, research done in the Netherlands indicated that persons with low levels of education and people with disabilities used the Internet more in their free time than those with higher levels of education and people who were working (Deursen & Dijk, 2013). This shows that people with socioeconomic difficulties could use digital technology more often and for various objectives.

The digital gap also includes disparities in internet skills and use habits and goes beyond access to technology (Hargittai, 2002). According to studies, there exist differences in people's online abilities, including their capacity for efficient information searching and task completion (Deursen & Dijk, 2010; Hargittai, 2002). Age is a factor that adversely affects internet competence, but technological experience has been found to favorably affect online proficiency (Deursen & Dijk, 2010; Hargittai, 2002).

Importance of Digital Literacy and Skills Development

Digital literacy is the capacity to effectively and ethically access, assess, and utilize digital information (Livingstone & Helsper, 2007). Students must acquire digital literacy abilities to successfully navigate the digital world and make wise judgments in the digital age.

For students to do online research, assess material critically, and interact successfully in digital contexts, they must possess digital literacy abilities (Livingstone & Helsper, 2007). With the help of these abilities, students may engage actively in the online world and benefit from the many possibilities and resources it offers.

Educators are essential to encourage students to enhance their digital literacy and abilities. They may integrate digital literacy training into the curriculum to educate kids on how to assess the reliability of online sources, use digital platforms, and safeguard their privacy and security online. Teachers enable students to become responsible digital citizens and lifelong learners in the digital era by giving them the chance to develop these abilities.

In summary, the digital divide and disparities in online proficiency significantly impact students' technological fluency. It may be difficult for students from underprivileged backgrounds to obtain and use digital technologies. Encouraging students to enhance their digital literacy and skills is vital to close the digital gap and guarantee that every student can succeed in the digital age.

Impact of App-Generation Characteristics on Engagement and Learning

Decreased Focus and Concentration

The app generation's multitasking and short attention spans make it difficult to retain focus and concentration throughout their educational experiences. The influence of technology on people's capacity to maintain concentration has been studied regarding the interaction between digital technology and attention span (Prensky, 2001). The necessity to transition between activities and continual exposure to digital stimuli might reduce attention span and the capacity to focus on a single action (Prensky, 2001). Educators may use techniques that address these issues to encourage sustained concentration and in-depth learning in the app generation. One strategy is incorporating active learning strategies that involve students in practical tasks and promote active engagement (Gee, 2003). Students must absorb information during active learning to sustain their attention and improve learning results (Gee, 2003). Group discussions, problem-solving exercises, and interactive simulations are examples of active learning techniques (Gee, 2003).

Implications for Traditional Teaching Methods

The features of the app generation provide problems for conventional teaching strategies that depend on lecture-based instruction and passive learning. Due to the app generation's short attention spans and propensity for interactive and immersive experiences, educators may need help retaining their attention (Prensky, 2001). Disengagement and worse learning results may emerge from traditional teaching approaches that must align with the app generation's learning preferences and traits.

Teachers may adopt and use cutting-edge strategies that meet the demands of digital learners to overcome these obstacles. Personalized learning is a strategy that adapts training to each student's needs and interests (Gee, 2003). Educators may increase app generation motivation and engagement by offering personalized learning experiences.

Need for Innovative Approaches to Engage Students

Gamification and game-based learning may be used further to engage the app generation in addition to individualized learning. To inspire and engage learners, gamification entails integrating game components like points, badges, and leaderboards into environments that are not games (Chen & Wu, 2023). Conversely, game-based learning uses educational games as a critical element of the learning process (Chen & Wu, 2023). Both strategies use games' built-in incentives and engagement to improve learning results.

The app generation's preference for technology and interactive experiences is tapped into via gamification and game-based learning. Games provide possibilities for problem-solving, instant feedback, and active involvement, which may increase engagement and encourage deep understanding (Gee, 2003). Creating immersive and dynamic learning experiences that align with the tastes and traits of the app generation is possible for educators by incorporating gamification and game-based learning into educational applications and digital learning platforms.

In conclusion, the app generation’s traits, such as shorter attention spans and less concentration, provide difficulties for learning and participation in conventional teaching approaches. However, educators may successfully engage the app generation and encourage meaningful learning experiences by using tactics like active learning, customized learning, and the incorporation of gamification and game-based learning.

Strategies to Address Challenges and Foster Higher Achievement

Personalized Learning

Benefits of Personalized Learning in the Digital Age

In the digital age, personalized learning has been proven to offer several advantages since it adapts training to each student's unique requirements, interests, and talents. According to research, individualized learning may boost students' motivation and academic performance (Makhambetova et al., 2021). Personalized learning gives students more significant influence over their learning process by offering tailored learning experiences promoting ownership and autonomy (Makhambetova et al., 2021). Student involvement and intrinsic motivation may rise due to enhanced independence and relevance (Makhambetova et al., 2021).

Additionally, customized learning may meet the various learning requirements of students by giving them the specialized assistance and scaffolding they need to succeed (Pane et al., 2015). Personalized learning may maximize learning outcomes and foster more profound knowledge by adapting education to each student's strengths, limitations, and preferences (Makhambetova et al., 2021). Developing critical thinking, problem-solving, and self-regulation abilities, crucial for success in the twenty-first century, may also be encouraged through individualized learning (Makhambetova et al., 2021).

Implementation Strategies and Best Practices

Planning and considering many elements are necessary to implement customized learning efficiently. One important method is Utilizing adaptive learning technology that may dynamically modify the content and speed of education depending on unique student performance and requirements (Pane et al., 2015). To maximize student learning, these technologies may provide individualized feedback, adaptive assessments, and tailored learning paths (Pane et al., 2015).

Utilizing learner profiles and customized learning plans is crucial to adopting personalized learning. Learner profiles help teachers personalize education by capturing data about students' interests, talents, and areas for improvement (Pane et al., 2015). Individualized learning plans provide a road map for individualized learning experiences for each student by outlining unique learning objectives and methods (Pane et al., 2015).

To track student development and make wise instructional choices, successful customized learning implementation also includes continual evaluation and data analysis (Pane et al., 2015). Regular formative assessment may provide insightful information about students' learning requirements and guide changes to how education is delivered. Educators may also use technological tools and platforms to monitor student progress and provide prompt feedback (Pane et al., 2015).

Professional development and support for educators are essential for a successful implementation. Educators need training and tools to plan and carry out individualized learning experiences successfully. Implementing customized learning may be improved through collaboration and exchanging best practices among educators (Pane et al., 2015).

In summary, individualized learning in the digital age has several advantages, such as raising academic achievement, motivating students, and increasing student engagement. Utilizing adaptive learning technology, creating learner profiles and personalized learning plans, as well as continual evaluation and data analysis, are some tactics that must be used to implement personalized learning. Teachers may design specialized learning experiences that cater to the various requirements of students and promote better accomplishment by successfully adopting customized learning.

Gamification

Definition and Principles of Gamification in Education

Gamification improves motivation, engagement, and learning outcomes in settings other than games, such as education (Boudadi & Plana, 2020). Gamification is a potent tactic that may help students accomplish more in the educational setting.

According to Boudadi and Plana (2020), the ideas of gamification in education include components like points, badges, leaderboards, levels, and prizes. These components use the intrinsic incentive, and fun games provide, motivating students to engage fully and stick with their learning tasks. Educators may create a more engaging and dynamic learning environment by introducing gamified components.

According to the review's findings, gamification benefits students' motivation and academic success when learning a second language (Boudadi & Plana, 2020). Students' involvement, satisfaction, and desire to participate in language learning activities improved when gamified learning environments were used (Boudadi & Plana, 2020). Gamification has also improved students' language proficiency and information retention (Boudadi & Plana, 2020).

Examples of Successful Gamified Learning Environments

Duolingo, a language learning program that uses game aspects like levels, points, and leaderboards to inspire and engage learners, is one example of a thriving gamified learning environment (Boudadi & Plana, 2020). According to Boudadi and Plana (2020), Duolingo is extensively utilized and positively impacts students' motivation and language learning results.

Another example is Classcraft, an online tool that turns learning into a game by giving students roles, giving them special skills and talents, and letting them earn prizes (Boudadi & Plana, 2020). According to research by Boudadi and Plana (2020), class craft improves student motivation, engagement, and teamwork in the classroom.

The famous sandbox game Minecraft has also been employed in various educational settings as a gamified learning environment (Aljraiwi, 2019). Students may explore and build virtual worlds using Minecraft, which fosters creativity, problem-solving, and teamwork abilities (Aljraiwi, 2019).

These instances show how gamification in education can improve learner engagement, motivation, and results. Teachers may design immersive and dynamic learning environments that encourage engagement and pleasure by introducing gaming mechanics and components into the learning process.

Multimodal Learning

Importance of Incorporating Multiple Modes of Representation in Instruction

To improve learning results and student engagement, it is crucial to include a variety of representational styles in education. According to research, providing information in various modalities—including text, graphics, audio, and video—can help students understand it better and retain it longer (Moreno, 2006). Teachers may better engage students by catering to their varied learning preferences by delivering knowledge via various formats.

According to the modality principle, information presented in visual and aural forms may result in higher learning outcomes than in a single modality (Moreno, 2006). Complex topics may be shown and understood more easily using visual aids like diagrams, charts, and infographics (Moreno, 2006). Images and videos provide visual representations that may aid comprehension and memory recall (Moreno, 2006). Additionally, audio elements like narration or sound effects may aid in teaching and reinforcing previously learned material in pupils.

By using various representational forms, educators may activate a range of sensory pathways, which also aids students in understanding the material more thoroughly. Greater student understanding, information retention, and knowledge transfer could arise from this.

Strategies for Designing Multimodal Learning Experiences

To improve the learning process, multimodal learning experiences must include several forms of communication and engagement. Compelling multimodal learning experiences may be created by using a variety of tactics.

Provide supervised exercises that reinforce students' learning. One tactic is to provide students with supervised tasks that scaffold their learning. In their experimental research, Moreno and Mayer (2007) discovered empirical evidence for this design idea. Guided activities provide students with clear directions and direction while assisting them in navigating the learning resources. This approach guarantees that students are actively involved in the learning process and aids in their ability to link various informational media.

Another tactic is utilizing interactive and immersive technology, such as virtual reality (VR). The use of multimodal VR-based teaching and training is highlighted by Philippe et al. (2020) as a pedagogically prosperous technique. They underline how crucial it is to create unique VR features and aspects to improve learning. Students may be engaged and better comprehend complicated ideas in VR's highly interactive and immersive environment.

Multimodal learning possibilities are also available in game-based learning settings. Emerson et al. (2020)

describe how multimodal data streams, such as facial expression analysis and gaze tracking, may be used in game-based learning settings to inform learning analytics. With this method, interactions between students may be examined to learn about their cognitive, emotional, and metacognitive learning elements. Game-based learning environments may adapt to students' requirements and provide customized learning opportunities by collecting and evaluating multimodal data.

Language acquisition may also use multimodal teaching strategies. The use of a multimodal method to teach idioms in an English as a Foreign Language (EFL) setting is highlighted by Pintado Fajardo (2021). To establish meaning and promote collaboration and learning in the classroom, they emphasize using text, voice, and picture individually as modalities. This method improves students' comprehension and memory of idiomatic language while allowing them to interact with various ways of representation.

Another method for creating multimodal learning experiences is to use technologically-aided innovations. The application of technology-supported innovations in school instruction is covered by Isaias et al. (2020). They underline how multimodality might promote cognitive, emotional, and metacognitive learning by enhancing educational intervention and adaptability. Using technology, teachers may design dynamic, exciting lessons that include a variety of communication and engagement methods.

The learners' requirements and interests should be considered while designing multimodal learning experiences. In multimodal composing assignments, Hellmich et al. (2021) stress the need to assess students' viewpoints and experiences. They underline the need for a student-centered strategy that considers the target audience, medium, and classroom learning expectations. Teachers may develop exciting and relevant lessons for their students by incorporating them into the planning process and considering their preferences.

Incorporating guided activities, utilizing interactive and immersive technologies, using game-based learning environments, using multimodal teaching strategies, incorporating technology-supported innovations, and taking into account the needs and preferences of the learners are all part of designing multimodal learning experiences. These techniques improve student comprehension, retention, and engagement, resulting in more fruitful and lasting learning experiences.

Project-Based Learning

Overview of Project-Based Learning as an Effective Instructional Approach

To build knowledge and skills via active inquiry and problem-solving, project-based learning includes students working on actual projects (Collins & Baccarini, 2004). This method encourages higher-order thinking, teamwork, and the use of information in real-world situations.

According to research, project-based learning has been shown to help students in several ways. As students work on genuine, essential activities, it promotes a better comprehension of the subject matter (Hilton &

Nichols, 2011). Students get a more excellent knowledge of the material and valuable skills for the future by working on projects that call for critical thinking, creativity, and cooperation (Hilton & Nichols, 2011). Due to the students' feeling of ownership over and relevance to their learning, project-based learning fosters student engagement and motivation (Collins & Baccarini, 2004).

Examples of Successful Project-Based Learning Initiatives

Project-based learning projects that have been effective across many disciplines and grade levels are well documented. Here are a few illustrations:

In research by Nichols (2011), project-based learning was utilized in a chemistry classroom to improve students' conceptual and representational grasp of chemical bonding. Students worked on assignments that required them to describe macroscopic occurrences at the molecular level using a variety of representations, including diagrams, models, and written explanations (Hilton & Nichols, 2011). According to the study's findings (Hilton & Nichols, 2011), project-based learning helps students develop their conceptual knowledge and representational skills.

Nuclear energy was the subject of design-based research on project-based learning by Namdar and Shen (2016) in the context of socioscientific concerns. The study engaged preservice middle school teachers who worked on projects that included numerous representations and arguments using a web-based knowledge organization platform (Namdar & Shen, 2016). The results demonstrated how intricate interactions using various models and statements improved students' comprehension of the socioscientific topic (Namdar & Shen, 2016).

These instances show how project-based learning successfully fosters greater comprehension, engagement, and application of knowledge in real-world settings. By involving students in real-world projects, Project-based learning allows them to acquire the critical thinking, problem-solving, and cooperation skills necessary for success in the twenty-first century.

Collaboration and Social Learning

Benefits of Collaborative Learning in the Digital Age

Students may benefit from collaborative learning in the digital age in several ways. According to research, collaborative learning may improve students' capacity for critical thought, problem-solving, and topic comprehension (Roschelle & Teasley, 1995). Students who work together participate in debates, exchange ideas, and learn from one another, which may result in enhanced learning outcomes and deeper comprehension (Roschelle & Teasley, 1995).

Collaborative learning also facilitates the development of social skills and collaboration, which are crucial in the twenty-first-century workforce (Kirschner & Erkens, 2013). Students develop their communication skills, negotiation skills, and respect for other viewpoints when they collaborate on activities or projects (Kirschner & Erkens, 2013). These abilities are crucial for creating a welcoming and cooperative learning environment.

Tools and Platforms to Facilitate Collaboration Among Students

Many tools and platforms are available in the digital era to encourage student collaboration. A learning management system (LMS), such as Blackboard Learn, is one frequently utilized technology (Tseng, 2020). LMSs include tools that let students communicate, exchange materials, and work together on tasks (Tseng, 2020). For instance, Through the LMS, students may participate in discussion forums, work together on group projects, and provide feedback to their peers (Tseng, 2020).

Other tools and platforms include video conferencing, allowing students to participate in on-demand conversations and virtual meetings (Tseng, 2020). Examples of these technologies are Zoom and Microsoft Teams. Students may connect and work synchronously using these technologies, regardless of location (Tseng, 2020). Students may collaborate more efficiently using social media platforms like Facebook groups and Slack (Tseng, 2020). Outside the conventional classroom, these platforms provide students a place to exchange information, pose queries, and participate in debates (Tseng, 2020).

Students may work together in real-time on papers, presentations, or spreadsheets using cloud-based collaboration tools like Google Docs or Microsoft Office 365 (Tseng, 2020). These technologies allow for simultaneous editing and comments, fostering group work and improving student collaboration (Tseng, 2020). By using these tools and platforms, teachers may allow students to connect, communicate, and learn from one another in the digital age.

Benefits of Educational Apps

Improved Learning Outcomes

Research Evidence on the Effectiveness of Educational Apps

The value of educational applications in enhancing learning outcomes has been shown through research. Kim et al. (2021) integrated data from 36 intervention trials with 285 effect sizes to assess the efficacy of educational applications for preschoolers through third graders. The research showed that math and reading had equal benefits, with a mean weighted effect size of +0.31 standard deviations on total attainment. This demonstrates that instructional applications enhance learning results.

Examples of Educational Apps That Have Demonstrated Positive Outcomes

Numerous educational applications have proven effective in enhancing learning. For instance, Montazami et al.'s research from 2022 sought to understand the demands and preferences of parents while using educational applications for their kids. According to the study, parents favored applications with a development team, scaffolding, and curriculum guides since these features correlated with objective measures of app quality. Montazami et al. (2022) also used the Uses and Gratifications theory to examine parents' app-choosing behavior. According to the report, parents prefer educational standards over trendy terms when choosing applications from the App Store. This shows that parents prioritize educationally sound applications that provide their kids with engaging learning opportunities.

These instances show how educational applications might improve students' academic results. The effectiveness of educational apps can vary, so more research is required to increase the internal and external validity of findings, assess effectiveness at larger scales, and ascertain the long-term advantages of apps on a broader range of skills (Kim et al., 2021).

Increased Student Engagement

Features of Educational Apps That Promote Student Engagement

Different aspects that encourage student involvement may be included in educational applications. For instance, interactive components like games, simulations, and quizzes may make learning more engaging and fun (Squire, 2006). These elements allow students to actively participate and get fast feedback, which may increase their motivation and engagement (Squire, 2006).

Additionally, specific student requirements and interests may be catered to via personalized learning elements in educational applications such as adaptive assessments and tailored learning paths (Wai et al., 2016). Personalized learning features may improve student engagement and the relevance of the information by customizing the learning experience for each student (Wai et al., 2016).

Educational applications may also contain collaborative elements to encourage teamwork and peer engagement, such as discussion forums or group projects (Wai et al., 2016). Through social contact, group problem-solving, and idea-sharing, collaborative learning encourages engagement (Wai et al., 2016).

Case Studies of Successful App-Based Learning Experiences

Successful app-based learning has been established in several case studies. For instance, a research by Wai et al. (2016) explored how undergraduate students in Hong Kong used mobile learning applications. According to the study's findings, students thought educational apps were practical and straightforward to use, and this view had a good impact on their attitudes about app-based learning in general (Wai et al., 2016).

Another research by Wai et al. (2016) investigated how undergraduate students from various academic areas used instructional applications. According to the study's findings (Wai et al., 2016), students from multiple faculties did not substantially vary in their use of apps for academic reasons. The research also found that perceived utility, as opposed to perceived simplicity of use, had a more significant favorable effect on students' overall attitude toward app-based learning (Wai et al., 2016).

These case studies demonstrate how educational applications can boost student engagement and encourage favorable perceptions of app-based learning. Educational applications may provide compelling learning experiences that increase student motivation and involvement by adding interactive elements, personalization, and collaboration.

Access To Rich Learning Resources

The Role of Educational Apps in Providing Diverse and Interactive Learning Materials

Students may access a variety of engaging learning resources thanks to educational applications. These applications include materials suited to various learning styles and preferences, such as text, photos, videos, interactive games, and simulations (Montazami et al., 2022). Educational applications may encourage participatory, hands-on learning using multimedia components (Montazami et al., 2022).

Additionally, by tailoring the activities and material to each student's requirements and development, educational apps often provide individualized learning experiences (Montazami et al., 2022). Due to this customization, students may access educational materials suited to their learning objectives and capacities. Educational applications may increase student engagement and foster meaningful learning experiences by offering personalized material (Montazami et al., 2022).

Examples of Educational Apps with Extensive Learning Resources

Many educational apps provide comprehensive learning tools for various disciplines and grade levels. For instance, the well-known educational program Khan Academy offers many video lectures, practice problems, and tests in multiple areas, including math, science, history, and more (Montazami et al., 2022). Thanks to the app's extensive library of resources spanning various subjects, students may access educational resources at their own speed and level.

Another example is Duolingo’s language-learning program, which provides interactive courses, vocabulary practice, and speaking drills in various languages (Montazami et al., 2022). For students to improve their language abilities, Duolingo offers a gamified learning experience with various fun activities, including translation tasks, listening comprehension exercises, and speaking challenges.

A platform for developing and accessing a variety of study resources, such as flashcards, tests, and study games, is provided by educational applications like Quizlet (Montazami et al., 2022). Quizlet is an excellent tool for reviewing and reinforcing topics since it lets students make their own study sets or use pre-made sets generated by other users.

These illustrations show how educational applications provide comprehensive learning tools that span a range of topic areas and deliver engaging, tailored learning experiences. Students may access many instructional resources via these applications, enhancing their learning and fostering academic achievement.

Enhanced Collaboration

How Educational Apps Facilitate Collaborative Learning Experiences

Educational applications greatly enhance the facilitation of student collaboration in learning. According to Roschelle and Teasley (1995), these applications provide features and capabilities that allow students to cooperate, communicate, and work together on shared assignments or projects. For instance, applications may include chat capabilities, collaborative document editing tools, or discussion forums that let students connect and share ideas (Roschelle & Teasley, 1995). Educational applications allow students to collaborate on projects, exchange resources, and give constructive criticism to their peers via these cooperative capabilities (Roschelle & Teasley, 1995). These applications build community and shared learning among students by encouraging communication and cooperation (Roschelle & Teasley, 1995).

Case Studies of App-Based Collaboration in Educational Settings

Numerous case studies have shown that app-based cooperation in educational contexts may be beneficial. For instance, Roschelle Teasley (1995) looked at how shared knowledge is created in a computer-based setting while addressing problems collaboratively. Using the collaborative software Envisioning Machine, the research examined how participants interacted with each other. According to the study, this app's cooperation enabled the formation of a "Joint Problem Space," which included a collection of knowledge pieces that were socially negotiated (Roschelle & Teasley, 1995).

Roschelle and Teasley (1995) examined how GroupScribbles was used in a middle school science class. Students may submit ideas, comment on diagrams, and work together to develop answers using GroupScribbles, a collaborative digital whiteboard. According to studies (Roschelle & Teasley, 1995), students' involvement, comprehension, and enthusiasm in scientific issues enhanced when they collaborated using apps. These case studies demonstrate how well-made educational applications may foster teamwork and improve exam results. These applications allow students to collaborate, exchange information, and construct knowledge in a digital learning environment by offering collaborative features and capabilities.

Ethical Considerations and Challenges of App-Based Learning

Data Privacy and Security

Risks and Concerns Related to Data Privacy in Educational Apps

The security of user data is a significant problem for educational applications. Students' academic and personal data may be collected and stored by app developers or third-party service providers when they utilize these applications (Levin et al., 2020). As a result, there is a greater possibility that student data may be misused, accessed inappropriately, or somehow compromised (Levin et al., 2020).

Educational applications may gather a range of data, including behavioral, academic, and personally identifiable information (PII), according to Levin et al. (2020). Collecting and retaining such data raises questions regarding the security and privacy of students' personal information (Levin et al., 2020). Students' privacy may be jeopardized if data is used for targeted advertising or shared with other parties without permission (Levin et al., 2020).

Strategies to Ensure Data Privacy and Protect Student Information

Applications for education may use various techniques to safeguard student data and maintain data privacy. To safeguard student data, app developers must first include robust data security features, including encryption and secure storage techniques (Levin et al., 2020). They should also implement stringent access controls to guarantee that only authorized persons can access the data (Levin et al., 2020).

Informed consent and transparency are essential for safeguarding student privacy. According to Levin et al. (2020), app developers should give clear and straightforward privacy rules that describe the categories of data gathered, how it will be used, and any third parties with whom it may be shared. Users should be informed of their rights and allowed to offer informed permission for data collection and use, including students and their parents or legal guardians (Levin et al., 2020).

Educational organizations and instructors should play a part in safeguarding data privacy. They must carefully consider and choose educational applications emphasizing data security and privacy (Levin et al., 2020). The significance of protecting private information and using applications properly should also be noted. They should also teach kids about data privacy hazards and responsible digital citizenship (Levin et al., 2020).

It is possible to verify compliance with privacy laws and industry standards by routinely monitoring and reviewing the data practices of app providers (Levin et al., 2020). Additionally, app developers should provide channels for users to report data breaches or privacy concerns so that problems may be fixed immediately (Levin et al., 2020). By implementing these tactics, educational applications may put data privacy first and safeguard student information, promoting a secure learning environment.

Digital Divide and Access to Technology

Disparities in Access to Technology and Its Impact on Learning Outcomes

The inequalities in access to and usage of technology across various social classes are called the "digital divide" (Dowding, 2004). Particularly for students from underprivileged families, these discrepancies may significantly affect learning results. According to research, students may find it more challenging to participate in digital learning activities, access online resources, and improve their digital literacy (Dowding, 2004).

Inequalities in educational opportunities and existing success inequalities may worsen by a lack of technological access (Dowding, 2004). Students who need access to technology may find it difficult to access online learning materials, participate in virtual classes, or finish homework. This may result in worse academic achievement and less access to the digital tools and resources that are becoming more vital in today's society.

Initiatives to Bridge the Digital Divide and Promote Equitable Access

There have been initiatives to close the digital gap and advance fair access to technology. These programs are designed to provide underprivileged students with the skills and materials they need to use technology and engage in online learning. For instance, in various schools and educational institutions, in one-to-one device programs, each student receives a personal device, such as a laptop or tablet, to use for instructional reasons. This guarantees that all students may participate in digital learning activities and have equitable access to technology.

Community-based projects and collaborations with businesses and government agencies have been formed to provide underprivileged populations access to technology. These projects can entail establishing computer laboratories, connecting community centers to the internet, or giving technology training courses for adults and students.

Additionally, initiatives have been undertaken to improve digital literacy and technology access. Digital literacy programs aim to provide students with the information and abilities they need to utilize technology for study and other purposes efficiently and responsibly. These courses provide instruction in subjects including internet safety, how to do online research and digital citizenship.

These programs may be implemented so that educators and decision-makers can strive to close the digital gap and guarantee that all kids have fair access to technology and its possibilities.

Teacher Training and Digital Literacy

Importance of Teacher Training in Effectively Integrating Educational Apps

To successfully integrate educational applications into the classroom, teacher training is essential. According to research, instructors instructed using educational apps are more likely to successfully incorporate them into their teaching methods (Gonzales et al., 2018). Teachers who have received training can better connect educational applications' pedagogical potential with curricular objectives and learning goals (Gonzales et al., 2018).

Additionally, teacher training aids in developing the skills needed for educators to efficiently use and navigate educational apps, ensuring that they can make the most of these tools' potential in their instruction (Lee et al., 2021). Integrating educational applications may provide instructors with difficulties or impediments, such as technical difficulties or low student engagement, which may be addressed with training (Lee et al., 2021).

Strategies for Enhancing Teachers' Digital Literacy and Pedagogical Skills

To improve instructors' digital literacy and pedagogical expertise while utilizing educational applications, several ways may be used:

Schools and other educational institutions may offer professional development programs, and they can concentrate on digital literacy and the efficient integration of instructional applications. These initiatives might include workshops, conferences, and online courses that provide instructors with instruction and practice utilizing educational applications in their classrooms (Lee et al., 2021).

Cooperative learning environments: The exchange of best practices and experiences using educational applications may be facilitated by establishing collaborative learning communities among instructors. Teachers may participate in peer-to-peer learning, sharing concepts, tools, and methods for successfully integrating educational applications (Lee et al., 2021).

Continuous assistance and mentoring: Giving instructors continual assistance and guidance will help them overcome obstacles and gain confidence while using educational applications. This aid may be provided by mentor teachers, technology experts, or instructional coaches who can give direction, criticism, and help with problem-solving (Lee et al., 2021).

Encourage instructors to participate in reflective practice to critically assess their use of educational apps and change their teaching methods as needed. According to Lee et al. (2020), reflective practice includes self-evaluation, self-reflection, and ongoing development based on feedback and proof of student learning.

By implementing these ideas, educators may improve their pedagogical and digital literacy abilities, allowing them to more successfully incorporate educational apps into their teaching practices and optimize their impact on students.

Infrastructure and Technological Support

Challenges Related to Infrastructure and Technological Resources in Implementing App-Based Learning

The implementation of app-based learning may offer infrastructural and technical resource constraints. The successful adoption of app-based learning may need to be improved by the digital divide, defined by differences in access to technology and internet connection (Alkureishi et al., 2021). The effect of the digital gap on different facets of life, including healthcare, employment, education, and community involvement, is highlighted by patients' perceptions of the issue (Alkureishi et al., 2021). Barriers to technology access and digital literacy are hazardous for disadvantaged groups, including older folks, those with low incomes, people of color, and people who do not understand English (Alkureishi et al., 2021).

Solutions and Recommendations for Addressing Infrastructure Issues

Several methods and suggestions have been proposed to solve the infrastructure issues by implementing app-based learning. These consist of:

Increasing access to technology and internet connectivity: Public and private resources may be distributed to increase the availability of devices and broadband internet connection (Alkureishi et al., 2021). This might include programs to enhance infrastructure in rural or low-income regions and give gadgets to disadvantaged groups (Alkureishi et al., 2021).

Strengthening digital literacy. For people to utilize educational applications and traverse digital platforms efficiently, their digital literacy abilities must be improved (Alkureishi et al., 2021). To help people comprehend and use technology more effectively, digital literacy training programs may be implemented (Alkureishi et al., 2021).

Performing analyses of community technology needs Resource allocation and focused interventions may be made more effective by evaluating the particular technological demands of communities (Alkureishi et al., 2021). It might be helpful to design solutions to fit the specific requirements of diverse communities by being aware of the distinctive obstacles and problems they encounter.

Promoting non-technical communication techniques: It is crucial to keep supporting low-tech communication approaches in healthcare delivery since not everyone will have access to or feel comfortable using high-tech alternatives (Alkureishi et al., 2021). This can guarantee fair access to healthcare services and stop the digital gap from becoming even more comprehensive.

Collaboration and partnerships: To solve infrastructure concerns, collaboration among stakeholders—including healthcare organizations, educational institutions, governmental organizations, and community groups—is crucial (Alkureishi et al., 2021). Initiatives to close the digital divide and expand access to technology may be supported through partnerships that make the most of available resources, knowledge, and financing.

It is possible to alleviate infrastructure issues and advance equal access to technology by implementing these suggestions, making deploying app-based learning easier.

Conclusion

Summary of the Benefits and Challenges Discussed in the Paper

We have examined the benefits and difficulties of app-based learning throughout this research. More excellent learning outcomes, higher levels of student involvement, accessibility to extensive learning materials, greater collaboration, and tailored learning experiences are just a few advantages of app-based learning. Educational applications provide tailored learning routes interactive and varied learning resources, and encourage student cooperation. Additionally, they provide students access to various educational materials and may raise motivation and engagement among students.

However, there are issues with app-based learning as well that must be addressed. Among these difficulties include problems with data security and privacy, unequal access to technology, infrastructural restrictions, and the need for teacher preparation and digital literacy. It is imperative to address these issues to guarantee equal access, safeguard student privacy, and assist instructors in successfully incorporating educational apps into their teaching procedures.

Considerations for Future Research and Implementation of App-Based Learning

Although app-based learning is a valuable tool in contemporary education, more study is needed to fully comprehend its long-term effects on student outcomes, including academic performance, critical thinking abilities, and digital literacy. Longitudinal research may shed light on the long-term advantages of app-based learning and how it affects students' academic careers. For underprivileged communities, closing the digital gap and guaranteeing fair access to technology and internet connection are essential. Innovative approaches may help close the gap, including community alliances, legislative changes, and infrastructural upgrades.

For the deployment of app-based learning to be effective, instructors must also get ongoing professional development and support. Investigating training models, collaborative learning environments, and mentorship programs is essential to boost teachers' digital literacy and pedagogical abilities while utilizing educational applications.

In summary, app-based learning may significantly improve students' learning experiences. However, several issues must be resolved to assure fair access, safeguard students' privacy, and enable efficient implementation. To better understand how educational apps can be designed and used to enhance learning outcomes in particular content areas, future research should examine app-based learning's efficacy across diverse student populations and within subject areas like STEM education, language learning, or social sciences.

Potential Directions for Improving App-Based Learning Experiences

The design and development of educational applications should engage educators, students, and other stakeholders, and their input should be considered. By designing applications with the requirements and preferences of the target users in mind, this user-centered approach may guarantee that they will be more valuable and enjoyable for learning.

It is essential to examine the possibilities of adaptive learning technologies in the context of educational applications. The speed and substance of education may be dynamically changed depending on the requirements and performance of each student using adaptive technology to tailor the learning experience. The efficiency of adaptive learning algorithms and how they affect student learning results might be the subject of research.

Examining how app-based learning may be combined with tried-and-true educational models like project-based or inquiry-based learning is essential. Research can discuss the best ways to incorporate educational applications into these frameworks to improve student engagement, teamwork, and critical thinking abilities.

App-based learning may continue to develop and contribute to better educational experiences for students by researching these areas and looking at new routes for development.

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Algebra in the Digital Age: Mastering Concepts with Online Learning Objects

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Abstract: The use of online learning objects in teaching algebra is examined in this research, emphasizing its benefits, such as accessibility, flexibility, interactive involvement, differentiated instruction, quick feedback, and links to real-world situations. Strategies include conceptual comprehension, interactive practice, individualized learning, real-world applications, and collaborative learning. It is investigated how to enhance cognitive processes, including mathematical reasoning, problem-solving abilities, metacognition, and learning transfer. Motivational variables such as personalization, collaboration, relevance, authenticity, goal-setting, and progress tracking are examined. The link between using online learning objects to teach algebra and fostering a growth mindset in math is reviewed, with techniques stressing effort, perseverance, constructive criticism, and a supportive learning environment. There is also research into neuroscientific topics, including multimodal learning, cognitive load theory, active learning techniques, efficient feedback, and customization. In conclusion, including online learning objects in algebra instruction may increase students' mathematical skills, boost learning opportunities, and build a positive learning environment that encourages growth mindsets and unlocks students' potential in algebra.

Keywords: Algebra, Digital Age, Online Learning Objects, Accessibility, Flexibility, Interactive Engagement, Differentiated Instruction, Immediate Feedback, Real-world Connections, Conceptual Understanding, Personalized Learning, Collaborative Learning, Mathematical Thinking, Problem-Solving Skills, Metacognition, Learning Transfer, Relevance, Authenticity, Goal Setting, Progress Monitoring, Mathematical Growth Mindset, Effort, Persistence, Constructive Feedback, Positive Learning Culture, Multisensory Learning, Cognitive Load Theory, Active Learning Strategies, Effective Feedback, Neuroscientific Aspects, Ethical Considerations, Evaluation and Assessment Tools, Traditional Teaching Methods, Cognitive Development, Educator Roles, Parental Involvement, Community Engagement, Fixed Mindsets, Technology Impact

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Introduction

Background on Algebra Instruction

The development of students' mathematical reasoning and problem-solving abilities depends heavily on their algebra training (Salsabila, 2019). The digital age has brought significant educational changes, including integrating digital technology into the teaching and learning processes (O'Dwyer et al., 2007). By providing additional opportunities for personalized and interactive learning experiences, digital technology, such as online learning objects, may enhance algebra instruction.

The Emergence of Digital Technology in Education

Digital technology has fundamentally altered education by creating new chances for teaching and learning (O'Dwyer et al., 2007). Integrating technology into learning settings is now feasible because of the rise in internet and digital device accessibility (O'Dwyer et al., 2007). Online learning objects, in particular, have increased in popularity in algebra teaching because of their ability to provide interactive engagement, immediate feedback, and real-world connections (O'Dwyer et al., 2007).

Objectives of the Study

This research aims to examine how online learning objects are used to teach algebra and assess their advantages and potential for enhancing students' mathematical abilities. The research intends to investigate approaches for integrating online learning resources into mathematics sessions while considering cognitive traits, motivating factors, and neuroscientific ideas. The initiative also aims to understand the relationship between teaching algebra using online learning resources and cultivating a growth attitude in mathematics.

Importance of Online Learning Objects in Algebra

The use of online learning materials to teach algebra has several advantages. Students may access course materials whenever and wherever they desire because of their flexibility and accessibility (Salsabila, 2019). Online educational resources also promote interactive involvement, enabling students to participate in their education and use their mathematical skills actively (O'Dwyer et al., 2007).

Additionally, they provide differentiated training, enabling customized learning experiences catered to the needs of specific individuals (O'Dwyer et al., 2007). Students may track their progress and make real-time adjustments thanks to the immediate feedback offered by online learning objects (O'Dwyer et al., 2007). Online learning objects also make it easier for students to relate algebraic ideas to practical applications, which improves their comprehension and motivation (O'Dwyer et al., 2007).

Scope and Limitations of the Review

The main topics of this study are the use of online learning objects in algebra instruction and their effects on students' learning processes and mathematical proficiency. It investigates methods for incorporating online learning resources into mathematics lessons while taking cognitive, motivational, and neuroscientific concepts into account. It is crucial to remember that this evaluation has certain restrictions. It primarily draws on already published research papers and only addresses some facets of online learning materials for algebra training. Furthermore, since it is based on the literature published up to a specific date, the review could not cover the most current advancements in the subject.

Online Learning Objects in Algebra Teaching

Definition and Types

Online learning objects are digital assets or materials created to help improve the understanding of algebraic ideas using online learning environments. These resources may include interactive simulations, digital manipulatives, multimedia presentations, movies, tests, and online textbooks, among other things. They were built to foster active learning, offer practice and feedback opportunities, and promote a conceptual grasp of algebra (Meylani et al., 2015).

Historical Overview

Due to improvements in digital technology and growing internet accessibility, the use of online learning objects in algebra instruction has become more prevalent in recent years. Using digital technology in the classroom has altered conventional teaching strategies and created new opportunities for providing algebra instruction. The development of more interactive and exciting materials for algebra training has been made possible by technological improvements throughout time (Perry & Pilati, 2011).

Advantages

In teaching algebra, online learning objects provide several benefits (Yuhanna et al., 2020). They first offer accessibility and adaptability, enabling students to access educational resources whenever and wherever they want. Students who do not have regular access to conventional classroom settings or who need extra help outside of scheduled class times would significantly benefit from this flexibility. Second, interactive online learning objects encourage student participation in the learning process and allow them to apply algebraic principles. They often include interactive elements that improve student engagement and comprehension, such as drag-and-drop exercises, digital manipulatives, and simulations. Thirdly, differentiated education is provided through online learning objects, allowing for individualized learning experiences catered to the requirements of specific students. They can accommodate various learning styles and abilities by adapting to students' ability levels and offering focused practice and feedback. Lastly, online learning objects make relating algebraic ideas to practical applications easier, improving students' comprehension and motivation. They often use examples and situations from everyday life to show how mathematics may be used in various conditions.

Challenges and Criticisms

Online learning has many benefits and drawbacks and is criticized (Gillett-Swan, 2017). One area for improvement is the need for suitable technical infrastructure and dependable internet connectivity. Some students may need access to reliable internet connections or the right equipment to participate fully in online learning. Inequalities in access to high-quality algebra teaching may result from this digital divide. High-quality online learning items must also be designed and developed, which takes time, money, and experience.

Ensuring the information is factual, engaging, and aligned with curricular requirements might be challenging. Additionally, a student's motivation, self-control, and past knowledge may all affect how successful online learning objects are (Ali, 2011). Some students could struggle with self-directed learning and need extra assistance and direction to benefit from online learning objects fully.

Theoretical Frameworks Supporting Online Learning

Several theoretical frameworks in the teaching of algebra support online learning objects. The Cognitive Theory of Multimedia Learning (CTML) is one such framework (Elzainy et al., 2020). According to CTML, learning is improved by instructional materials that use both visual and aural channels, control cognitive load, and encourage active information processing. Online learning objects may enhance the presentation of algebraic ideas, promote meaningful learning, and assist students' cognitive processes using CTML principles.

The Cognitive Load Theory (CLT) is an additional pertinent theoretical framework (Elzainy et al., 2020). According to CLT, learning is affected by the cognitive demands on students' working memory. Online learning objects may be developed to reduce cognitive load by delivering information in a structured and organized manner, providing clear instructions, and offering opportunities for practice and reflection. Students' cognitive processing and understanding of mathematical concepts may be improved using online learning resources that adhere to CLT principles.

A theoretical foundation for developing and using online learning tools to teach algebra is provided by constructivist learning environments (CLE) as well (Elzainy et al., 2020). The active creation of knowledge via intentional learning experiences is a crucial element of CLE. The CLE principles may make Online learning objects to promote student collaboration, cooperation, and reflection. By encouraging a constructivist learning environment, online learning objects may aid students in strengthening their understanding of algebraic concepts and problem-solving skills.

Strategies for Teaching Algebra Using Online Learning Objects

Conceptual Understanding

One of the leading teaching techniques when using online learning objects to teach mathematics is encouraging conceptual understanding. Online learning objects may contain visual representations, interactive simulations, and multimedia presentations to help students understand entirely algebraic concepts (Johnson, 2017). Students may use these materials to investigate and interact with mathematical objects, giving tangible form to abstract ideas (Johnson, 2017). Students may interact and see algebraic representations using online learning objects, improving their conceptual knowledge (Johnson, 2017).

Interactive Practice

Utilizing interactive practice with online learning items is another crucial tactic. For students to actively engage with algebraic topics, online platforms include various interactive elements such as drag-and-drop exercises, virtual manipulatives, and simulations (Johnson, 2017). Students may apply their knowledge, work through issues, and get rapid feedback via interactive practice (Johnson, 2017). This engagement encourages deeper learning and aids in the improvement of students' algebraic competency (Johnson, 2017).

Personalized Learning

Additionally, online learning resources provide individualized algebra training. These materials may be made to adapt to each student's requirements and provide specialized training (Johnson, 2017). Students may access course materials on online platforms at their speed, go over material as required, and get tailored feedback (Johnson, 2017). This adaptability enables students to go through algebraic ideas by their learning preferences and skills (Johnson, 2017). Algebraic learning results are enhanced by personalized learning because it increases student motivation and engagement (Cheng et al., 2021).

Real-life Applications

When utilizing online learning objects to teach mathematics, real-world applications are essential. Students may comprehend algebra's practical significance and usefulness in their daily lives by relating algebraic principles to real-world circumstances (Koedinger & Nathan, 2004). Students are helped to understand the use and significance of algebra in problem-solving and making educated choices via real-world applications (Koedinger & Nathan, 2004).

Students may learn more algebraic ideas and their applications by interacting with online learning objects that depict real-life circumstances (Koedinger & Nathan, 2004). According to Koedinger and Nathan (2004), this method increases students' motivation and interest in studying algebra.

Collaborative Learning

Collaborative learning is a successful method when utilizing online learning objects to teach mathematics. Students may connect with peers, participate in conversations, and work together to solve algebraic problems using online platforms (Ningsih et al., 2023). According to Brodermann et al. (2018), collaborative learning encourages critical thinking, active participation, and the development of communication and collaboration skills. Students may exchange ideas, learn from one another, and jointly build knowledge in algebra via online collaborative learning (Ningsih et al., 2023). This method's supportive and engaging learning environment improves students' comprehension and retention of algebraic ideas (Bovermann et al., 2018).

Case Studies and Success Stories

When utilizing online learning objects to teach mathematics, case studies and success stories are valuable teaching aids. These examples show how algebraic ideas may be used in real-world situations and circumstances (Bovermann et al., 2018). Case studies give real-world problems for problem-solving that call for the use of algebraic techniques (Koedinger & Nathan, 2004). Students may better grasp algebra and its application in numerous industries by delving into and resolving these situations (Koedinger & Nathan, 2004). Success stories highlight the accomplishments of people or organizations that have effectively used algebraic principles in practical settings (Yakar, 2022). These tales serve as a source of inspiration and motivation for students by highlighting the usefulness of mathematics and its possible application in the workplace (Ningsih et al., 2023).

Evaluation and Assessment Tools

Tools for evaluation and assessment are crucial when utilizing online learning objects to teach mathematics. With these technologies, teachers may monitor students' development, spot areas for growth, and provide them with specific comments (Clark et al., 2003). Instructors may utilize online platforms with multiple assessment components, such as quizzes, interactive exercises, and performance monitoring systems, to examine students' understanding of algebraic concepts (Clark et al., 2003). These tools provide students with quick feedback, allowing them to monitor their development and make the necessary adjustments (Clark et al., 2003). Using evaluation and assessment tools, teachers may measure the effectiveness of online learning objects and alter courses to meet the needs of particular students.

Integration with Traditional Teaching Methods

Math education may be more successful by combining conventional teaching techniques with Internet resources. Concepts taught in conventional classrooms may be strengthened and reinforced through online learning objects (Clark et al., 2003). To provide students with more experience and engagement, teachers might include online learning objects in their lesson plans and give them homework or in-class tasks (Clark et al., 2003). The advantages of in-person training may be combined with the interactive and individualized aspects of online learning objects because of this integration (Clark et al., 2003). Teachers may provide a complete and dynamic learning environment that accommodates a variety of student demands and learning preferences by combining online learning objects with conventional teaching techniques.

Comparison with Traditional Instruction

The efficacy of conventional education and online learning resources in teaching algebra may be compared. Web-based instruction (WBI) has been proven in meta-analytic analyses to be superior to classroom instruction (CI) in several situations (Sitzmann et al., 2006). When trainees have control over their learning, practice with feedback, and take lengthier courses, WBI has been proven to be more successful than CI in teaching declarative information (Sitzmann et al., 2006). The design of the learning materials, the amount of interaction, and the characteristics of the learners are just a few examples of the variables that may affect how successful online learning objects are (Sitzmann et al., 2006). Additionally, combining conventional education with online learning objects may provide a well-rounded strategy that maximizes the benefits of both approaches (Hadromi et al., 2022). Teachers may choose the best instructional strategies for teaching algebra by comparing online learning objects with conventional instruction.

Cognitive Aspects of Online Learning in Algebra

Fostering Mathematical Thinking

Online algebra instruction may promote mathematical thinking by allowing students to practice problem-solving skills and critical thinking (Mayer, 2019). Students may investigate mathematical ideas, identify patterns, and draw connections between various algebraic concepts via online learning objects (Mayer, 2019). Students are encouraged to acquire mathematical thinking abilities by actively interacting with algebraic material, including generalization, abstraction, and logical reasoning (Mayer, 2019). Students may improve their comprehension of algebra and problem-solving skills by participating in online learning activities that call for mathematical thought.

Problem-Solving Skills

Online algebra instruction may improve problem-solving abilities by allowing students to use algebraic principles in authentic situations (Mayer, 2019). Online learning objects often include real-world problem-solving situations requiring students to evaluate data, recognize pertinent algebraic ideas, and develop solutions (Mayer, 2019). Students improve their ability to think critically, reason logically, and use algebraic knowledge to solve complicated issues by participating in these problem-solving exercises (Mayer, 2019). Since online learning objects are interactive, students may get quick feedback, which aids in the improvement of their abilities and problem-solving techniques (Mayer, 2019).

Metacognition

Online algebra instruction may also help students develop metacognitive abilities, which entail being aware of and in charge of one's learning processes (Mayer, 2019). Online learning materials may allow students to assess their comprehension, reflect on their learning, and control their cognitive processes (Mayer, 2019). For instance, self-assessment tools, progress monitoring capabilities, and prompts for reflection on learning tactics may all be included in online learning platforms (Mayer, 2019). Students may build methods for self-improvement, become more autonomous and self-directed learners, and become more aware of their algebraic strengths and weaknesses by participating in metacognitive exercises (Mayer, 2019).

Learning Transfer

Learning transfer is the capacity to use information and abilities acquired in one environment to another that is new and distinct (Mayer, 2019). Online algebra instruction may promote learning transfer by allowing students to use algebraic principles in multiple problem-solving contexts (Mayer, 2019). Students may acquire the capacity to apply their algebraic knowledge and abilities to various contexts by interacting with online learning objects that show real-life applications and realistic problem-solving problems (Mayer, 2019). This transfer of learning encourages the use of algebraic ideas and their generalization, improving students' problem-solving skills outside of the confines of the online learning environment (Mayer, 2019).

Empirical Studies and Findings

Algebra online learning is beneficial by empirical investigations. For instance, a comparison study done during the COVID-19 pandemic discovered that online learning during campus closure provided student course performance equal to or better than face-to-face teaching before the pandemic (Zheng et al., 2021). The research looked at how well students thought they viewed online courses, investigated pedagogical aspects that affected their acceptance of online learning, and assessed how online learning affected students' course performance (Zheng et al., 2021).

The results showed that students' perceptions of their interactions with professors and classmates were predictive of their perceptions of the effectiveness of the online course. In most courses, the online cohort was as likely as the face-to-face cohort to receive a course grade of A. These empirical results confirm the efficiency of online instruction in enhancing algebraic learning outcomes for students.

Cognitive Development Stages and Tailored Strategies

The cognitive growth phases are considered while creating specialized learning tactics for algebra online. According to the cognitive load theory, a theoretical paradigm considering working memory constraints, instructional tactics should be coordinated with learners' phases of cognitive growth (Mayer, 2019). Younger students, for instance, can benefit from algebra ideas being presented more tangibly and visually, while older students might be better able to reason abstractly and tackle more challenging problems (Mayer, 2019). Online learning objects may be created to provide the proper scaffolding, support, and challenges that match students' cognitive capacities by considering the phases of learners' cognitive growth (Mayer, 2019). Tailored tactics considering cognitive development stages in online learning settings may improve students' engagement, comprehension, and memorization of algebraic ideas.

Motivational Factors in Algebra Teaching Using Online Tools

Relevance

When utilizing online resources to teach mathematics, relevance is a key motivator. Students are more likely to be motivated and interested in learning when they believe that algebraic ideas are relevant to their lives and future objectives (Vallerand et al., 1992). By offering examples and real-world applications highlighting the usefulness of algebraic abilities, online tools may increase the relevance of algebra (Sabir & Hammad, 2023). Online technologies may boost students' willingness to study and apply algebraic ideas by tying algebra to their interests, objectives, and real-world circumstances (Sabir & Hammad, 2023).

Authenticity

Authenticity is significant in motivating students when utilizing online tools to teach mathematics. Students' interest and engagement in mathematics may increase by using authentic materials and exercises depicting real-world issues and scenarios (Sabir & Hammad, 2023). Online resources may provide students access to genuine materials, including real-world data, simulations, and problem-solving scenarios, so they can observe how algebra is used in real-world situations (Sabir & Hammad, 2023). Students may learn more about algebra and its applicability by interacting with genuine resources, increasing their drive to study and use algebraic principles (Sabir & Hammad, 2023).

Goal Setting

In teaching mathematics, using online tools to promote goal setting is motivating. Students may create objectives, monitor their progress, and get feedback on their accomplishments using elements found on online platforms (Vallerand et al., 1992). Students may increase their desire and attention to study mathematics by creating precise, challenging, and achievable objectives (Vallerand et al., 1992).

Online tools may provide visible indicators of accomplishment, such as achievement badges or progress bars, which can encourage students to work harder to attain their objectives (Vallerand et al., 1992). Online tools may encourage success and self-efficacy by adding goal-setting elements crucial to sustaining students' motivation and engagement in learning algebra (Vallerand et al., 1992).

Progress Monitoring

An essential component of teaching algebra online tools is progress tracking. Online platforms provide tools that let teachers keep tabs on their students' development and give timely performance evaluations (Hattie & Timperley, 2007). With progress monitoring, teachers may see potential problem areas in their students' learning and provide individualized assistance and intervention (Hattie & Timperley, 2007). Improving students' learning results in algebra is possible by keeping track of students' progress and modifying teaching as necessary (Hattie & Timperley, 2007).

Personalization

Using online tools to teach mathematics involves much personalization. Online learning environments may accommodate each student's unique requirements, interests, and learning preferences (Hattie & Timperley, 2007). Examples of personalization features include adaptive learning algorithms, unique learning routes, and personalized feedback (Hattie & Timperley, 2007). Online tools may personalize the learning process by presenting students with information and exercises suitable for their ability level, challenging them appropriately, and considering their particular learning requirements (Hattie & Timperley, 2007). According to Hattie and Timperley (2007), personalization improves students' motivation, engagement, and learning results in mathematics.

Collaborative Learning Opportunities

The use of Internet technologies in algebra instruction benefits from collaborative learning possibilities. Online platforms may encourage student engagement through features like discussion boards, group projects, and virtual cooperation (Zimmerman, 2000). Students may communicate with one another, exchange ideas, and work together to solve algebraic problems via collaborative learning (Zimmerman, 2000). Students may improve their communication skills, get a more profound knowledge of mathematical ideas, and gain insight from one another's views by working cooperatively (Zimmerman, 2000). Collaborative learning opportunities increase students' motivation and engagement in mathematics because they develop a feeling of community and a supportive learning environment (Zimmerman, 2000).

Research on Motivational Strategies

Research on motivating tactics in education has given us helpful knowledge on motivating students more successfully. Developmental and educational psychology's motivating beliefs, values, and objectives were thoroughly reviewed by Eccles Wigfield in 2002. They examined many ideas, such as the theories of self-efficacy, control, intrinsic motivation, and task value. This study emphasizes the importance of comprehending students' ideas, values, and objectives when developing motivating tactics for classroom engagement and success.

The Role of Educators in Motivation

Teachers are essential in encouraging student motivation. A four-phase model of interest development was put out by Hidi Renninger (2006), with an emphasis on the role of educators in igniting and sustaining students' interest in learning. They contend that teachers may increase students' motivation and interest by designing motivating learning environments, assigning exciting and challenging assignments, and providing assistance and encouragement. Pintrich (2003) further underlined the significance of instructors' pedagogical practices in fostering student motivation by emphasizing the significance of instructional styles, feedback, and classroom culture. Educators' encouragement, direction, and excitement may influence students' motivation and involvement in the learning process. Wentzel (1997), who discovered that middle school students' appraisals of their instructors' pedagogical concerns predicted their motivating results, underlined the importance of teachers in fostering student motivation.

Parental Involvement and Community Engagement

Community participation and parental involvement are vital for nurturing student motivation. According to research, parents actively engaged in their children's education favorably impact their motivation, success, and general well-being. Pintrich (2003) emphasized how parents may help kids stay motivated by creating a supportive home environment, having high expectations for their children, and taking an interest in their education. Additionally, community involvement may allow students to apply their learning in real-world situations, increasing their motivation and engagement. Examples of this include collaborations between schools and community groups. In order to provide pupils with a supportive and inspiring learning environment, educators must strengthen the bonds between the family, school, and community.

The Role of Mindset in Algebra Learning

Mathematical Growth Mindset

A growth mindset in mathematics is the conviction that one can improve one's mathematical aptitude and skills with effort, repetition, and valuable techniques (Blackwell et al., 2007). Students with a growth mindset think they can enhance their intellect and skills through hard effort and devotion. According to research, Students with a growth mindset are more likely to welcome difficulties, persevere in the face of failures, and have a positive outlook on learning (Blackwell et al., 2007). A growth mindset may help students be more motivated, engaged, and successful while studying mathematics.

Strategies for Fostering a Growth Mindset

There are several methods that teachers may use to encourage a development attitude in mathematics learning. Giving clear teaching regarding the malleability of intellect, the importance of effort, and successful methods for enhancing mathematical skills is one beneficial tactic (Blackwell et al., 2007). The concept that obstacles and failures are chances for learning rather than markers of fixed competence should be emphasized by educators. A development attitude may also be encouraged by giving feedback emphasizing effort, advancement, and particular tactics (Blackwell et al., 2007). Additionally, fostering a growth mindset in students may be accomplished by building a supportive and welcoming learning atmosphere in the classroom that promotes cooperation, taking risks, and sharing various problem-solving techniques (Blackwell et al., 2007).

The Link between Online Learning Objects and Growth Mindset

Using online learning resources may help promote a growth mentality while studying mathematics. These resources may allow students to study at their speed, get rapid feedback, and develop their problem-solving abilities (Blackwell et al., 2007). Students may feel the rewards of effort and successful tactics in enhancing their mathematical skills by utilizing online learning items. Online learning objects' interactive and adaptable features may also provide students with tailored learning opportunities that meet their specific requirements and foster a feeling of progress and accomplishment (Blackwell et al., 2007). Through these encounters, students may cultivate a growth mindset in their mathematics study by believing in their ability to learn and advance.

Supporting Research and Studies

Numerous research have supported the idea that mentality plays a part in academic success. For instance, Blackwell et al. (2007) discovered that teaching a growth mindset (incremental theory of intelligence) encouraged positive improvements in classroom motivation and reversed the loss in grades compared to a control group. They performed longitudinal research and intervention with 7th graders. In a different research, Paunesku et al. (2015) found that attitude treatments successfully improved student’s semester grade point averages, especially for underachievers. These studies provide factual proof of how attitude treatments affect academic performance.

Addressing Fixed Mindsets and Challenges

A key component of mindset therapies is addressing stuck attitudes and obstacles. Large-scale growth mindset and a sense of purpose treatments were carried out by Paunesku et al. (2015), who discovered that these interventions successfully boosted academic attainment. The interventions' goal was to encourage pupils to persevere in the face of academic challenges; they were accommodating for high school students who were in danger of dropping out. Mindset treatments may enable students to approach learning with a growth mindset and persist through difficulties by addressing fixed attitudes and offering techniques to overcome hurdles.

Case Studies on Mindset Transformation

Case studies have shed important light on the evolution of attitudes and how they affect academic performance.

For instance, in their research, Qi et al. (2022) examined the relationship between parental fixed attitudes and young people's mental health. They discovered that addressing the interplay between a parent's fixed attitude and other variables was essential in lowering the frequency of symptoms related to young people's mental health.

Additionally, cross-cultural research by Lou Li (2023) revealed a strong correlation between development mindsets and performance results. In societies where fixed mindset norms prevailed, the associations were less intense. These case studies emphasize the significance of addressing cultural norms and attitudes to promote beneficial results for academic success and mental health.

Neuroscientific Aspects of Online Learning in Algebra

Multisensory Learning

Multisensory learning is the simultaneous use of many senses, including vision, hearing, touch, taste, and smell, to speed up acquiring new information (Auvray & Spence, 2008). By combining information from many sensory modalities, this method of learning may increase learning outcomes and memory retention.

Understanding the advantages of multimodal learning in visual perception is primarily thanks to Seitz et al.'s (2006) research. They looked at the function of audiovisual stimuli in visual perception training in one research. They discovered that individuals who received training in visual and aural cues learned visual information better than those who received training in just visual signals. This research showed that multisensory integration might substantially enhance visual sensitivity during training.

Seitz et al. (2006) compared the outcomes of multimodal audiovisual training with uni-sensory visual training in a different study. This study provided more evidence for the advantages of multisensory learning by demonstrating that the group that received multimodal training considerably improved their visual sensitivity compared to the group that received just visual training. The research highlighted how multimodal learning has the potential to boost perceptual learning as well as general performance on visual tasks.

Also, in 2006, Seitz et al. carried out research focusing on visual motion detection. Both groups showed gains in visual sensitivity when they compared the training outcomes with audiovisual and visual stimuli. However, the group that received multimodal training saw even more significant improvements, indicating that multisensory learning may improve visual perception and performance on visual tasks.

Cognitive Load Theory

According to Cognitive Load Theory (CLT), the cognitive load impacts learning and problem-solving processes on learners' working memory (Sweller, 1988). Working memory has a finite capacity, and when students are given complicated or excessive amounts of information, their cognitive resources may get overloaded, decreasing learning results (Sweller, 1988). According to the idea, instructional design should try to reduce cognitive load by giving clear and concise instructions, presenting material in a structured and ordered way, and providing chances for practice and reflection (Sweller, 1988).

The findings of Sweller's (1988) research back up the CLT tenets. Contends that problem-solving tasks often demand students to process several parts and stages concurrently, which might overwhelm working memory and impair learning. He contends that instructional design should emphasize minimizing needless cognitive demands by giving learners well-structured, guided learning resources. By controlling the cognitive load, students may better utilize their mental resources, which enhances learning results.

Furthermore, a study by Barutchu et al. (2018) showed how CLT might improve multimodal perception. Unconscious visual stimuli have been shown to enhance multimodal perception, suggesting that the cognitive burden visual stimuli place on the brain might affect how well sensory data is integrated. This research emphasizes how crucial it is to consider cognitive load when creating educational materials and employ the proper sensory modalities to enhance learning.

Active Learning Strategies

Active learning techniques improve student performance in STEM subjects by including students in activities requiring involvement and engagement with the learning content (Freeman et al., 2014). According to a thorough meta-analysis of 225 studies conducted by Freeman et al. (2014), students who engaged in active learning performed better on exams and had lower failure rates than those who received standard lectures. Active learning has been demonstrated to be advantageous in classes of all sizes, not only those of a specific size. According to heterogeneity studies by Freeman et al. (2014), active learning is successful in all class sizes, with the highest results being shown in courses with fewer than 50 students. It also raises scores on concept inventories more than on course exams.

Additionally, active learning techniques may handle the critical issue of whether to inform or ask students in STEM classes, which is a vital component of research-based teaching methods. This change from conventional lectures to more participatory teaching styles may also help to address the "pipeline problem" in STEM education, which refers to the difficulty certain nations have in drawing in and keeping STEM-related students (Freeman et al., 2014).

Effective Feedback Mechanisms in Neuroscience of Mathematical Learning

Effective feedback systems are crucial in the neuroscience of mathematical learning to effectively guide learners' knowledge, motivation, and metacognitive abilities in mathematics (Nicol & Macfarlane-Dick, 2006; Shute, 2007). To encourage self-regulated learning, Nicol and Macfarlane-Dick (2006) suggested a model highlighting seven elements of effective feedback practice, including timeliness, specificity, and emphasis on the task or learning objectives. Students may correct mistakes, comprehend misunderstandings, and adapt their mathematical problem-solving techniques using these ideas.

The study by Shute (2007) also emphasized the value of formative feedback that aligns with learning objectives, offers concrete ideas for development, and combines peer and self-assessment. The involvement and ownership of pupils in their mathematics learning may be improved by such feedback.

According to neuroscience, the brain's cognitive and motivational functions support feedback systems. Research demonstrates that feedback may engage cognitive processes like attention and working memory, essential for solving mathematical problems, and reward areas in the brain like the striatum, increasing motivation and reinforcing learning (Shute, 2007).

In conclusion, Shute's (2007) insights into formative feedback and neuroscience and the principles proposed by Nicol & Macfarlane-Dick (2006) provide a solid foundation for effective feedback in mathematical learning, which offers a practical method for boosting students' understanding, motivation, and metacognitive awareness in mathematics. Education professionals may greatly influence students' arithmetic learning by coordinating feedback with cognitive and motivational processes.

Personalization and Learning

A key element in improving engagement, motivation, and learning outcomes has been recognized as personalization in education, which is adapting learning experiences to each learner's requirements, preferences, and skills (Clark et al., 2003). This strategy adheres to the concepts of learner-centered education by giving students autonomy and control over their learning process while also considering their past knowledge, interests, and learning preferences.

In their book "E-learning and the Science of Instruction," Clark and Mayer stressed the value of customization. They recommended creating multimedia learning resources tailored to learners' requirements (Clark et al., 2003). They explain the literature on multimedia learning, assisting users in developing mental models for selecting appropriate e-learning design options. This kind of customized design helps to make learning sessions more enjoyable.

Additionally, research by Hattie et al. (2007) showed that individualized teaching had one of the most significant impact sizes among the different instructional techniques tested on student success. This study supports the idea that personalization may be a powerful strategy for enhancing learning outcomes across various subject areas, including mathematics.

In conclusion, personalization, as emphasized by Clark & Mayer (2003) and reinforced by other research, such as the study by Hattie et al., plays a crucial role in creating successful learning experiences (Hattie et al., 2007; Clark & Mayer 2003). Teachers may create a responsive learning environment that promotes active involvement and improves learning outcomes by adapting lessons to individual requirements and implementing customization in multimedia learning resources.

Neuroscientific Research in Education

To develop successful teaching and learning practices, neuroscientific research in education aims to comprehend how the brain receives and processes information (Howard-Jones, 2014). Neuroscientific research may assist instructors in understanding how students absorb mathematical information, see patterns, and solve problems while teaching algebra using online learning objects. To illustrate the significance of vision and spatial reasoning in algebra, functional magnetic resonance imaging (fMRI) studies have identified the unique brain areas that are active during mathematical thinking (Dehaene et al., 2003). Additionally, algebra-challenged pupils may benefit from more focused therapies due to the brain underpinnings of mathematical challenges revealed by neuroimaging approaches (Butterworth et al., 2011). Additionally, the construction of online learning objects may be influenced by neuroscientific research to ensure that they are by cognitive processes, improve memory retention, and promote deeper comprehension (Ansari & Coch, 2006). Algebra education may become more efficient and exciting due to this congruence between teaching strategies and cognitive functioning (Goswami, 2008). Incorporating neuroscientific research into algebra training may change teaching methods and improve student learning outcomes (Bruer, 1997). This section shows the potential advantages of using knowledge from neuroscience to improve instructional design and student learning by exploring the relationship between neuroscientific research and mathematics education. It demonstrates the complex interaction between the brain’s cognitive processes and algebraic problem-solving and offers evidence-based teaching methods for the digital age.

Ethical Considerations and Responsible Use

In implementing online learning objects and utilizing neuroscientific research in algebra instruction, there are ethical considerations and responsibilities that educators, developers, and policymakers must acknowledge.

Privacy and Data Security

Online learning platforms often collect vast amounts of personal and academic data (Polonetsky, 2012). Ensuring that this data is kept secure and used responsibly is paramount. Any breach of privacy can have severe consequences for students and educators alike (Jones & Shao, 2011).

Accessibility

Ensuring that all students, regardless of socio-economic status, disabilities, or other limiting factors, have equal access to these learning tools is vital (Edyburn, 2010). Inclusivity in design and implementation should be at the forefront to prevent the exacerbation of existing educational inequalities (Rose & Meyer, 2002).

Informed Consent

When utilizing neuroscientific research methods such as brain imaging with students, obtaining informed consent is non-negotiable (Illes et al., 2010). Participants must be fully aware of the study's potential risks and benefits.

Potential for Misinterpretation

Neuroscientific findings, while powerful, can be misunderstood or misapplied in educational settings (Bruer, 1997). Educators and policymakers must be cautious in translating these findings into practice to avoid misleading assumptions or oversimplification (Goswami, 2006).

Cultural Sensitivity

Implementing online learning objects in algebra must also be mindful of cultural diversity and sensitivity (Warschauer, 2002). The content and approach should respect diverse cultural backgrounds and not inadvertently perpetuate stereotypes or biases (Gay, 2010).

Professional Development and Training

Ensuring educators are well-trained in utilizing online learning objects and understanding neuroscientific research's implications is critical for responsible implementation (Darling-Hammond et al., 2017). Without proper training, even the best-designed tools and insights can fail to achieve their educational potential (Dede et al., 2009).

The Impact of Technology on Different Types of Learners

Integrating technology, particularly online learning objects in algebra, has a varied impact on different types of learners. Analyzing this impact allows educators to design more effective and inclusive instructional strategies.

Visual Learners

Visual learners benefit significantly from online learning objects that provide graphical representations, animations, and visual cues. These tools enhance their understanding of algebraic concepts and relationships (Mayer & Moreno, 2003).

Auditory Learners

For auditory learners, technology that includes podcasts, videos with voiceovers, and interactive discussions can improve comprehension and retention of algebraic principles (Clark & Mayer, 2011).

Kinesthetic Learners

Kinesthetic learners can use interactive simulations, virtual manipulatives, and touch-based technologies to "feel" the mathematical concepts (Lindgren & Johnson-Glenberg, 2013).

Analytical Learners

Analytical learners may benefit from online tools that promote logical reasoning, problem-solving, and critical thinking through exercises, quizzes, and games that challenge their analytical skills in algebra (Jonassen & Grabowski, 1993).

Global Learners

Global learners who prefer to understand the whole concept before delving into details can leverage technology to explore real-world applications and connections in algebra through simulations, case studies, and project-based learning (Papert, 1993).

Struggling Learners and Those with Special Needs

Technology can provide customized and adaptive learning experiences for struggling students and those with special needs. Personalized feedback, assistive technologies, and differentiated instruction can foster a supportive learning environment that meets diverse needs (Edyburn, 2010; Rose & Meyer, 2002).

Gifted and Talented Learners

Technology offers gifted and talented students opportunities to delve deeper into complex algebraic concepts, explore advanced topics, and engage in creative mathematical projects (VanTassel-Baska & Stambaugh, 2006).

Conclusion

Summary of Key Findings

Technology-assisted algebra education can revolutionize both the teaching and learning processes. Algebra learning results may be improved using tailored training, online learning resources, and neuroscientific research.

To avoid incorrectly applying neuroscience to education, approach these developments cautiously and critically (Lindell & Kidd, 2011). Different learner types experience technology differently, emphasizing the value of inclusive design and individualized strategies.

Implications for Educators and Policy Makers

According to the research, educators and decision-makers should prioritize technology's ethical and appropriate use in algebra training. This entails safeguarding data security and privacy, encouraging accessibility for all students, gaining informed permission for research using neuroscientific techniques, and being sensitive to cultural differences (Lindell & Kidd, 2011). Educators must undergo professional development and training to use technology and integrate neuroscientific findings into teaching methods (Sherbersky et al., 2021).

Recommendations for Future Research and Implementation

The long-term implications of technology integration in algebra education and its influence on various learner demographics need more study. Future research should examine the efficacy of particular online learning objects, individualized teaching strategies, and the congruence between neuroscientific research and instructional design. Additionally, research should concentrate on filling the knowledge gaps about the connection between neuropsychological prowess and weakness and mathematics learning results.

Final Thoughts on the Transformation of Algebra Instruction in the Digital Age

The modernization of algebra education has enormous potential to improve students' educational experiences. Educators can create more engaging, personalized, and effective learning environments by leveraging technology and incorporating neuroscientific insight. These developments are supported by thorough research and align with ethical principles, so it is essential to examine them critically (Lindell & Kidd, 2011).

Reflection on Current Trends and Future Directions

The growing use of technology, individualized training, and the incorporation neuroscientific research are current developments in algebra education. Educators and policymakers must remain current on the most recent advancements and studies to make educated judgments on implementation as technology develops. The ethical and evidence-based use of technology, individualized teaching methods, and continued cooperation between educators, researchers, and policymakers are critical components of the future of algebra training.

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Lessons Learned from Covid-19: Factors that Determine the Effectiveness of Online Learning in College Mathematics, for a Favorable Educational Experience

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Abstract: Due to the COVID-19 pandemic, there has been a significant change in college mathematics education toward online learning, which has advantages and disadvantages for students, instructors, and institutions. To ensure the effectiveness of online learning, it is crucial to understand the factors that influence its success. This study looks at the many variables that affect how the pandemic affects online college mathematics instruction. The article begins with a detailed literature review considering student characteristics, telecommunications infrastructure, instructional design, teacher-student interaction, and evaluation methods. Theoretical pillars of the research include social constructivism, the Technology Acceptance Model (TAM), self-regulated learning theory, and the Community of Inquiry Framework. The study highlights the importance of online mathematics instruction for meeting various learning needs and promoting educational equity, particularly in the COVID-19 era. Critical studies have emphasized the cognitive advantages of teaching mathematics via online learning objects, such as fostering mathematical thinking, problem-solving skills, metacognition, and learning transfer. It also looks at motivating factors, including interaction, relevance, authenticity, goal-setting, measuring progress, and opportunities for collaborative learning. A mathematical growth mindset is teaching mathematics using online learning objects, with strategies emphasizing effort, persistence, constructive criticism, a positive learning culture, and building a sense of community. We look at the neuroscientific aspects of using online learning objects to teach math. Multimodal learning strategies, the cognitive load theory, active learning strategies, effective feedback and reinforcement strategies, customization, and adaptivity are some of these features. In conclusion, online learning tools in math lessons may improve students' understanding and mathematical abilities. By using the advantages of online learning objects and comprehending the cognitive and motivational aspects, teachers may create a helpful learning environment that encourages a development mindset and unleashes students' potential in mathematics.

Keywords: COVID-19, online learning, college mathematics, characteristics of an ideal online learning environment

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Introduction

Background of COVID-19 and its Impact on Education

The COVID-19 pandemic has had a significant influence on education throughout the world (Stukalo & Simakhova, 2020). Schools and universities have been forced to close their physical campuses and transition to online education to ensure the safety of both students and professors (Stukalo & Simakhova, 2020). This rapid shift to online learning has produced advantages and challenges for educational institutions (Stukalo & Simakhova, 2020). Due to the pandemic, finding effective ways to provide instruction remotely is more important than ever, particularly in college mathematics (Stukalo & Simakhova, 2020).

Importance of Online Learning in College Mathematics

Online learning has gained importance in college mathematics, especially during COVID-19 (Stukalo & Simakhova, 2020). With the adaptability and accessibility of online learning, students may study at their own pace and from any location (Stukalo & Simakhova, 2020). Additionally, it offers opportunities for tailored instruction and exciting learning experiences (Stukalo & Simakhova, 2020). Online learning may meet a variety of learning demands and enhance educational fairness in the setting of collegiate mathematics (Stukalo & Simakhova, 2020). Students may connect to mathematical concepts via interactive exercises, which can help them develop their problem-solving abilities and metacognition (Stukalo & Simakhova, 2020).

Purpose of the Literature Review

Strotmann (2014) did a literature review during the COVID-19 pandemic to look into and understand the factors that determine the effectiveness of online learning in college mathematics. By analyzing the relevant literature, this research sheds light on the many elements that influence the success of online learning in college mathematics (Zhao & Strotmann, 2014). It will look at student characteristics, technological setup, instructional design, teacher-student interaction, and assessment approaches, according to Zhao and Strotmann (2014). The research will also use other theoretical frameworks, such as Social Constructivism, the Technology Acceptance Model (TAM), the Self-Regulated Learning Theory, and the Community of Inquiry Framework, to provide a thorough analysis (Zhao & Strotmann, 2014).

Scope and Limitations

The primary focus of this study work is the effectiveness of online instruction in college mathematics during the COVID-19 outbreak (Stukalo & Simakhova, 2020). It looks at the factors influencing how well online learning works in this environment, including student characteristics, technological infrastructure, instructional design, teacher-student interaction, and evaluation methods (Stukalo & Simakhova, 2020). To guarantee the relevance and currency of the results, the review will mostly rely on research done within the previous five years (Stukalo

& Simakhova, 2020). It is crucial to remember that the corpus of prior research constrains this study's breadth and may only touch on a few relevant issues and points of view about online learning in college mathematics during the epidemic.

Theoretical Framework

Social Constructivism

According to Saleem et al. (2021), social constructivism promotes the co-creation of knowledge via social interaction. This viewpoint views learning as an active process in which students actively interact with their surroundings and deepen their knowledge of them (Saleem et al., 2021). Social constructivism emphasizes the value of collaborative projects and student idea-sharing in online learning (Saleem et al., 2021). It acknowledges that knowledge is shared between teachers and students and created via social interactions (Saleem et al., 2021). This framework highlights the significance of creating a welcoming and exciting learning environment and the significance of the learner's active participation in the learning process (Saleem et al., 2021).

Technology Acceptance Model (TAM)

According to Davis (1989), the Technology Acceptance Model (TAM) is a theoretical framework that explains why people adopt and use new technology. According to this theory, a technology's utility and usability are vital in determining whether or not a client is willing to utilize it (Davis, 1989). The TAM defines perceived utility as the degree to which a person anticipates using technology to improve their performance or productivity. The TAM, in contrast, gauges how simple a user believes a technology to be to use (Davis, 1989). TAM has reportedly been widely used to evaluate customers' acceptance and uptake of online learning platforms, according to Abuhassna et al. (2023). It provides insights into the factors influencing students' views and attitudes toward online learning, claims Abuhassna et al. (2023). To design and implement effective online learning environments, apply these ideas.

Self-Regulated Learning Theory

The self-regulated learning approach strongly focuses on students' ability to manage their learning (Storchak, 2022). It emphasizes the necessity of metacognitive processes such as goal-setting, planning, monitoring, and self-reflection to promote practical understanding (Storchak, 2022). According to this theory, students with control over their education are more likely to set meaningful objectives, monitor their progress, and adjust their methods to achieve them (Storchak, 2022). Since online learning requires students to take responsibility for their education and engage in self-directed activities, self-regulated learning is essential (Storchak, 2022). This paradigm emphasizes the role of students as active participants in their learning process to allow effective online learning. It significantly emphasizes developing metacognitive skills (Storchak, 2022).

Community of Inquiry Framework

The social and cognitive presence in online learning environments is the subject of a theoretical paradigm known as the Community of Inquiry paradigm (Garrison et al., 1999). It states that three interrelated elements—cognitive presence, social presence, and instructional presence—must coexist for online learning to be effective (Garrison et al., 1999). According to Garrison et al. (1999), the cognitive company refers to students' capacity for protracted thought and conversational meaning-making. According to Garrison et al. (1999), social presence refers to a learner's ability to establish a sense of community and make meaningful connections with others. "teaching presence" refers to an instructor's capacity to encourage and support learning (Garrison et al., 1999). The Community of Inquiry Framework (Garrison et al., 1999) offers a comprehensive framework for understanding and evaluating the worth of online learning experiences. It emphasizes creating a friendly and exciting learning environment in online contexts (Garrison et al., 1999).

Social constructivism, the Technology Acceptance Model (TAM), the Self-Regulated Learning Theory, and the Community of Inquiry framework provide the theoretical basis for this project. Thanks to these conceptual frameworks, researchers have a theoretical foundation for understanding the variables affecting online learning's success in college mathematics. The Community of Inquiry Framework strongly emphasizes the value of social and cognitive presence in online learning settings. The Self-Regulated Learning Theory and TAM strongly emphasize how consumers accept and utilize technology. The collaborative creation of knowledge via social interaction is highlighted by social constructivism. Using these concepts, this study aims to extensively evaluate the factors affecting the effectiveness of online learning in college mathematics during the COVID-19 pandemic.

Methodology

Search Strategy

The approach for this study included a comprehensive literature search to locate relevant studies on the effectiveness of online learning in college mathematics during the COVID-19 pandemic. The investigation used several academic databases, including PubMed, Scopus, Web of Science, and Google Scholar. We used relevant search terms such as "online learning," "college mathematics," "COVID-19," "pandemic," and others. The search was limited to studies published within the last five years to ensure the findings' relevance and currency (Jung et al., 2021).

Selection Criteria

The selection criteria for this study were articles discussing the effectiveness of online learning in college mathematics during the COVID-19 pandemic. Only peer-reviewed papers were taken into account for the survey. The papers' applicability to the research topic was assessed based on the publications' titles and abstracts. The full-text articles selected for further study were then subjected to the inclusion criteria (Jung et al., 2021).

Data Extraction and Synthesis

Data extraction is the systematic removal of important information from the selected articles. The methods used to assess the methodological aspects of case-control, cohort, and diagnostic studies were made accessible to ensure the correctness of this analysis (Jung et al., 2021; Melo & Figueiredo, 2021). The gathered data also contained the authors, publication year, study strategy, sample size, primary findings, and conclusions. The data were sorted and synthesized to identify recurring themes and patterns about the effectiveness of online learning in college mathematics during the COVID-19 pandemic. Analyzing the data gathered to identify noteworthy findings and trends, the effectiveness of online learning in college mathematics was investigated during the COVID-19 pandemic. The results offered a complete evaluation of the state of knowledge in the field, which was then consolidated and presented in a persuasive and organized manner.

The methodology used in this study, in summary, involved conducting a thorough literature search using a variety of academic databases, applying selection criteria to find relevant articles, extracting data from the pieces that were selected, and combining the outcomes to provide a thorough analysis of the effectiveness of online learning in college mathematics during the COVID-19 pandemic.

Factors Affecting Online Learning

Student Characteristics

Student characteristics substantially influence the success of online learning. Motivation, learning preferences, and technological literacy may affect students' engagement and performance in online learning environments (Picciano, 2017). Reason significantly impacts students' willingness to participate actively in online learning activities (Picciano, 2017). Picciano (2017) asserts that motivated students with a strong desire to learn are likelier to engage in online learning and get better outcomes. Additionally, a student's chosen learning methods, such as visual, aural, or kinesthetic, may impact their preferred online learning modalities and educational materials (Chen, 2022). Technological literacy, which includes understanding how to utilize digital tools and traverse online platforms, is also crucial for students to participate in online learning activities effectively (Chen, 2022).

Technological Infrastructure

The quality and accessibility of technical infrastructure significantly influence the effectiveness of online learning. Technology infrastructure includes platforms' usability, internet accessibility, hardware, and software (Marlena et al., 2022). Students need sufficient technology, such as laptops or smartphones, and a stable internet connection to access online course materials and participate in virtual classrooms (Marlena et al., 2022). How effectively students learn is also influenced by the efficiency and usefulness of the online learning environment (Marlena et al., 2022). A user-friendly and intuitive platform may facilitate interaction between students and the course materials and instructors (Marlena et al., 2022). However, technical issues and limitations in technological infrastructure may make it challenging for students to access online learning resources and impede their academic development (Marlena et al., 2022).

Instructional Design

Creating engaging and relevant online learning experiences requires effective instructional design. Instructional design is the process of planning, producing, and distributing learning resources and activities (Pribadi & Chung, 2023). To increase students' comprehension and engagement, it is necessary to structure the information, establish specific learning goals, and include interactive and multimedia features (Pribadi & Chung, 2023). The instructional system design paradigm offers a systematic strategy for creating and developing high-quality online learning resources (Pribadi & Chung, 2023). With this paradigm, instructional designers may create engaging online learning experiences since they incorporate analysis, design, production, deployment, and evaluation (Pribadi & Chung, 2023). In order to increase students' understanding and retention of the material, well-designed online learning aids should be organized, aesthetically pleasing, and abide by the learning goals (Pribadi & Chung, 2023).

Teacher-Student Interaction

For online learning to be successful, teacher-student contact must be effective. Sharing opinions and ideas between teachers and students during interactions may contribute to a feeling of community (Pribadi & Chung, 2023). In online learning settings, teacher-student engagement is facilitated by communication tools, including discussion boards, video conferencing, and email (Pribadi & Chung, 2023). Students may benefit from timely and beneficial instructor feedback to monitor their progress, pinpoint areas for growth, and improve their learning outcomes (Pribadi & Chung, 2023). By creating a feeling of community through online platforms, students may become more engaged and motivated in their academic pursuits (Pribadi & Chung, 2023). Understanding and retaining the course content may be further improved by providing students with chances for peer involvement and collaborative learning (Warsi, 2021).

Assessment Methods

Assessment tools are crucial in online learning to monitor students' progress and provide feedback on learning outcomes. By employing quizzes, assignments, and discussions that serve as formative evaluations, teachers may evaluate their students' comprehension and provide timely feedback for growth (Pribadi & Chung, 2023). These assessments may also promote active learning and engagement by enabling students to reflect on their learning and apply their knowledge in multiple contexts (Pribadi & Chung, 2023). Summative assessments, such as exams or projects, evaluate students' learning outcomes at the end of a course or unit (Pribadi & Chung, 2023). Effective assessment methods for online learning should be unbiased and reliable, align with the learning objectives, and enable students to demonstrate their skills and knowledge (Pribadi & Chung, 2023).

In conclusion, several factors influence the effectiveness of online learning. Students' characteristics, such as motivation, learning preferences, and technological skills, may impact their participation in and success in online learning. The required technological infrastructure must be present and of a high caliber in order for students to access and participate in online learning activities. The hardware, software, internet accessibility, and platform usability are a few examples of this infrastructure. Effective instructional design increases student understanding and engagement by setting clear learning objectives, providing well-organized material, and including interactive elements. Teacher-student interaction fosters community and supports students' academic progress via feedback and communication. Through evaluation methods like formative and summative assessments, students' learning outcomes are reviewed in order to provide recommendations for improvement. By considering these factors, teachers may create compelling and engaging online learning experiences for students.

Cognitive Aspects of Teaching Mathematics with Online Learning Objects

Mathematical Thinking and Problem-Solving Skills

When teaching math, employing online learning resources may help students' ability to think mathematically and solve problems. Online learning tools, such as interactive simulations and virtual manipulatives, enable students to actively learn and study mathematical concepts dynamically and interestingly (Mayer, 2008). These resources could encourage students to actively learn and take a critical and analytical approach to mathematical problems (Mayer, 2008). Interacting with online learning objects may help students develop mathematical reasoning, logical thinking, and problem-solving abilities (Mayer, 2008). Using online learning objects may aid in improving students' understanding of mathematical concepts by allowing them to see and interact with mathematical representations (Mayer, 2008).

Metacognition and Learning Transfer

When learning mathematics via online learning objects, metacognition—understanding and controlling one's mental processes—is essential (Mayer, 2008). Students may assess their development, validate their comprehension, and adjust their learning tactics in online learning environments (Mayer, 2008). By engaging in metacognitive processes, including goal-setting, planning, and self-assessment, students may enhance their learning outcomes and apply their knowledge to new situations (Mayer, 2008). Online learning objects may support metacognition by providing instant feedback, self-evaluation tools, and opportunities for reflection (Mayer, 2008). By participating in metacognitive exercises, students may get a better comprehension of mathematical concepts and apply what they have learned to problems in the real world (Mayer, 2008).

Multisensory Learning Approaches

Using online learning materials and multisensory learning strategies may improve student engagement and mathematical understanding (Renelle & Jones, 2022). The visual, auditory, and kinesthetic senses, among others, may enhance learning experiences (Renelle & Jones, 2022). Online learning objects may comprise sensory signals, such as visual representations, audio explanations, and interactive manipulations, to provide students with a rich and engaging learning experience (Renelle & Jones, 2022). Using various senses, students may better understand mathematical concepts and establish links between different representations (Renelle & Jones, 2022). All students' needs, including those with various learning preferences and styles, may be met using multisensory learning strategies (Renelle & Jones, 2022).

Cognitive Load Theory

The Cognitive Load Theory may be used to enhance the design of online learning objects to maximize students' cognitive processing and learning outcomes (Mayer, 2008). The mental effort required to process information and perform tasks is referred to in this idea as cognitive load (Mayer, 2008). When creating online learning objects, extraneous cognitive load—the amount of mental effort spent on unimportant or unnecessary information—should be kept to a minimum (Mayer, 2008). By reducing needless cognitive demands, students may commit more cognitive resources to important learning tasks and improve their understanding of mathematical concepts (Mayer, 2008). By creating online learning objects, the intrinsic complexity of the learning materials may be handled (Mayer, 2008). Providing scaffolding, in-depth instructions, and valuable examples, online learning objects may aid students' cognitive processing and simplify comprehension of complicated mathematical concepts (Mayer, 2008).

In conclusion, teaching mathematics with online learning objects may enhance students' mathematical thinking and problem-solving skills by providing engaging and interactive learning opportunities. Utilizing online learning resources may also promote metacognition and facilitate the application of information in new situations. Students' understanding of mathematical concepts may be improved by using multisensory learning techniques. Additionally, by creating online learning materials using the principles of Cognitive Load Theory, it may be possible to optimize students' cognitive processing and learning results. By considering these cognitive characteristics, teachers may create compelling online learning experiences that boost students' arithmetic abilities and knowledge.

Motivational Aspects of Online Learning in Mathematics

Relevance and Authenticity

Relevance and authenticity are two advantages of online math training that motivate students. When students think the mathematical concepts and skills they are learning have practical applications, they are likelier to be engaged and motivated in their study (Hidi & Renninger, 2006). Relevance may be generated by connecting mathematical concepts to real-world examples and showing how they could be used in everyday life (Hidi & Renninger, 2006). According to Hidi and Renninger (2006), Authenticity refers to how well the learning challenges and activities match up with genuine situations that call for problem-solving. Online learning may boost students' motivation and interest in mathematics by providing genuine learning experiences, such as solving real-world mathematical problems or participating in simulations that reflect real-life events (Hidi & Renninger, 2006).

Interactive Activities

Another appealing feature of online math training is interactive exercises. Examples of the interactive activities that online learning platforms may provide to encourage students to learn and solve problems actively include virtual manipulatives, simulations, and games (Hidi & Renninger, 2006). These exercises allow students to investigate mathematical ideas, link various representations, and use what they have learned in practical contexts (Hidi & Renninger, 2006). By allowing students hands-on inquiry and discovery, interactive activities may boost their interest in and engagement in learning (Hidi & Renninger, 2006). Additionally, they could promote student autonomy and control over their education, aiding their academic success and motivation (Zimmerman, 2000).

Goal Setting and Progress Monitoring

When studying math online, goal-setting and progress-tracking are crucial motivating techniques. Students may feel purpose and direction by setting clear, attainable academic objectives (Zimmerman, 2000). By allowing users to create precise learning objectives and monitor their progress toward those goals, online learning platforms may help students set goals (Zimmerman, 2000). Students may assess their learning and change their techniques by keeping track of their progress and obtaining feedback on their performance (Zimmerman, 2000). This self-control and self-monitoring technique may increase students' motivation and opinions of their mathematical aptitude (Zimmerman, 2000).

Personalization and Collaborative Learning Opportunities

Two motivating features of online mathematics learning are the ability for personalization and group learning. By tailoring the content and speed of education to each student's requirements and preferences, online learning systems may provide individualized learning experiences (Zimmerman, 2000). Personalization may enhance motivation by giving students a feeling of autonomy and control over their education (Zimmerman, 2000). Peer review, group projects, and other forms of collaborative learning may increase students' interest and love for mathematics (Zimmerman, 2000). Students may communicate, share ideas, and gain insight from one another's viewpoints via collaborative learning (Zimmerman, 2000). Collaborative learning may increase students' motivation and feelings of belonging while studying online by establishing a community and encouraging social engagement (Zimmerman, 2000).

In summary, motivational aspects are essential for studying arithmetic online. Relevance and authenticity may increase students' motivation by connecting mathematical concepts to real-world applications and establishing authentic learning opportunities. Interactive learning involves students actively solving issues, which boosts their motivation and involvement. Goal-setting and progress-monitoring strategies help students feel more motivated and competent by offering them direction and a means to evaluate their progress. Possibilities for personalized and collaborative learning that promote autonomy, social connection, and a sense of belonging raise students' motivation and engagement in mathematics.

Cultivating a Mathematical Growth Mindset

Emphasizing Effort and Persistence

Stress effort and persistence must be stressed to promote a mathematical growth mentality in online learning (Blackwell et al., 2007). A growth mindset is the belief that intelligence and abilities can be developed through effort and practice, according to Blackwell et al. (2007). By emphasizing the importance of effort and persistence in learning, students may learn that their skills are not fixed and may be enhanced with practice and hard work (Blackwell et al., 2007). According to Blackwell et al. (2007), this way of thinking enables students to take on challenges, see failure as an opportunity to grow, and persevere in the face of setbacks. According to a study, Children with a growth mindset are more likely to employ adaptive learning strategies, seek help when they need it, and achieve academic success at a higher level (Blackwell et al., 2007).

Constructive Feedback

Another essential element of cultivating a mathematical growth mentality in online learning is the ability to provide constructive feedback (Paunesku et al., 2015). Positive criticism emphasizes the process and effort more than the outcome (Paunesku et al., 2015). It highlights students' strengths, identifies growth opportunities, and provides specialized counsel for advancement (Paunesku et al., 2015). Teachers may help students develop a growth mindset by providing quick, in-depth, and helpful feedback and showing that abilities can be learned with practice and perseverance (Paunesku et al., 2015). Another advantage of constructive feedback for students' self-awareness and metacognitive skills growth is the capacity to assess their progress and alter their learning strategies (Paunesku et al., 2015).

Positive Learning Culture

Creating a supportive learning environment is necessary for developing a mathematical growth mindset in online learning (Paunesku et al., 2015). A warm and inviting environment where students feel appreciated, respected, and motivated to take risks is a hallmark of a positive learning culture, according to Paunesku et al.

(2015). Teachers may foster a positive learning culture by fostering cooperation, praising effort and accomplishment, and allowing students to voice their thoughts and ideas (Paunesku et al., 2015). By creating a safe and supportive learning environment, teachers may promote a growth mindset in their students (Paunesku et al., 2015). According to studies, children who feel they belong are likelier to engage in class, stick with something when things become challenging, and do well in school (Paunesku et al., 2015).

Fostering a Sense of Belonging

It is crucial to foster community in online learning to establish a mathematical growth attitude (Paunesku et al., 2015). Since online learning may sometimes appear isolating, teachers must provide students with chances to communicate with one another and feel a sense of community. This may be accomplished through group projects, online discussions, and cooperative learning activities (Paunesku et al., 2015). By showing students that they are essential members of a community that appreciates their contributions to learning, teachers may encourage students to adopt a growth mindset (Paunesku et al., 2015). According to studies, students who feel like they belong are more likely to engage in class, take risks, and persist with something when things become complex (Paunesku et al., 2015).

In conclusion, fostering a mathematical growth mindset in online learning requires praising effort and tenacity, providing constructive criticism, creating a positive learning environment, and fostering a sense of belonging. By developing a growth mindset, teachers may help students believe in their ability to learn and improve their mathematical skills. Students who embrace this viewpoint are urged to take on challenges, see setbacks as opportunities for improvement, and persist in facing difficulties. By implementing these techniques, teachers may provide a positive and engaging online learning environment that motivates students to develop their mathematical thinking and supports them in realizing their full potential.

Neuroscientific Aspects of Teaching Mathematics with Online Learning Objects

Active Learning Strategies

Active learning strategies are essential when teaching arithmetic utilizing online learning objects. According to Pekrun et al. (2002), students participate in activities that call for active involvement and interaction with the course contents. Through interactive simulations, digital experiments, and problem-solving activities, online learning objects may provide opportunities for active learning (Pekrun et al., 2002). In addition to assisting students in understanding and remembering mathematical ideas, these exercises also engage students' cognitive processes (Pekrun et al., 2002). Studies have shown active learning techniques may improve students' engagement, motivation, and mathematical learning results (Pekrun et al., 2002). Students may improve their mathematical reasoning, critical thinking, and problem-solving abilities by actively interacting with online learning objects (Pekrun et al., 2002).

To sum up, encouraging a mathematical growth mindset in online learning calls for applauding perseverance and effort, offering helpful criticism, cultivating a good learning atmosphere, and encouraging a feeling of belonging. By developing a growth mindset, teachers may help students believe in their ability to learn and improve their mathematical skills. Students who embrace this viewpoint are urged to take on challenges, see setbacks as opportunities for improvement, and persist in facing difficulties. By implementing these strategies, educators may create a supportive and dynamic online learning environment that encourages students to improve their mathematical thinking and helps them reach their full potential.

Effective Feedback and Reinforcement

Effective feedback and reinforcement are two neuroscientific aspects of utilizing online learning objects to teach arithmetic. By providing them with information on their performance, feedback enables students to discover their areas of strength and development (Hattie & Timperley, 2007). Effective feedback is specific, timely, and actionable and stresses the effort and process rather than the outcome (Hattie & Timperley, 2007). It allows users to monitor their progress, change how they learn, and connect diverse mathematical concepts (Hattie & Timperley, 2007). Rewarding students with praise or prizes may boost their engagement and excitement for studying (Hattie & Timperley, 2007). Teachers may activate the dopamine-releasing reward regions in their brains by providing students with helpful feedback and reinforcement, enhancing their motivation to learn mathematics (Hattie & Timperley, 2007).

Personalization and Adaptivity

Personalization and adaptation are essential neuroscientific factors when utilizing online learning resources to teach math. According to Hattie and Timperley (2007), personalization is tailoring the educational process to each student's needs, preferences, and abilities. Online learning systems may provide personalized learning experiences by adapting the course's pace, material, and difficulty level to each student's learning profile (Hattie & Timperley, 2007). Personalization may enhance students' motivation, engagement, and mathematics learning outcomes, claim Hattie and Timperley (2007).

According to Hattie and Timperley (2007), online learning objects' adaptivity is their ability to alter and develop in response to the responses and advancement of students. Adaptive learning systems may provide customized feedback, correction, and enrichment based on student performance, promoting optimal learning outcomes (Hattie & Timperley, 2007). In order to increase student’s cognitive abilities, concentration, and memory encoding, teachers may enhance students' math learning by tailoring and changing the learning process (Hattie & Timperley, 2007).

In conclusion, neuroscientific concerns must be considered while teaching mathematics using online learning objects. When math is taught actively, and students are given real-world activities, math concepts are better grasped and recalled. Through efficient feedback and reinforcement, students' cognitive processes are stimulated, their motivation rises, and mathematics learning is supported. Personalization and adaptation improve students’ cognitive abilities, focus, and memory encoding by tailoring the educational process to their needs. By considering these neuroscientific elements, teachers may create compelling online learning experiences that enhance students' engagement, motivation, and learning outcomes in mathematics.

Conclusion

Summary of Key Findings

The key takeaways from the literature review stress the importance of several factors in the effectiveness of online mathematics learning. Students' motivation, preferred learning methods, and technological competence level significantly impact their success at online learning. The technology environment, instructional design, teacher-student interaction, and assessment methodologies all significantly impact how effective online learning is. The critical motivators for online mathematics learning include adopting a growth mindset, emphasizing effort and persistence, providing constructive criticism, creating a welcoming learning atmosphere, and feeling like you belong. For personalization, adaptivity, and online learning objects enabling active learning approaches, effective feedback, and reinforcement, neuroscientific considerations are essential.

Implications for Practice

The findings have several applications for online math training. In order to give students individualized learning opportunities that meet their needs and preferences, teachers should consider all of their diverse characteristics. Teachers should emphasize effort and persistence, provide constructive feedback, and create a positive learning atmosphere to encourage growth and boost students' motivation and engagement. By promoting active learning strategies, constructive criticism, and reinforcement, online learning tools may help students learn and remember mathematical concepts. Teachers must foster a sense of belonging and provide opportunities for social contact and collaboration to boost students' motivation and sense of community in the online learning environment.

Recommendations for Future Research

The authors recommend that future research on online mathematics education should expand on the utility of different instructional styles and interventions in promoting students' engagement, motivation, and learning results. Through longitudinal study, it may be possible to understand better the long-term effects of online learning on students' mathematical abilities and perspectives. Research should look at how parents promote and support their children's online math learning and the influence of online learning platforms and technology on kids' learning experiences. More outstanding research is also required on the neuroscientific aspects of online mathematics learning, such as the cognitive processes and the results of customized and adaptable learning systems.

Final Thoughts

Online math instruction has gained importance, particularly after the COVID-19 pandemic. According to the reviewed study, several factors influence how effective online learning is, including student characteristics, technological infrastructure, instructional design, teacher-student interaction, and assessment approaches. Motivational variables, such as adopting a development mindset and providing constructive criticism, dramatically enhance students' interest in and achievement in mathematics. Neuroscientific aspects that increase students' cognitive processes and enhance learning outcomes include personalization, adaptivity, and online learning objects. By considering these factors and using efficient strategies, teachers may create successful online learning experiences that support students' mathematical aptitude and foster a love of mathematics.

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Students and School Counselors Need Analysis on The Development of Career Planning Guidance in Senior High School

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Abstract: This study aims to describe the needs of students and school counselors for career planning guidance services in senior high school. This study subject is 213 students grade X (ten) at SMAN 1 Dukun Gresik (senior high school) as respondents and 16 school counselors from 12 senior high schools throughout Gresik Regency, East Java, Indonesia. The results of research related to the analysis of student needs show that (1) most students (43.6%) are not aware of their weaknesses and strengths, 50.3% of students do not yet know how to achieve their career goals, and 49.7% of students have not thought about make career plans, (2) most students (61.5%) stated that the facilities at school were inadequate to support student career planning, (3) most students (55.9%) did not know information about future professions/careers that will be selected. Furthermore, the results of research related to the analysis of the needs of counselors show that (1) 16 senior high schools (100%) in Gresik district have implemented a new curriculum in Indonesia called “Merdeka Curriculum”, and most of the counselors (81.3%) stated they need one of which is the service module/guidance guidebook, (2) most of the counselors (81.3%) stated that the need for career planning guidance services, was urgently needed and carried out at the tenth grade level of high school, and 75% of counselors said no have career guidance service tools that are arranged systematically in accordance with career theory and have been theoretically tested, (3) Most counselors (62.5%) stated that they really need a guidebook for career planning guidance based on a dream proposal project, and all counselors (100%) stated that he strongly supports the development of a career planning guidance guidebook based on a dream proposal project in the context of implementing the new curriculum.

Keywords: Career planning, School counselors, Needs analysis

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Introduction

High school students are individuals who are experiencing a period of development, which leads to the development of maturity, independence, and finding their identity. So, during this period of development, assistance is needed to broaden one's horizons about the job or career that one is interested in or one's aspirations for. So that students can choose a career that suits their choices and talents after graduating from school. However, there are still many problems that often occur at school and students are still confused about determining their career direction, such as further studies. Research from Aisyah, et al (2018) states that there are still many career problems for students, especially in class X high school, which are still high, especially in determining further studies. Other research conducted by Permadi (2016) shows that 74% of students still need career guidance, especially in helping with career planning.

Research conducted by Tumanggor & Purwanto (2018) through interviews and documentation, show that students at high schools 3 in Tarakan City Still many have experienced it confusion in choosing further studies at university. Students are confused about choosing a study program to continue to college 60%, for students who know the major they will choose, 30%, and 10% in determining work. Also supported by the results of the distribution of problem disclosure tools (AUM) by counselors for class XII students.

There are some students who plan their careers based on their wishes and desires without thinking about their abilities, and there are also students who give their career choices to friends and other people. Budiamin (2012), in his research, found that 90% of students were still confused about choosing a career in the future, and 70% of students said that their future career plans were up to their parents. From the research above, determining the right career that suits talents, interests, intelligence, life values needs to be planned in advance by students. Planning a career is not just a job, but a job that is also in accordance with the potential it has. There are some students who plan their careers still don't make sense, and students plan their careers based on their wishes and desires without considering their abilities or potential. (Purwanto & Tumanggor, 2018).

Based on the results of existing research conducted by several researchers above, the reality that occurs in high school students is that career planning is still a problem and there needs to be a role for guidance and counseling teachers to help students plan their future careers. Adityawarman, et al (2020) stated that the role of guidance and counseling teachers is needed because guidance and counseling teachers as agents of change are important for students to broaden their horizons and knowledge about work and career. Furthermore, Arumsari & Koesdyantho (2021) stated that counselors are educators who help students to solve the problems they face at school. Counselors can also accompany students by providing individual and group guidance services so that students can gain life development and realize their dreams according to their abilities, so that later students can be independent in facing various difficulties.

The role of the counselor is useful in providing services so that actions taken as a professional staff member who has a position in providing guidance services to students. The counselor's role is also to carry out guidance and counseling services that can build student discipline and provide assistance, and the teacher's role is as a moderator (Putri, 2019). This matter It also has an influence on the independent learning program because of the role of guidance and counseling teachers who must provide information services about further studies based on students' interests and talents. Minister of Education and Culture Nadiem Anwar Makarim said that freedom to learn is freedom to think. The counselor's role can provide students with readiness to face the independent curriculum so that they can direct and assist in choosing a major that suits their abilities . Related information services choose further studies that suit with talents and interests students are given help in implementation of interests (Arumsari, & Koesdyantho, 2021).

The idea of “Merdeka curriculum” is a modification of the independent learning policy by prioritizing theories that center on students' interests and talents in the learning process. At the educational unit level, counselors are expected to be able to help students to be able to accept and understand themselves and their environment, so that students are able to achieve independence and prosperity (Kemdikbudristek, 2022). Therefore, the purpose of writing articles is to describe analysis of student and counselor needs studies to development of planning guidance career in the context of implementing independent learning.

Method

This research aims to describe the needs of students and counselors to development of planning guidance career in implementation curriculum independent. The research was carried out with a descriptive survey design. The research subjects were 213 students in class X (ten) at SMAN 1 Dukun Gresik, as well as 16 guidance and counseling teachers from 12 high schools throughout Gresik Regency. The level of student needs is inferred from (1) understanding self, (2) understanding circumstances environment, (3) understanding information work or further studies. Level of need counselor concluded from (1) implementation curriculum independence in schools, (2) planning guidance services carried out career counselor at school, (3) response counselor to development of planning guidance career based project. Data is collected on a scale career planning and needs questionnaire counselor, and analyzed using descriptive statistics.

Results

Understanding results beginning of related students weaknesses and strengths can explained in the following diagram.

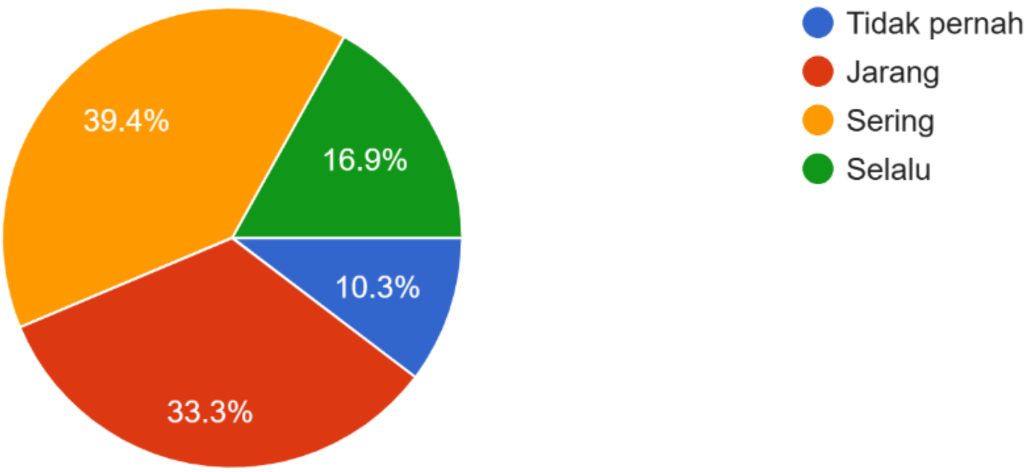

Figure 1. Related Students' Self- Understanding Weaknesses and Strengths Possessed _

Figure 1 shows that still many students have not capable realize weaknesses and strengths. There were 22 students (10.3 %) who never realize weaknesses and strengths. A total of 71 students (33.3 %) seldom realize weaknesses and strengths. A total of 84 students (39.4 %) often realize weaknesses and strengths, and 36 students (16.9 %) always realize weaknesses and strengths.

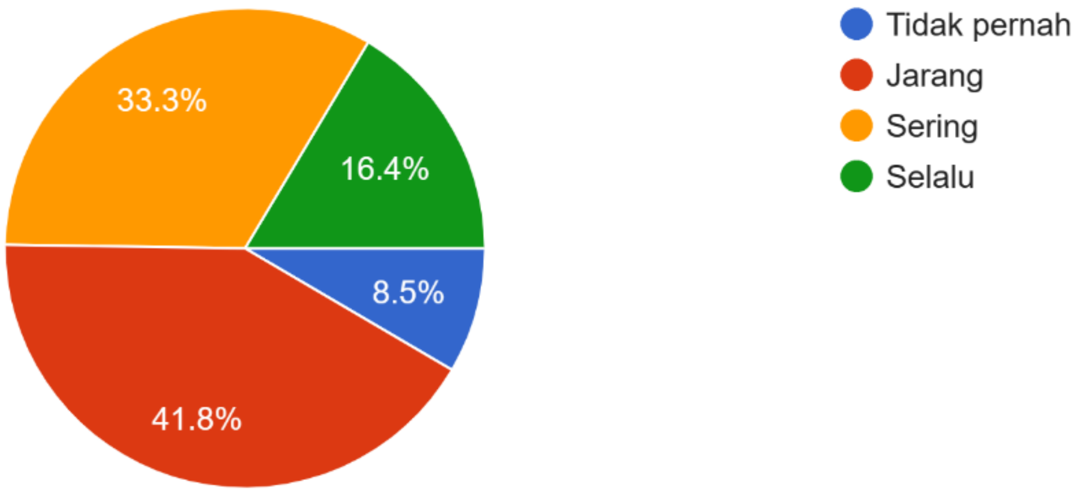

Figure 2. Ways to Achieve Career Goals

Figure 2 shows related student knowledge data way to achieve objective future career. A total of 18 students (8.5%) never did know the way it should be done to achieve objective his future career. Most of the students, namely 89 people (41.8%), still do seldom own knowledge of how to achieve objective career. A total of 71 students (33.3%) often know the way it should be done to achieve objective career, and as many as 35 students (16.4%) always know way to achieve objective career.

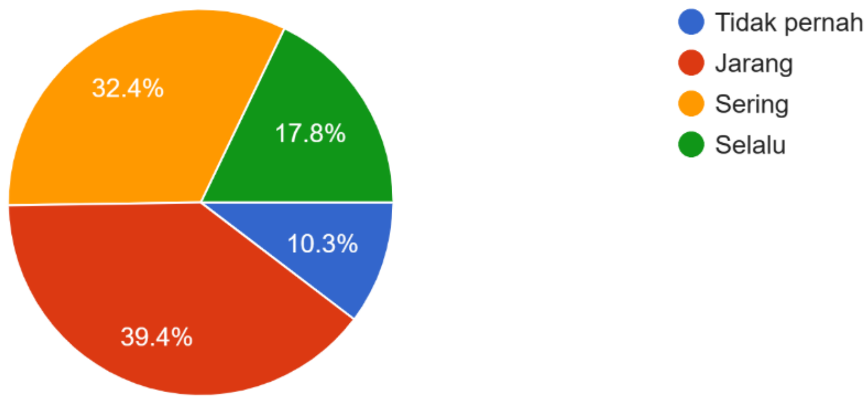

Figure 3. Students' thoughts on making Career Planning , Determining Career Choices and Completing Career Problems

Figure 3 shows the related data students' thoughts to create planning career, determine choice career and finish problem career. A total of 22 students (10.3%) never thinking about making planning career, determine choice career and finish problem career. Most of the students, namely 84 people (39.4%), still do seldom thinking about making planning, determining choice and finish problem career. A total of 69 students (32.4%) often thinking about making planning career, determine choice career and finish problem career, and as many as 38 students (17.8%) always thinking about making planning, determining choice and finish problem career.

Condition Environment in Student Career Planning

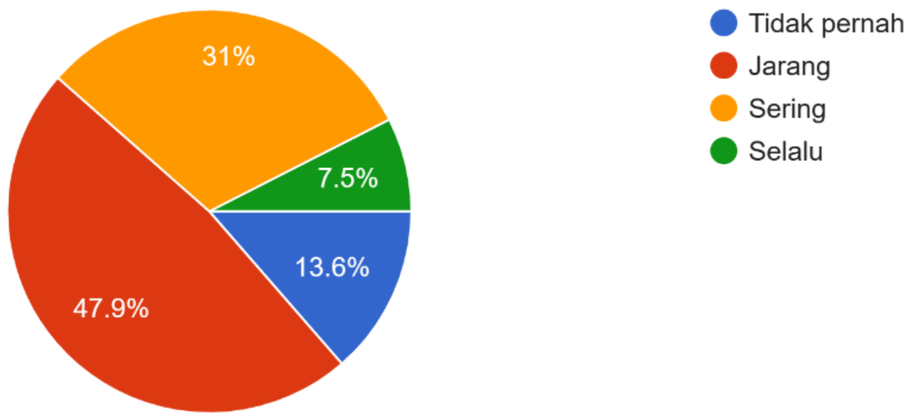

Figure 4. Condition Supportive School Facilities Career Planning

Figure 4 shows the related data condition available facilities at the school support planning student career. There were 29 students (13.6%) who stated that the facilities at school were inadequate to make this happen planning career. Most of the students, as many as 102 students (47.9%) stated that the condition Facilities at school are scarce sufficient to support realize planning career. A total of 66 students (31%) said that the facilities at school were frequent supportive and sufficient to make it happen planning career, and 16 students (7.5%) stated facilities at school always support planning student career .

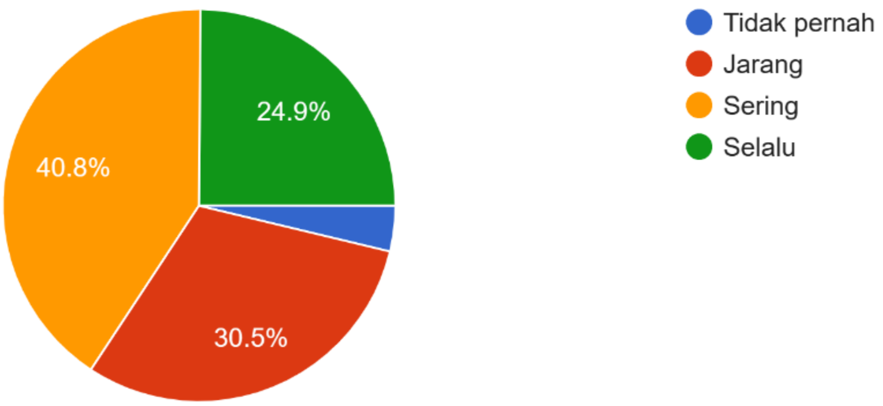

Figure 5. Supportive high school education Career Planning

Figure 5 shows the related data The student's current position as a high school student is related to planning students' future careers. There were 8 students (3.8%) who stated that their position was currently as a high school student does not support planning career in the future. A total of 65 students (30.5%) stated that their choices in high school are currently rare support planning future career. Most of the students, as many as 87 people (40.8%) stated high school education often support planning career, and 53 students (24.9 %) stated choice his education currently in high school always support planning his career.

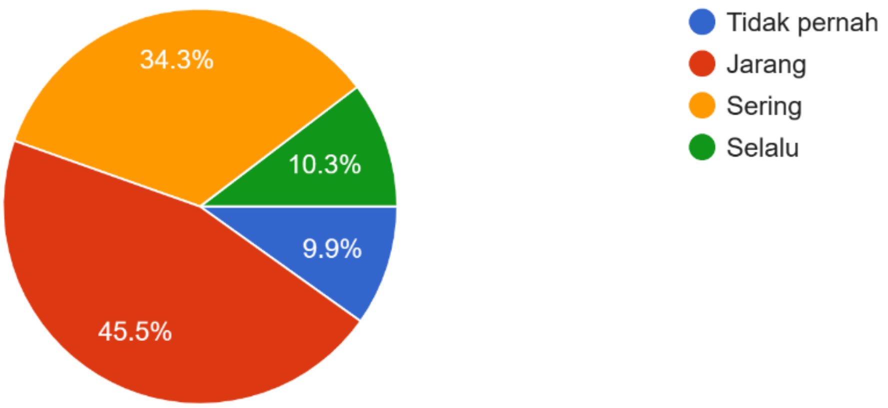

Figure 6. Education Obtained Enough To Achieve Career Goals

Figure 6 shows related data adequacy education that has been obtained current to achieve objective student career. There were 21 students (9.9%) who stated this education received currently not enough to achieve objective career. Most of the students, as many as 97 people (45.5%) stated education received not yet enough support to achieve objective career. There were 73 students (34.3%) who stated that their education had been completed obtained enough support to achieve purpose, and 22 students (10.3%) stated education received this time is very enough to achieve objective career forward .

Information Work & Further Study

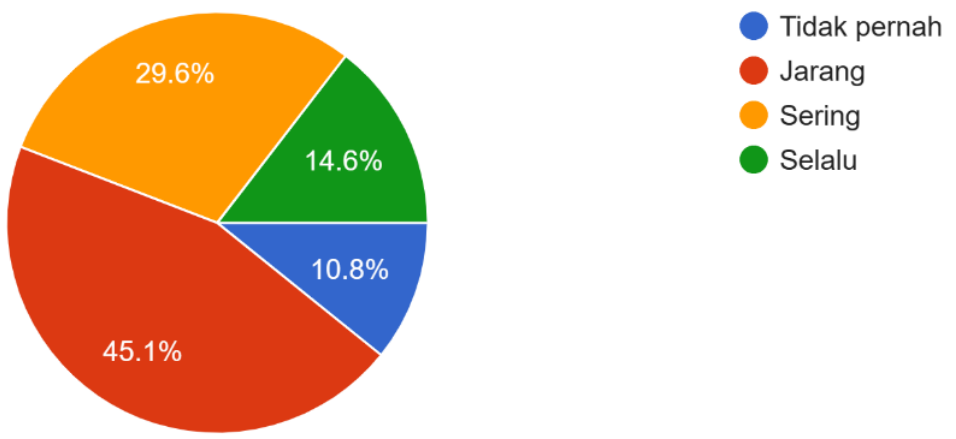

Figure 7. Information about future profession /career

Figure 7 depicts the related data information about your future profession/career chosen by students. A total of 23 students (10.8%) never did own knowledge about future profession/career selected. Most of the students, namely 96 people (45.1%) still seldom own knowledge about future profession/career selected . A total of 63 students (29.6%) often own knowledge about future profession/career selected, and as many as 31 students (14.6%) always own knowledge about future profession/career selected .

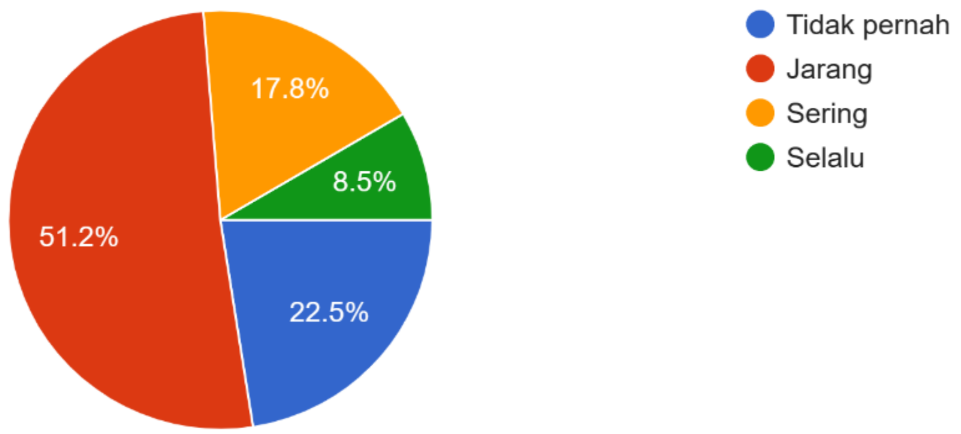

Figure 8. Participation in activities related to profession / career

Figure 8 shows the related data student participation in events/activities related to profession/career. There were 48 students (22.5%) who said they never did Participate in events/activities related to your profession/career. The majority of students, as many as 109 students (51.2%) stated seldom follow activities related to profession/career. A total of 38 students (17.8%) often follow activities related to the profession career, and 18 students (8.5%) stated always follow related activities /events with profession/career .

Counselor's Needs Study

Implementation Independent Curriculum in Schools

In effort develop guide development of planning guidance career in implementation curriculum independence that suits the needs in the field, you need to know in a way clear about implementation curriculum used in the unit education high school level. Following related data is presented use curriculum in 16 high school schools in Gresik district, East Java.

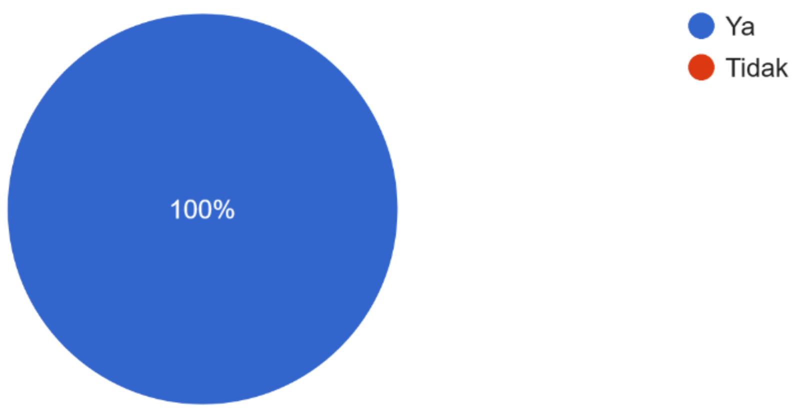

Figure 9. Implementation Independent Curriculum in Schools

Figure 9 shows the related data application curriculum independence in secondary school above in Gresik district. A total of 16 schools (100%) of public and private high schools in Gresik district have implement curriculum independent in maintenance activity Study teaching at their respective institutions.

The following data show device guidance and counseling services needed by counselors in internal schools implementation Independent Curriculum.

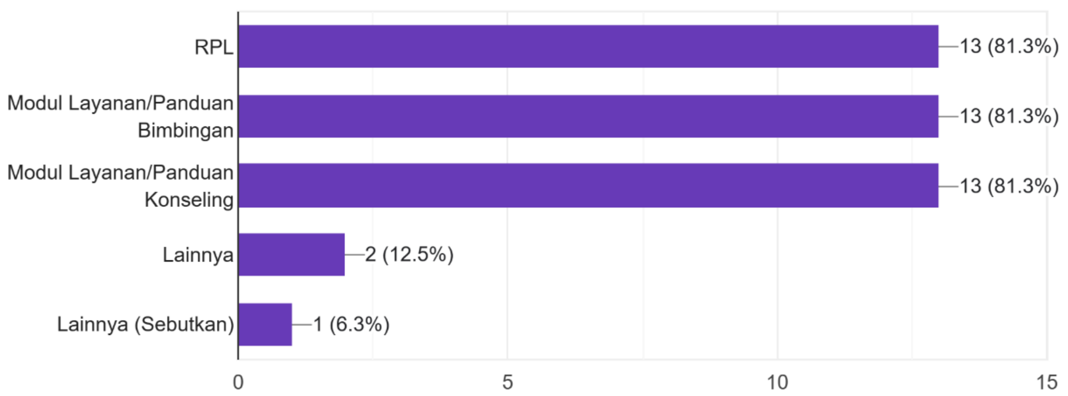

Figure 10. Device Guidance and Counseling Services Required by Counselors in Implementation Independent Curriculum

Figure 10 Shows information related device guidance and counseling services needed by counselors in internal schools implementation Independent Curriculum. A total of 13 BK teachers (81.3%) each stated that their device need Plan Implementation Services (RPL), modules tutoring services/guides, and modules counseling services/guides . Meanwhile, 3 guidance and counseling teachers (18.7%) stated need device others .

Planning Guidance Services in Schools

In effort develop planning guidance guide careers for high school students that suit the needs in the field , it is necessary to know in a way clear level the class that needs it most planning guidance services career , especially in application curriculum freedom at school.

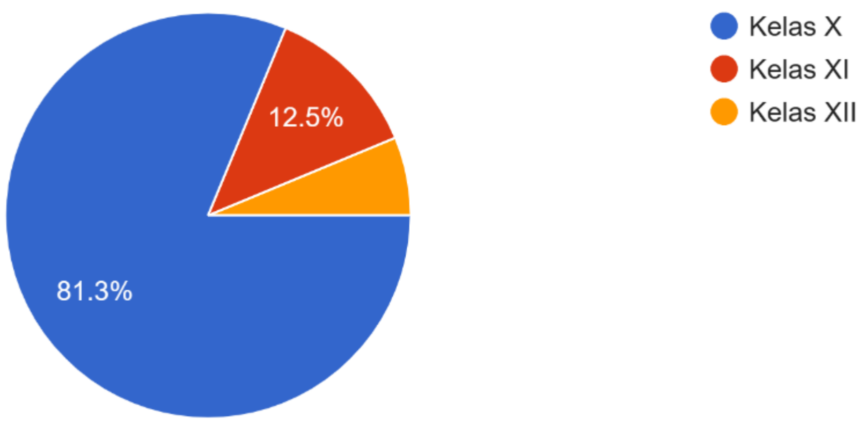

Figure 11. Needs Implementation of Career Planning Guidance Based on Class Level

Figure 11 shows level need providing planning guidance career ideally according to counselor based on level class related to maintenance curriculum freedom at school. A total of 13 counselors (81.3%) stated that it would be ideal planning guidance services Students' careers are carried out at various levels class X high school. A total of 2 counselors (12.5%) stated that planning guidance services career required in class XI, and 1 counselor (6.2%) stated required in class XII.

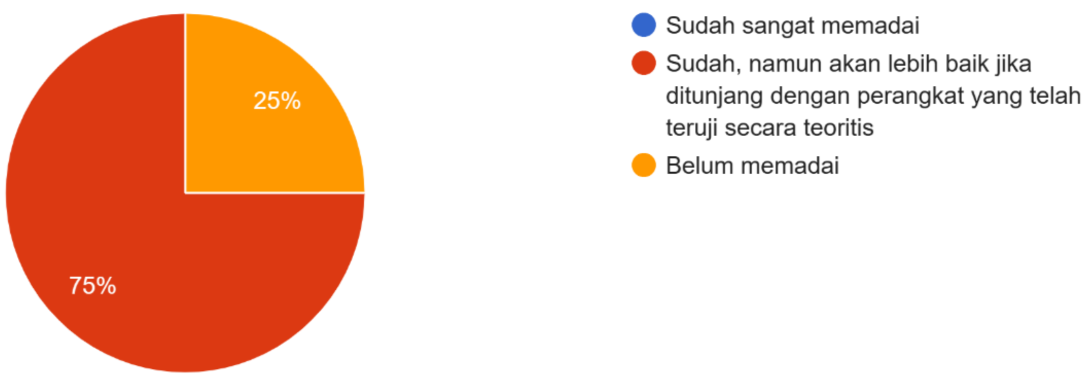

Figure 12. Device School Counselor Career Planning Guidance Services

Figure 12 shows availability owned device _ counselor at school to support planning guidance services career . A total of 12 counselors (75%) stated that they already had device planning guidance services career However will more Good If supported by existing devices _ tested in a way theoretical . Furthermore as many as 4 counselors (25%) stated that they Not yet own adequate devices to support _ planning guidance services career .

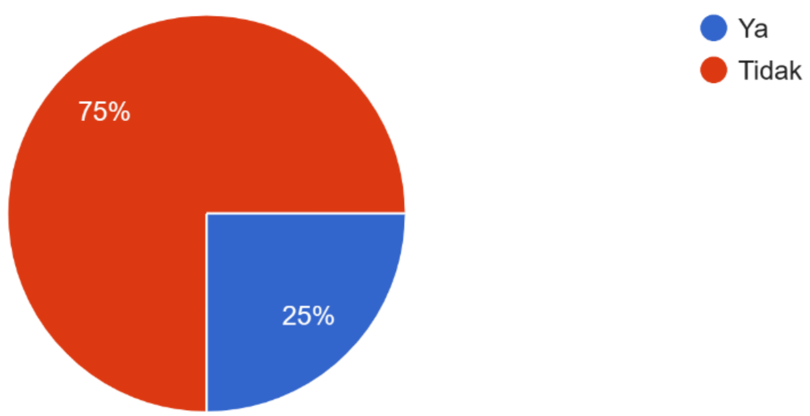

Figure 13. Availability Device Career Guidance Services that Have Been Arranged By Systematic and Tested Theoretical

Figure 13 shows availability device career guidance services at schools that have arranged in a way systematic and tested in a way theoretical . A total of 12 counselors (75%) stated that they did not have one device arranged career guidance services _ in a way systematic according to theory career and have tested in a way theoretical . Meanwhile, 4 counselors others (25%) stated has own device career guidance services that have been provided tested .

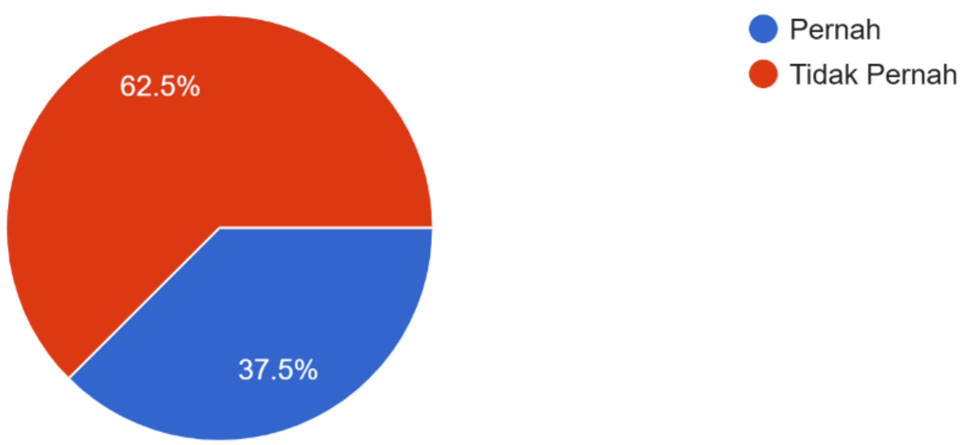

Figure 14. Development Career Planning Guidance Guidebook by Counselors

Figure 14 shows experience counselor in develop book guide or module planning guidance services career at school. A total of 11 counselors (62.5%) said never develop device book guide or module planning guidance services career . Meanwhile, 5 counselors others (25%) said they had try develop device book guide or module planning guidance services career .

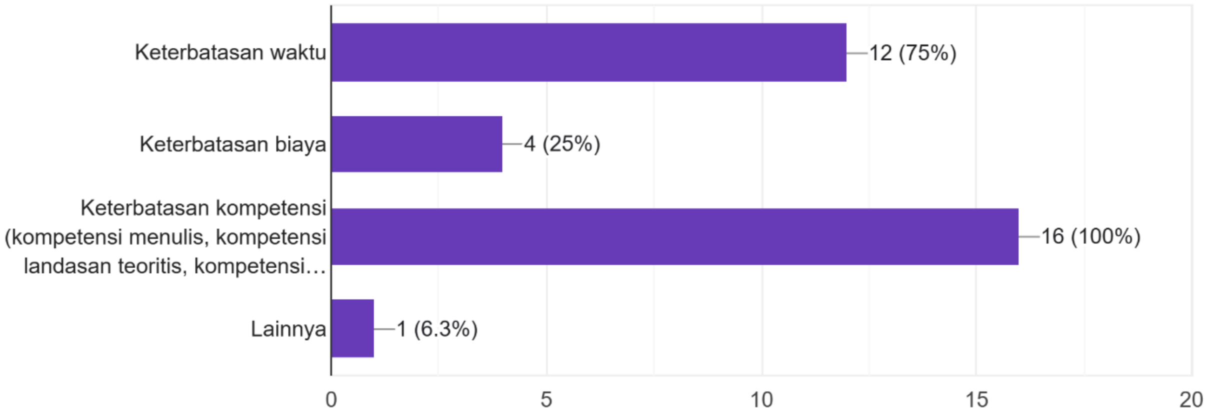

Figure 15. Barriers Counselor in Development Handbook / Service Module

Figure 15 shows related data obstacles experienced _ counselor at school in develop device book guide/module service . A total of 16 counselors (100%) stated that there were obstacles main they in develop device book guide or module service is limitations competencies that include competence knowledge base theoretical, competency writing , competency in compiling instruments, competency in testing validity and reliability, and competency others . Furthermore, 12 counselors (75%) stated obstacle they is limitations time . Meanwhile, 4 counselors (25%) stated that they were obstacle is limitations costs , and 1 Counselor (6.3%) stated others.

Response Counselor To Development of Based Career Planning Guidance Project

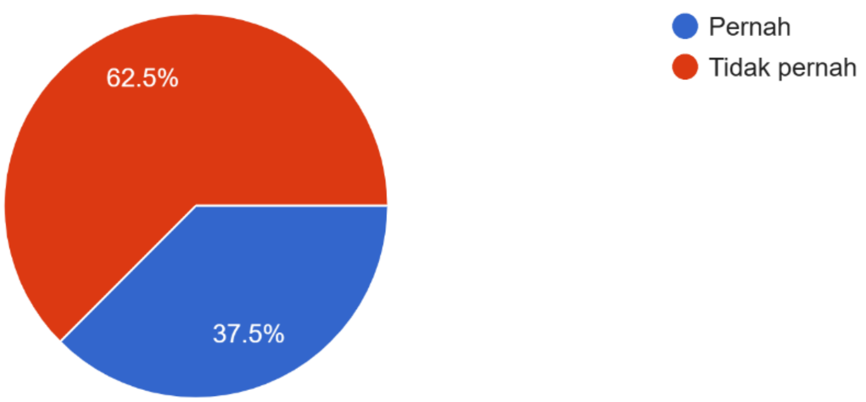

Figure 16. Experience Implementation Based Career Planning Guidance Services Project

Figure 16 shows the experience data counselor in carry out planning guidance services career based project . A total of 11 counselors (62.5%) stated that never carry out planning guidance services career based project . 5 Counselor others (37.5%) stated Once carry out planning guidance services career based project .

Figure 17. Opinion Counselor on Development Guidebook for Based Career Planning Guidance Project

Figure 17 shows opinion data counselor related development book planning guidance guide career based project. A total of 16 counselors (100%) stated that career guidance services will more interesting if developed book planning guidance guide career based dream proposal project.

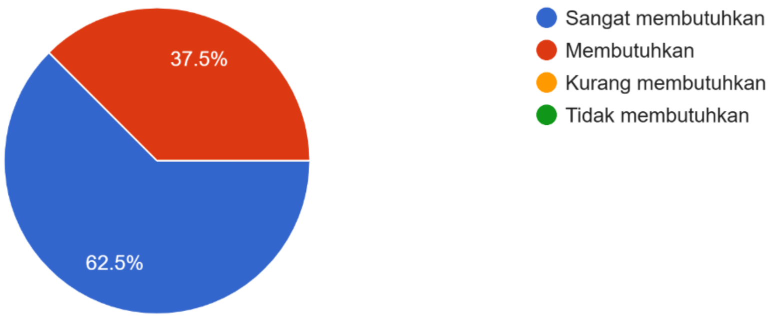

Figure 18. Needs Counselor to Guidebook for Based Career Planning Guidance Dream Proposal Project

Figure 18 shows need counselor to development book planning guidance guide career based dream proposal project. A total of 11 counselors (62.5%) stated that they really needed it book planning guidance guide career based dream proposal project . A total of 5 counselors (37.5%) stated need book planning guidance guide career based dream proposal project .

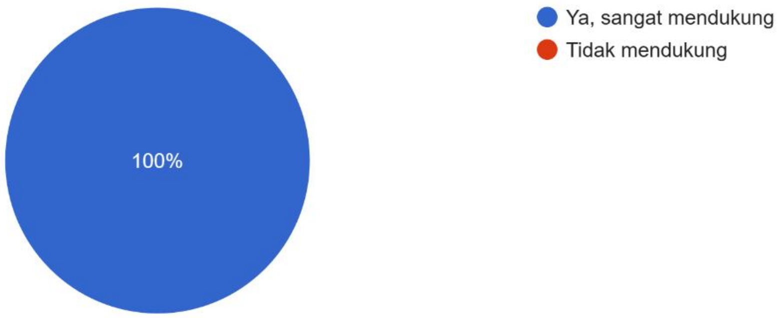

Figure 19. Opinion Counselor to Development Guidebook for Based Career Planning Guidance Dream Proposal Project

Figure 19 shows the response data counselor to development book planning guidance guide career based dream proposal project in implementation curriculum independent. A total of 16 counselors (100%) stated that they strongly supported it development book planning guidance guide career based dream proposal project in implementation curriculum independent .

Conclusion

Based on results study obtained conclusion that student’s ability of career planning are still low. This is proven by several data that many students have not realize their strengths and weaknesses of himself, the students have not know how to achieve their career goals, students have not thinking about making career planning, facilities at school not yet maximum in support student’s career planning, as well part large number of students yet know information about the profession/future career that will be chosen. Furthermore results research conducted to school counselor in Gresik district concerned on career guidance services in implementation “Merdeka curriculum” obtained results that the counselor need module/books about career planning guidance guide based on project based learning.

Acknowledgements

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The Speed Skill of High School Athletes in Supporting Achievement in Karate Martial Arts

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Abstract: Karate martial arts is one of the full body contact martial arts. In karate martial arts there are two types of categories namely Kata (art) and Kumite (fighting). In the kumite / fight (fighter) class, its success is greatly influenced by kime. The *kime* process occurs due to movements performed with speed, explosive power and strength occurring simultaneously by following the rules in the match. The biomotor component of speed plays a role in the development of karateka's potential to become athletes who excel both nationally and internationally. Speed is not only emphasized in athletes but also in those who want to learn karate both at elementary school, junior high school, high school and college levels. Therefore, speed training must have many models and coaches must be innovative in creating speed training models for high school students by paying attention to the anatomical structure and physiology as well as the biomechanics of motion according to the speed needs in karate martial arts. And the discussion in this study is 1) how is the speed transfer in karate martial arts at the high school level? 2) How do karate martial arts athletes respond to speed training provided by the coach? This research uses qualitative research. The sample was athletes aged 15-17 years or athletes in high school and coaches who train in high school. Information was collected using observation sheets and questionnaires. From the investigation it was found that: 1) routine and programmed training is carried out at the training ground 2) training still uses the old model and has not adjusted as the needs of the altet and gives the impression of monotony so that athletes easily feel bored.

Keywords: Karate,High School,Speed, reaction

Citation: Dos Santos, M. H., Yusmawati, Samsudin, Dos Santos, H. A., & Awaluddin, M. (2023). The Speed Skill of High School Athletes in Supporting Achievement in Karate Martial Arts**.** In M. Demirbilek, M. S. Ozturk, & M. Unal (Eds.), *Proceedings of ICSES 2023-- International Conference on Studies in Education and Social Sciences* (pp. 305-311), Antalya, Türkiye. ISTES Organization.

Introduction

Karate is a martial arts sport originating from Japan, developed on the island of Okinawa which was originally created by a master named Gichin Funakoshi (Mamadaliyeva & Nurmamatova, 2023). In Karate movement techniques have basic movements, ranging from stances, parries, punches, and kicks (Greco & De Ronzi, 2020). In karate there are two groups of movements or categories of movements, namely Kata (moves) and Kumite (fighting) (Santos, 2016). However, to perform both categories, all basic techniques in karate must be well mastered (Navickaitė & Thomas).

Karate is a branch of martial arts that is performed with full body contact called the kumite category (Ioannides et al., 2020). However, it has rules in matches that prioritize the safety of athletes when competing (PAL, 2020). Movement in karate martial arts contains kime (Ojeda-Aravena et al., 2021), this kime is influenced by several biomotor components including speed, explosive power, strength and flexibility (Doder et al., 2021). The combination of these biomotor components produces maximum kime if performed at the same time in one or two movements in fighting (Š ć epanovi ć & Vlahovi ć, 2013).

Indonesia is one of the countries that makes karate martial arts as a superior martial arts sport, this is evidenced through several international karate martial arts championships, both multi-event Indonesian karate martial arts athletes often win international events (Riyadi et al., 2020). The linkage of karate martial arts talent development in Indonesia can be seen from elementary school to university (Prasetyo & Djawa, 2021), this is associated with the existence of Student Sports Competitions (KOS) for karate martial arts branches ranging from regional to national levels (KOSN) which are held annually in collaboration between the ministry of education and the ministry of sports (Utami et al., 2021). So that some schools have provided special talent coaching for students who want to excel in karate. However, there are still many schools that have not fulfilled what their athletes need so that athletes' achievements when participating in inter-secondary school competitions, besides that the coach has not fulfilled these needs so that his athletes can get maximum performance at competitions between karate martial arts clubs (Imamura et al., 2019). Therefore, increasing the biomotor component of speed achievement of karate martial arts athletes needs to be a special concern in terms of training models and coach innovation in training, especially for athletes who are in high school.

This research focuses on the speed problem of karate martial arts athletes in the kumite category at high school, where the speed problems that the author examines are kick speed and punch speed. Speed in karate martial arts has a dominant influence (Al-Lami, 2020) on the high performance of karate martial arts athletes when fighting in the dojo (training) or during the match.

This study is very important to be a source of information for researchers themselves and for karate coaches and athletes who want to improve speed in an effort to produce good kime (Trisnar Adi Prabowo, 2020) so as to obtain high performance. In addition, the results of this study also serve as an evaluation to obtain solutions to the problems of karate martial arts speed in high schools. This study explores the problems of speed in punches and kicks of karate athletes. So that in the end conclusions can be drawn regarding solutions to create good speed for karate martial arts athletes in high school. This study also serves as a reference for future researchers to develop new training methods and create new instruments for the speed of karate martial arts athletes in high schools.

Research Problem

The research problem of this study is formulated into these questions:
(1) How is speed training for high school athletes?
(2) How do students who are also athletes respond to karate speed training?

Method

This study uses qualitative research which aims to describe actual phenomena (Sugiyono, n.d.). The sample was ten karate martial arts athletes who were in high school and 2 karate martial arts coaches in Bone Regency. The instruments used were: 1) Observation Sheet, 2) Questionnaire. This research was conducted for one month at Dojo Inkanas Bone Regency, South Sulawesi.

Results

From the observations of coaches and high school student athletes, it was found that coaches have not found new innovations in training speed and still apply the old training model. This means that the coaches know the importance of speed training to improve the performance of athletes who are still in high school. Below are the results of the researcher's observations of karate coaches in high school.

Results from observation

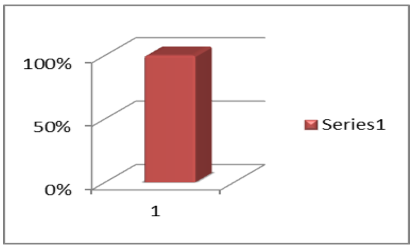
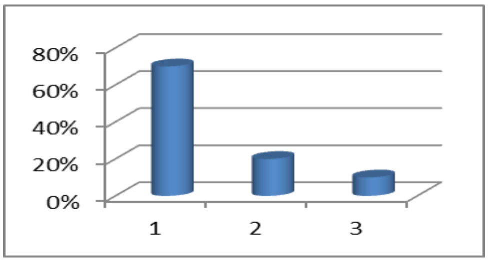
No.	Indicator	The Result of observation			
		1 (25)	2 (25)	3 (25)	4 (25)

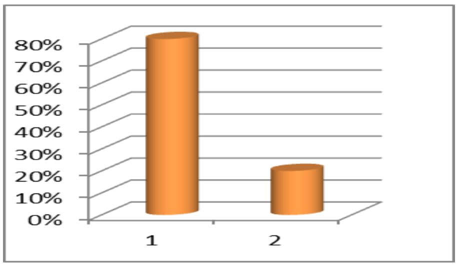
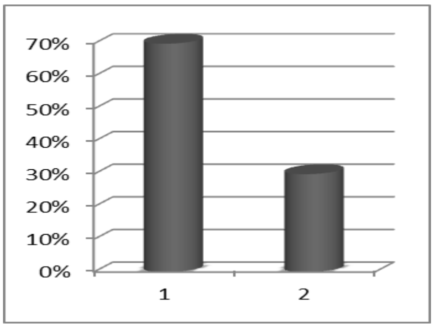
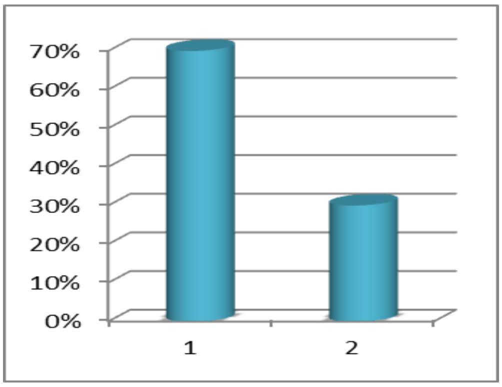
1	Coach has a Coach License/Certificate	√	√		
2	Coaches understand the importance of training speed in high school athletes	√			
3	The coach has a regular training program for his athletes	√			
4	The coach provides speed training material that encourages athletes in training	√			
5	The training model used is not monotonous	√			

Figure 1. results observation

Discussion

The questionnaire was administered to ten high school athletes. There were five questions given to the athletes which aimed to find out the athletes' opinions on speed training. The researcher has created an instrument to collect information:

No.	Question	Answer
1	Do you know that speed in karate is important because it is essential for successful movement during a fight? a. Yes, I know b. Yes, I know, but a little c. No, I don't know	10 athletes (100%) answered that they know that speed in karate martial arts is important because it supports the success of movement when fighting. 
2	Does speed training at the dojo suit your needs as an athlete? a. Yes, it does b. Yes, but a little c. No, not appropriate	7 athletes (70%) answered that speed training at the dojo suits the needs of athletes to support their achievements in the fighting category. 2 athletes answered that it was slightly appropriate and 1 athlete answered that it was not in accordance with his needs as an athlete. 

3	Does the speed training material provided help improve the athletes' punching and kicking speed? a. Yes, it helps b. Yes, it helps, but a little c. No, not helpful	8 athletes or (80%) answered that the speed training material provided helped increase the athlete's punching and kicking speed. 2 athletes answered that it helped a little in increasing their speed.. 
4	Does your coach provide an interesting speed training model that keeps you engaged during training? a. Yes, interesting b. Yes, interesting, but a little boring c. No, not interesting	7 students (70%) answered that the coach provided interesting speed training material and made the high school athletes excited during training. 3 athletes chose the answer a little interesting and boring to the material given by their coach. 
5	Does your coach provide speed training regularly? a. Yes, regularly b. Yes, but little c. No, not routine	70 athletes (70%) answered that the coach provides speed training regularly. 3 athletes answered that there was little routine regarding the speed training provided by the coach. 

Conclusion

From the results of observations and observations of data based on questionnaires given to high school athletes, researchers can draw the conclusion that the speed training provided at the dojo has not fully met the needs of athletes, athletes feel that the speed training provided has not fully increased the speed of punches and kicks on athletes when fighting, athletes think that the speed training model has not fully attracted athletes during training and speed training is not routine. Therefore, there needs to be a routine training program for speed and supported by a better speed model so that the enthusiasm of athletes during training increases so that the speed of athletes in carrying out movements also increases.

Notes

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Development of Early Childhood Basic Movement Play Model (5-6 Years)

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Abstract: Because of the condition of limited gross motor learning, especially in basic movements based on the play method for children aged (5-6 years) is the main problem in this study. This study aims to develop a learning model for non-locomotor, locomotor and manipulative basic movements as an effort to improve basic movement skills in students and increase children's interest in doing basic movement activities. The type of research adapted is Research and Development (R&D). The subjects used for the small scale test amounted to 5 people, the large scale test was 20 people while the effectiveness test involved 25 of the students and educators at Al Amin Kindergarten. Martapura. Instruments for product assessment tests using questionnaires and questionnaires. Thus, this study provides evidence that the development of a 5-6 year old basic motion play model can be used continuously to improve the quality of motion of 5-6 year old students.

Keywords: Development, Basic Movement, Early childhood

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Introduction

Gross motor skills are often displayed by children during play, these movements include throwing, catching, kicking, kicking, two-handed and one-handed attacks, bouncing balls, running, jumping, dodging, and vertical jumping. (Amini, 2019) Games are a form of fun activity that reflects the reality of acquiring knowledge. Therefore, games are very suitable for children. Apart from having fun, children can also deepen their experience and knowledge by playing. (Sistiarini, 2021)

Play is an important and fun thing for children that can affect the growth and development of a child. As the opinion (Ardini, 2018) play is a child's right that has an important and essential value during childhood and is a very important activity in the development of his personality. Playing for children is not just filling time but a medium for children to learn which is useful for increasing positive values for the development of all aspects of themselves. Aprilianti et al. (2023) modify the basic motion-based big ball game with a play approach in order to develop basic movement skills and be developed as a guide for sports teachers and learning with game concepts (Verawati, 2021). Basic movement is a repetitive movement that is carried out continuously from habit and makes movement the basis of experience so that their movements become good (Sepulveda et al., 2017).

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Basic movement for early childhood learners is one of the activities to develop the ability to move from one place to another. Body movement. According to (Gallahue, 2017) there are three groups of fundamental movements, namely: a) locomotor movements b) non-locomotor movements c) manipulative movements that are useful for fostering and improving the development activities of the ability to endure the movements of early childhood learners, then the key must have the characteristics of learning while playing. (Gallahue, Developmental physical education for all children., 2007)

Modification of basic movements can be done in various ways using equipment such as: low goals, tires, bamboo slats and small balls, which are arranged in such a way, both distance, series, formation, and height or width. (Tovey, 2009) Jospiah revealed that the modification approach with the play method can make the material in the curriculum can be presented in accordance with the stages of cognitive, affective, and psychomotor development of children. (Jospiah, 2017).

The ability to maintain one's balance under various circumstances is recognized as one of the foundations of motor skills. (Ilie, 2017). Learning motion is strongly influenced by various models of training forms, experience factors, or learning condition situations in human motion (Mustafa P. S., 2020). Motion learning is very important because it is useful for teachers and coaches in carrying out their profession, especially in terms of making training programs, selecting training strategies, and the situations and conditions of athletes that need to be considered. (Sahabuddin, 2020).

The effectiveness of flower circuit games on the development of gross physical motor of group B children. The scope of this study was about gross motor skills that included elements of physical fitness such as strength, accuracy, agility and balance. (Haryanti, 2019).

This research focuses on the problem of developing a basic motion play model that is completely new and given to early childhood (5-6 years), where the problem of the basic motion play model that the author examines is non-locomotor, locomotor and manipulative movements. The development of basic movement skills must be learned and practiced in a structured learning environment sequentially based on the sequence of children's motor development.

In addition, the results of this study also serve as an evaluation to obtain a new basic motion play model that will be applied by early childhood (5-6 years). This development study explores how basic movement problems that are divided into 3 groups, namely non-locomotor, locomotor and manipulative, are resolved in the renewal of the concept of play. So that in the end conclusions can be drawn regarding solutions to create a play model for early childhood (5-6 years). This study is also a reference for further researchers to develop the latest play methods, especially non-locomotor, locomotor and manipulative basic movements for children aged 5-6 years.

Research Problem

The research problem of this study is formulated into these questions:

(1) What is the basic movement play model for children aged 5-6 years?

(2) What is the response of 5-6 year old children who are also students and children who take part in extracurricular activities?

Method

This study uses borg and garll research which aims to design new products and then systematically tested in the field, evaluated and refined until they meet specific criteria, namely effectiveness, quality and meet standards. The sample is 20 early childhood (5-6 years) who are in Group B. The instruments used are: 1) Observation Sheet, 2) Questionnaire. This research was conducted for one month at Al Amin Kindergarten Martapura South Kalimantan.

Results

From the observations of educators and early childhood (5-6 years), it was found that educators in the regions and both educators in urban areas still have not found new innovations in teaching gross motor according to the curriculum, especially in basic motion learning (non-locomotor, locomotor and manipulative). This means that educators know the importance of basic movement play activities to increase children's willingness to learn gross motor. Below are the results of researchers' observations of early childhood educators (5-6 years).

No.	**Indicator**	**The Result of Observation**			
		1 (25)	**2 (25)**	**3 (25)**	**4 (25)**
1	Educator has certificate/License on Gross Motor				
2	Educators understand the importance of practicing basic movements in early childhood (5-6 years)	✓			
3	Educators have a structured program for early childhood (5-6 years)	✓			
4	Educators provide material and demonstrate basic movements with enthusiasm during learning according to RPPH / RPPM	✓			
5	The play model used varies				

Results from Observation

No.	Indicator	The Result of observation			
		1 (25)	2 (25)	3 (25)	4 (25)
1	Coach has a Coach License/Certificate	✓	✓		
2	Coaches understand the importance of training speed in high school athletes	✓			
3	The coach has a regular training program for his athletes	✓			
4	The coach provides speed training material that encourages athletes in training	✓			
5	The training model used is not monotonous	✓			

Figure 1. Observation Results

Discussion and Conclusion

The questionnaire was given to 5 educators. There were five questions given to the educators which aimed to find out the educators' opinions regarding the basic movement play model. The researcher has made an instrument to collect information:

No	Questions	Yes	No	Responses
1	Does the educator convey and demonstrate at the beginning of the lesson related to gross motor learning with the concept of play?		✓	It was observed that there was no delivery at the opening of the lesson
2	Does the educator introduce some parts of gross motor such as basic movements?	✓		Educators only introduce the form of movement that will be done later to students
3	Does the form of basic movement given make learners happy and active?	✓		Some students are still not active to move if the percentage is only 60%.
4	Does the educator stimulate the form/model of learning that will be done first?	✓		It was observed that from 13 students or (70%) responding as seen from the activeness of students when making observations in the field.
5	Are educators creative in developing basic movement forms using tools/media?		✓	It was observed that educators are still unable to develop movements in gross motor with a specific purpose.

From the results of observations and observations of data based on questionnaires given to educators and students of early childhood 5-6 years), researchers can draw the conclusion that basic movements such as locomotor, non-locomotor and manipulative movements provided at Al Amin Martapura Kindergarten have not fully met the needs of students, students feel that basic movements are boring. Educators also feel that they are still not creative in developing play media that will be carried out by students in basic movements, educators argue that the learning model in gross motor basic movements with the play method has not fully attracted the enthusiasm of students during learning activities and learning activities related to gross motor still bellum routinely programmed. Therefore, there needs to be a routine exercise and learning program to be carried out by students so that the enthusiasm of students during learning activities increases so that the basic movements of students increase and create golden time for students at the age of 5-6 years.

Notes

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The Use of Blogs as a Dynamic Curriculum

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Abstract: In modern school education, the integration of technology has revolutionized traditional teaching methods and introduced innovative approaches to curriculum design. Class blogs and student blogs have emerged as dynamic web 2.0 tools that hold immense potential to transform the learning experience in schools. This abstract explores the utilization of class blogs and student blogs when both used as a dynamic curriculum strategy, highlighting their benefits, challenges, and implications for enabling active student engagement, collaborative learning, and the development of essential 21st-century skills. Class blogs, often managed by educators, offer a platform for disseminating course content, assignments, and supplementary materials that can be flexibly modified. The ability to integrate multimedia elements such as videos, images, and interactive quizzes further enhances the learning experience, catering to diverse learning styles and promoting deeper understanding. Additionally, student blogs empower learners to become content creators. These blogs provide students with a space to express their thoughts, reflect on their learning experiences, and share their insights with a wider audience. The use of both class blogs and student blogs to build a curriculum, when properly deployed, will promote active engagement and motivation by offering individualized and interactive learning environments. Blogs encourage the development of digital literacy skills and critical thinking, as students learn to navigate online platforms, create multimedia content, and evaluate digital sources. These skills are essential in the 21st-century workforce. However, challenges do exist in the implementation of class blogs and student blogs. Privacy and authentication of student's assignments in their own blogs which require educators to be creative in choosing assignments that promote differentiations. Educators must also devote time to train staff for this technology.

Keywords: Blogs, Class blog, Student blog, Dynamic Curriculum, Electronic Portfolio, Active Learning, Self-reflection.

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Introduction

The rapid development of digital technologies and the incredible growth of social media, over recent years, have presented educators with a variety of means and with many opportunities and challenges to make use of these digital tools (Fanouraki & Zakopoulos, 2023). Additionally, there is significant evidence that the use of digital technologies can assist learning and teaching and enhance the ability of children to learn effectively (The

Scottish Government, 2015; OECD, 2015; Olofsson, Lindberg & Fransson , 2017). Also, the digital literacy requirement for students in the 21st century has to do with the ability of the person to manage, access, integrate, evaluate and use as an individual or as part of a team the current ICT along with the ability to adapt to new technologies and use it at work or at home in an effective manner (Saad, 2021). This will support students' acquisition of the knowledge and skills needed to succeed in the knowledge based 21st century society. The graduates of secondary school must have these skills for the digital literacy requirements (i.e. ICT skills, critical thinking skills, and ethical skills). Additionally, there are always challenges in teaching science, technology, engineering and mathematics to K-12 students, known as STEM subjects due to the scientific nature of these subjects that require strong thinking, higher order as well as the ability to connect and relate to abstract concepts. In addition, the number of students interested in these subjects is decreasing (Hom, 2014).

The combined technology will ensure designing a curriculum that is dynamic. Dynamic curriculum refers to a flexible educational framework or plan that is adaptable and responsive to the changing needs, interests, and circumstances of students, society, and educational contexts. It is designed to evolve and adapt over time to ensure it remains relevant, engaging and effective in achieving its goals. So, a dynamic curriculum enhances learning with flexibility, real-world relevance, and technology integration. It promotes adaptability, critical thinking and interdisciplinary understanding, which helps preparing students for scalable careers and instilling the values of sustainability and social responsibility, thereby promoting a rich learning journey. Adaptability in education is essential for students to thrive in a rapidly changing world. Reasons include rapid technological change, globalization, changing labor markets, the need to solve complex problems, promoting a lifelong learning mindset, diverse learning styles, management uncertainty and drive innovation. An adaptive education system develops agile learners, critical thinkers, effective communicators and responsible global citizens, preparing them for a future dynamic. As the use of Web 2.0 applications such as blogs will also enable students to acquire their digital literacy (Saad, 2021) and build a dynamic curriculum.

What are Blogs

Blogs are an educational tool that has been used over a long time with several subjects in many educational levels (Sad et al., 2018). According to Xie et al. (2010) blogs promote deep cognitive thinking by increasing the learner's motivations and mindful manipulation of ideas. This means improvement of learners' reading and writing skills through blogging-based writing practice (Ibanez 2022; Cantina 2022; Alsamadani 2017). As McGurk puts it: blogging can increase student engagement by cultivating a student-centered online environment that motivates students to write for an audience. Furthermore, when paired with effective instructional design, the review found that blogging can promote student self-expression and create opportunities for higher-order thinking (McGurk, 2014). Sim and Hew (2010) have defined blogs as "personal web pages, or internet-based pages" which have mainly four features: "updates that are displayed in a reverse chronological order, hyperlinked post pages, individual ownership, and archival of all posts". Blogs can be divided into two main types: Teacher's blog and student's blogs.

Teachers Blog

Teacher’s blog is where teachers insert their own version of the curriculum gradually, dynamically and puts assignments for students throughout the semester. The gradual insertion of the curriculum is important for the sake of the pedagogic learning for students and in order for them to grasp the educational material slowly and gradually. The dynamic nature of blogs enables the teacher to instantly change the educational material given to students according to his/her own judgment and based on the current learning level of students, hence, the teacher has the ability to modify the curriculum instantly which was never before available with curriculum that is based on books or printed materials which require enormous time to print or modify. In fact, in some experimental assignments the modification may be within the current educational session and based on the formative assessment obtained from students. Teacher blogs are powerful online platforms for educators to share knowledge, resources, and teaching experiences on a global scale. Acting as accessible knowledge repositories, they facilitate global communication and collaboration, provide interactive learning experiences with multimedia, provide information and updates in real time, encourages discussion and critical thinking, fosters a learning community, highlights expert knowledge, improves parent-teacher communication, and promotes lifelong learning. Teacher blogs are revolutionizing education, leveraging technology to enrich the teaching and learning experience.

Students Blog

Students blog is the student's collection of his own work that could be answers to specific assignments or it could be his or her own work within a specific period of time. The work inserted in the student blog could be accumulative which enables the student to consider as his/her own accomplishment to help him/her reflect on his/her work and hence deepen his/her own learning.

In fact, Blogs are a vital tool to share and discuss information in real-world problem-solving (Thohir et al., 2020). Video blogs can be as suitable for learning as text blogs (Delgado et al, 2022). In another study, it shows that using teaching blogs not only enhances learner satisfaction, but also increases university students' learning achievement. Another study results show that higher quality teaching blogs positively influence the extent of student blog use, which in turn positively influences student learning satisfaction and achievement. (Wang, 2022). Additionally, in an investigation of the integration of blogs into EFL classes: Learners' views towards blogs and preferences for writing classes. The findings had revealed the learners' views towards their self-confidence, digital literacy, and writing habits, which changed in a positive manner. Besides, it was also understood that the participants made their preferences in favor of blogs rather than paper-based activities (Bal, 2021). In one of the experiments for student teachers where they used blogs, the researcher reported “that the student teachers enjoyed re-reading their blogs, were able to identify their development in terms of their professional identity, and their writing skills, and felt that the practice increased their sense of self-efficacy.” (Biberman-Shalev, 2022). Engagement can be defined as the amount of enthusiasm, eagerness, and consistency that learners put into learning (Mebert et al., 2020). So Teachers can enhance students learning by the following steps:

1 - Goal Setting: Research literature indicates that a teacher's goal-setting ability is an effective way to enhance academic engagement. However, teachers ultimately feel unprepared to include goal-setting instruction into academic content in order to support active student engagement (Rowe et al., 2017).

2- Defining Rules: Teachers need to define rules in order to clarify their expectations. This will facilitate student's engagement through their feeling of competence. Also, the belief of students that their teachers are here to support their learning will also make them more engaged in learning through the sense of belonging that was generated (Thijs & Verkuyen, 2009). So, when teachers define clear objectives, communicate expectations, give guidelines and monitoring work development, respect students' rhythm all are important issues in order to create secure environments, where students can develop a perception of belonging and interpersonal meaningful relationships, which also mean a sense of competence that will affect their engagement (Thijs & Verkuyen, 2009). So Curriculum is a standard-based sequence of planned experiences where students practice and achieve proficiency in content and applied learning skills. (DOE Rhode Island 2023), and the proposed framework for a dynamic curriculum will combine many advantages; it may enhance learning by ongoing changes by teachers, it may promote motivation by using ICT and blogs specifically, which is a Web 2.0 technology, it may also enhance digital literacy requirements for the secondary students through practicing ICT skills and Critical thinking and other 21st century skills, which both promote lifelong Learning (Saad, 2020).

Method

This research uses mixed research approach qualitative and quantitative methods in order to describe, explain and analyze the data. The approach is interpretive, naturalistic approach which attempts to make sense of or interpret the use of dynamic curriculum in terms of the meanings for the people using it. Hence, it involves the study and use of a collection of a variety of empirical materials as the case study in our approach. Another reason to choose a qualitative strategy in this research is the scale of this study, this involves a small group of learners. Additionally, the qualitative method is "devoted more to developing an understanding of the human system in general, such as a teacher using technology with his or her students inside a formal classroom" (Spector, 2008). Quantitative Data tools for Academic Performance was used throughout the experiment. This research aimed to conduct empirical inquiry with groups of learners. Hence, it required the use of different instruments in order to cover different perspectives like attitudes, knowledge, skills in depth. Patton (2002) had noticed that observations in combination with interviews provide researchers deeper understanding of the field of inquiry. Additionally, validate data will be in a more acceptable manner.

The researcher will study two schools with the aim to assess the impact of a dynamic curriculum compared to a static one on student learning outcomes in two settings: The first setting manifested in School A where is teacher blog only, while the second setting manifested in School B where there are Teachers Blog and students each has his own blog. So school A has three classes 9th grade two all-male classes (n1=27), (n2=25) and one all female class (n=23), three teachers and four teachers as short-term supervisors accompanied students during the experiment. While school B is 10th grade all male students (n=22) two teachers and three teachers as short-term supervisors accompanied students during the experiment. The study was conducted in school A during the academic year 2022-2023 starting from September 2nd, 2022 up to May 20th, 2023. While the study in school B was conducted from March 1st 2023 up to May 20th 2023. In school A the approach was to use one class blog for all three classes during the time period, while in school B class blog along with student blog were used and student post to their blogs according to given assignments.

Data Tools:

Data tools for Academic Performance includes Weekly Quiz Scores (Quiz 1 and Quiz 2), Midterm Exam Score, and Final Exam Score. Semi structured interview, observation, and data analysis of Class Blog, Student's blogs, Semi-Structured Interviews were designed and conducted with all participating teachers and students. Semi-structured interviews were chosen as the main qualitative data collection. The teachers and the students were free to talk about what is of central significance to them. Five-point Likert scale was used to measure perceptions of teachers and students using Blogs versus paper materials and school content management system called Edupage which was used only in School A. Levels of agreement by teachers and students to use Class Blogs during the experiment complied of Likert 5-point scale from agree to strongly disagree. Whereas, the blog type used is Google Blogger with BlogSpot domain. According to Schaferhoff (2020) the best blogging sites include Google Blogger, WordPress, Wix.com, Joomla.com, Medium.com, Squarespace.com, Weebly.com, and Tumbl.com. Out of all these blog sites Google Blogger stands out to be the free simplest to use, and language friendly (for Arabic and Hebrew languages in this research), and because of its simplicity Google Blogger can be used for young students, as young as first graders (Cappali, 2015). And when it comes to simplicity it takes just a minute or less to start a blog through Google Blogger. Blogger can offer a nice selection of colorful themes and templates to choose from. Customizing the layout of the blog is as easy as dragging and dropping elements into place. The user can add additional authors to his blogs. And there are mobile apps for Blogger so the student can post to his blog more easily. The content materials for School A was basics of electronics while the content materials in School B was learning Microsoft Word.

Assessment Measures:

1. Google Blogs: For School B each student maintained a blog to document their learning experiences, reflections, and engagement with the curriculum.
2. Weekly Quizzes: for both schools to assess content understanding.
3. Midterm and Final Examinations: for both schools to evaluate overall academic performance.
4. Student Engagement Metrics: Which includes participation in blog discussions, completion of assignments, and attendance.

The methods for storing data have advanced for testing, triangulating tentative conclusions, spotting various patterns, and working methodically to unearth important truths. As a result, in order to decrease and balance the study, the researchers needed to employ a variety of sources to compare and contrast one finding with another. In this study, numerous data collection tools were employed in order to obtain a more comprehensive picture of the final results and in order to avoid relying solely on one particular data source.

Results

Teachers' perceptions and insights during and after the experiment:

Teachers in both schools noted that students exposed to dynamic curriculum seemed to be more engaged in class activities and discussions. The class blog allowed real-time interaction and reflection, which appeared to have promoted deeper understanding and student enthusiasm. Additionally, teachers noted that incorporating multimedia elements like images, videos, or infographics in their blog posts had enhanced learning, creativity and appeal. In school B teachers appreciated the detailed and frequent blog posts created by students in the dynamic teaching group. The blog posts by students in School B as Fig.1 provided valuable information about the development of students' thinking processes, self reflection and engagement

Figure 1. sample student blog in school B

with subject content, thereby facilitating the adjustment of teaching methods used in class blog (the dynamic curriculum). Hence, it allowed for more flexibility in addressing current events, emerging topics, and student interests. This in turn improved the relevance of the material and kept students motivated to explore new concepts. But when it comes to grades there is small increase in grades and scoring. But the ability to incorporate examples and real-time updates had contributed to a deeper understanding of the topic. Additionally, the dynamic class blog has helped students develop digital literacy and effective communication skills which was manifested in improved writing, critical thinking, and online interaction skills in students. Many students felt that the class blog was a channel for dialogue between students and the instructor. Students can ask for clarification, share concerns, or get advice, creating an accessible avenue for academic support. As one of the students put it The blog can serve as a space for assignments or projects, enabling us to showcase our work to both our peers and the instructor. This, according to teacher2 in school B, not only builds their confidence but also exposes them to diverse perspectives and approaches. Teacher3 in school B raised the issue of Lack of authenticity: because of the nature of blogging, students may produce work that is tailored to what they sense their instructor or peers would like to see, rather than expressing their thoughts and creativity, or some students may copy ideas from each others. Also teacher1 in school A liked the ability to modify the curriculum instantly based on the current education level and needs of the class without compromising the basic outlines of the curriculum which gives students concise look on the curriculum and reduces dispersion. He also added that “Teachers can curate a list of external posts, articles, or videos that are relevant to course content and share them on their blog. This allows students to explore different perspectives and gain more knowledge.”Another teacher, teacher1 in School B, raised the ussue of privacy where students may not like to share their ideas with the whole world. Student17 in School B talked about organized learning environment :” the teacher's blog provides a structured online platform where we can access all course-related materials, ensuring that we have a central hub for the information related to the course. This helps in organizing the learning process effectively”. This was iterated by school A student 25 “Having all the course materials and resources in one place, easily accessible on the teacher's blog, makes my job easier. I can quickly find what I need to study or complete my homework without having to go through different platforms.” One of the variables that were examined in both schools is the ability to solve excercise problems in both dynamic and static curriculums, As in Table1 and Fig.1 which brings about one example of of teachers and students perceptions in School A and in likert scale to the ability to solve exercise problems in dynamic versus static curriculum. Since the time period was longer

Table 3. Teachers and students Perceptions in School A of using Dynamic curriculum versus static curriculum.

Sch. A	Dynamic C.	Static C.
March	4.3	3.2
April	4.4	3.4
May	4.5	3.3

Than school B so its obvious that teachers and students perceptions are more in favor of dynamic curriculum.

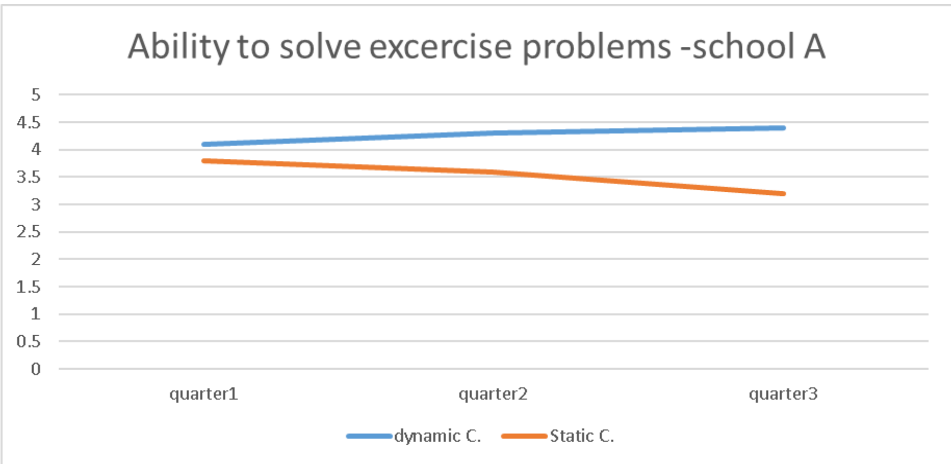

Figure 2. Teachers and students Perceptions in School A of using Dynamic curriculum versus static curriculum.

While in school B the same example of of teachers and students perceptions to the ability to solve exercise problems in dynamic versus static curriculum: is shown in table2 and Fig.2 where the period is shorters and

Table 4. Teachers and students Perceptions in School B of using Dynamic curriculum versus static curriculum.

Sch. B	Dynamic C.	Static C.
Quarter1	4.1	3.8
Quarter2	4.3	3.6
Quarter3	4.4	3.2

Hence the difference between both curriculums is less obvious than school A.

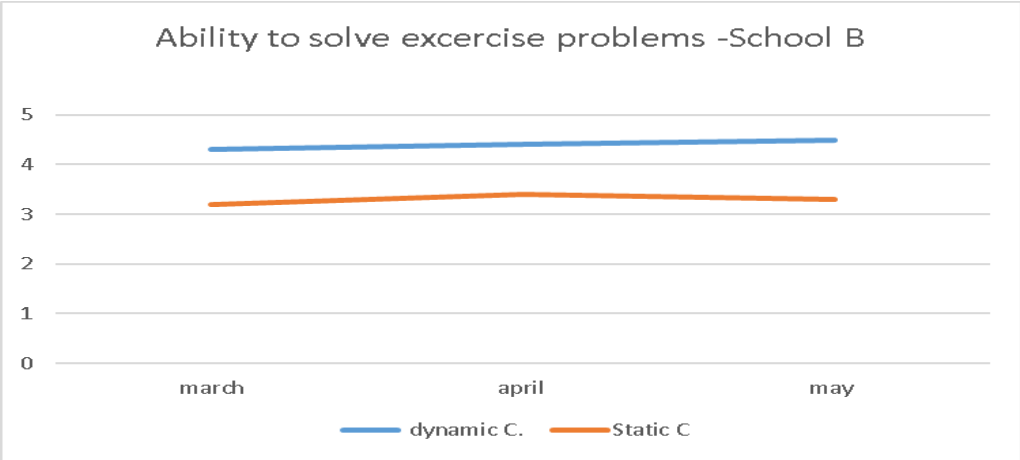

Figure 3. Teachers and students Perceptions in School B of using Dynamic curriculum versus static curriculum.

Other variables that were examined like perceptions of teachers about student engagement and participation in both curriculums were teachers were in favor of dynamic curriculum. Likewise was the variable of students Self-assessment demonstrating the benefits of adaptability. Students and teachers both agreed that the class blog offered students an interactive, dynamic platform that promoted active participation, collaborative learning, and a deeper understanding of the course material.

Limiting Bias in Interpretations

In order to critically evaluate the study, the researchers searched for negative situations and looked for alternative explanations for these cases using other members of the research team. The research team also went over their findings and cross-checked them against additional data sources.

Discussion

As the experiment was in STEM subject (i.e. in Technology) students were able be more engaged and immersed in learning both in School A and School B since students in the dynamic electronics curriculum could explore current developments in electronic devices and circuits. In School A where Blogs were used by teachers to create dynamic curriculum students were able to comment in blog posts about the latest consumer electronics, like smartphones or wearable devices which promoted meaningful learning: so the inclusion of real-life examples or case studies related to the course material helps students understand how and what they learn relates to the world outside the classroom, making the learning experience more engaging and practical.. The dynamic curriculum could also incorporate links to online simulation tools or tutorials related to electronics which will provide an interactive learning experience. Teachers could use their blogs to pose electronics-related challenges or questions during their projects. Students can then provide feedback, suggestions, or solutions through comments on the blog posts. This collaborative problem-solving approach fosters a sense of community among students. While in school B there was class Blog managed by the teachers and there were student's blogs documenting their feedback and answers to content materials in class blog. One of the benefits of this setting is the creation of practice materials, in the dynamic Microsoft Word program, students created blog posts to demonstrate their Word proficiency. They wrote articles that explain how to format documents, create tables, or use advanced features like mail merge. This practical application of Word skills helped students understand its usefulness in the real world. Additionally, Students wrote in their blogs detailed tutorials on blog posts explaining how to use various formatting options in Word. They showed their expertise by creating visually appealing documents with tables, images, and hyperlinks, all of which they've learned to incorporate during the course which fostered Digital Literacy besides that the blog posts for students blogs can be considered as an electronic educational portfolio for them where the electronic portfolio system has a positive impact on certain subjects, it encourages students to use computers or mobile phones to access information in a virtual environment to self-assess and monitor skills. and its computer development. It provides an innovative way to organize, summarize, and share student work, while demonstrating evidence of professional growth (Karademir et al., 2016; McBride et al., 2015).

Additionally, Teachers and assessors can use these easily accessible portfolios to evaluate student performance, while the portfolios themselves allow students to include, configure Collect and organize portfolio data quickly and instantly. E-portfolios are also useful for measuring and evaluating student learning. So, Wang et al. (2014) proposed a model for the assessment of blogging systems, in order to be used for educational purposes. There are six variables: student satisfaction and learning performance, the system's quality, context and linkage quality, content quality, and system use. Positive attitudes for students towards Internet and Communication Technologies ICT are positively linked to teachers' levels of experience with ICT. This is a necessary condition for the application of ICT in the classroom (Eyvind & Knut-Andreas, 2017). Hence the successful deployment of class blogs as dynamic curriculum is related to teacher ability to choose the right content and the ability to accompany students successfully throughout the time period. Therefore, teachers must be well-trained, dedicated, inspired and with blogs they will be able to control Instructional materials and make it relevant and relevant students. Teacher will be able to make clearer and more precise and tailored to individual students. This dynamic curriculum method for educational content delivery becomes creative, inspiring and not boring for students. The use of blogs as content delivery allowed for Real-time content updates with course materials updated regularly to incorporate news, developments or examples related to the topic which ensures that students learn the most relevant and up-to-date information. Additionally, the blogs allowed flexible learning path with students have some choice or flexibility in how they move through the course. This facilitated individualized learning path by the students having the opportunity to explore specific topics or areas of interest within a broader subject. Therefore, active learning is enabled by active participation of students in the learning process, often through interactive activities, discussions, projects or assignments, and when students have the opportunity to create their own blogs like in school B they can contribute to the creation of learning materials and share their ideas and promotes self-reflection and higher-order thinking skills. As student13 in School B puts it "it gives a sense of ownership of my own site that I can access it any time anywhere using PC or Cellphone". Additionally, students were using digital tools like blogs to facilitate communication, collaboration, and information sharing and through school PCs or their own computers or even their cell-phones which participated in equipping them for the 21st century skills. Hence, continuous feedback was enabled through tracking progress and identifying improvement and weaknesses in order to adjust teaching strategies and instructional materials as needed and in real time. Another 21st century skill was critical thinking, analysis, problem solving and inquiry based learning that was used due to the use of dynamic curriculum through blogs and posting real life situations and continuous changing problems. And due to the nature of blogs seen by all students it allowed Collaboration between students and provided opportunities for mutual learning, group projects and discussion, which promoted a sense of community and shared learning experiences.

Challenges in implementing teachers' blogs in a dynamic curriculum

However, in student's blogs since students can see the answers of their peers to the assignments then challenges do exist in choosing the right type of assignments that support differentiation like drawing or composing or authoring personal reflection on the assignment, or Teacher my direct each student to different aspect of the assignment. The privacy aspect is another challenge by educating students not to include personal information within their blogs or blog posts. Additionally, teacher efficacy and teacher's digital skills and knowledge can vary and may impede the deployment of blogs. Hence, there is a need to intensify training for teachers to meet these challenges. On the other hand, Teacher Blog structure is essential to effectively reach and distribute educational content. Steps include defining purpose and audience, choosing the right platform, designing a user-friendly layout, creating clear categories, using an editorial calendar, and encouraging reader interaction through comments. Other Challenges include Technological barriers and privacy concerns require a foundation of training and security. Limited access to technology requires school options and mobile-adaptive platforms. Time constraints require integration and automation of tasks. Student engagement is enhanced by interactive elements and an active online community. Resisting to change requires comprehensive training and highlighting the benefits of educational technology.

Best Practices for implementing Teachers Blogs

To maximize the benefits of blogging in a dynamic school curriculum, teachers must follow important principles. These include adapting to learning goals, promoting responsible online behavior, encouraging diversity of opinion, setting clear blogging guidelines, ensuring privacy and security, integrating multimedia, providing constructive feedback, promoting active participation, maintaining consistency, and encouraging reflective learning.

Conclusion

In this experiment, Google Blogs were used in its two forms: class Blog as dynamic curriculum and Student Blog as a platform for student documentation and electronic portfolio. The aim was to explore the use of class blog with immediate modifications according to teacher individualized teaching experiences, hence the dynamic curriculum comes into place versus curriculum based on regular text books which considered to be static curriculum with no immediate ability to be changed or modified. The experiment reinforces the idea that class Blog as a dynamic curriculum positively influences student learning outcomes and engagement compared to a static one. Other advantages include the promotion of active learning, peer collaboration and preparing students for 21st century through developing skills like technology use and higher order thinking skills.

n an experimental setting, a dynamic curriculum involves the use of a blog as a central platform for content distribution, interaction, and materials. This allows students to interact with course material in a more fluid and adaptive manner than with a traditional static curriculum, which follows a fixed structure and schedule. Hence, the dynamic curriculum aims to create a more engaging and flexible learning environment, tailored to the interests and needs. However, challenges do exist in choosing the right content, the right assignments, meeting privacy issues, and training teachers for such new methodology in education.

Recommendations

Educators need to consider incorporating dynamic elements into their curricula in order to enhance students learning and to better prepare them for a rapidly changing world. The study was conducted over a single semester, limiting long-term insights, hence it will be interesting to study such experiment in a longer period of time. Another factor was the sample size which was relatively small and drawn from a specific demographic area which may not generalize to all student populations.

Additionally, it will be interesting to study gender differences in respect to the diameters of this research in order to gather insights into the experiences, perceptions, and preferences of male and female students regarding the dynamic curriculum and blogging platform. Another important aspect that needs to be studied is the effectiveness of incorporating class blog with either static curriculum (i.e. regular textbook) or Content Management System or both and then be used as a supplement to include up to date info, videos and other dynamic elements . Other external factors that need to be studied which may influence the results include teaching quality, teacher efficacy, socio-economic backgrounds of students, and content materials used.

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Appendix A

Class blog of school A

https://jerusalem1444.blogspot.com/

Class Blog of School B

https://shufat1444.blogspot.com/

Students blogs of School B :

Student Name	عنوان المدونة
Student1	https://mtc9001.blogspot.com/
Student2	https://mtc002.blogspot.com/
Student3	https://ahmadmazara123.blogspot.com/?m=1
Student4	https://mtc9004.blogspot.com/
Student5	https://mtc9005.blogspot.com/GR
Student6	https://mtc9006.blogspot.com/?m=1
Student7	https://mtc9007.blogspot.com/?m=1
Student8	https://mtc90008.blogspot.com/?m=1
Student9	https://mtc9009.blogspot.com/
Student10	https://mtc90010.blogspot.com/
Student11	https://mts90011.blogspot.com/
Student12	https://mtc90012.blogspot.com
Student13	https://mts0013.blogspot.com/
Student14	https://mtc900014.blogspot.com/
Student15	https://mtc900015.blogspot.com/?m=1
Student16	https://mtc90016.blogspot.com/?m=1
Student17	https://mtc0017.blogspot.com/
Student18	https://mtc900018.blogspot.com/
Student19	https://mtc90019.blogspot.com/?m=1

AI Ethics: An Empirical Study on the Views on Middle School Student

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Abstract: In today's technology, there are rapid advances in the field of artificial intelligence. With the increasing involvement of artificial intelligence in daily activities, great changes are taking place in our habits. At this point, the necessity of educating students in accordance with the age of artificial intelligence emerges. Students' acquaintance with current technologies requires that the education provided is up to date. From these developments artificial intelligence, and its effects on society should be conveyed to students. The aim of the study is to implement the curriculum developed for middle school students to learn about the ethical dimension of artificial intelligence and to reveal students' views on the subject. Within the framework of the Artificial Intelligence and Ethics curriculum, 25 sixth grade students were trained. At the end of the training, a semi-structured interview form was applied to the students. Students' views on the ethical dimension of artificial intelligence were revealed. As a result, education has been contributed with an artificial intelligence and ethics curriculum suitable for middle school students. In general, the approach of including the ethical dimension of artificial intelligence in education shows that middle school students can evaluate artificial intelligence as a personal and social issue beyond just having knowledge about its functioning.

Keywords: Artificial intelligence, Artificial intelligence and Ethics, Education, Curriculum

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Introduction

Today, we see artificial intelligence rapidly entering our lives in many fields. Image recognition, intelligent voice systems and autonomous cars in our lives are all possible thanks to advances in artificial technologies. With advances in computing power, it is seen that it has entered into basic life such as business, health, education, and transportation (Brooks et al., 2016; Ozturk, 2023;). Education is one of the most important areas affected by the developments in artificial intelligence. At this point, artificial intelligence literacy should be prioritized in the field of education. All students should be able to identify examples of artificial intelligence, have knowledge about how common artificial intelligence works, and be able to use the algorithms used by artificial intelligence to solve problems that are meaningful to them. Students should also be able to recognize the impact of AI systems in the society in which they live. This study presents the curriculum developed to help children understand AI applications, learn about ethics, and students' post-education views on AI and ethics.

The Ethical Dimension of Artificial Intelligence

There are risks that come with the positive contributions of technological advances. Artificial intelligence carries these risks. The ability of artificial intelligence to learn on its own carries the risk that artificial intelligence applications may, over time, carry out their own actions against the order of humans. It is therefore necessary to control the actions of AI applications. In order to put it in a certain framework, studies on the risks carried by artificial intelligence have become necessary. Many sub-research areas such as machine ethics and artificial intelligence security have emerged (Köse, 2018).

The rules that determine right and wrong and the framework that reveals the way a community lives are referred to as ethics. Morality, on the other hand, tries to reveal what the best way of living is. Ethics is a changing concept in which morality, the framework that constitutes human behavior, right and wrong do not remain constant (Carillo, 2020 cited in Karahan, 2023).

The discussion around the ethics of artificial intelligence has arisen due to concerns about the potential risks associated with the swift advancements in this field. Artificial intelligence encompasses human thinking, reasoning, perception of objective facts, comprehension, judgment and inference. The unpredictable and rapid rise of artificial intelligence has started to cause problems in the adaptation process for living beings. Systematic studies on security and ethical issues that need to be addressed with Artificial Intelligence need to be put forward (Karahan, 2023).

Artificial Intelligence Ethics Literature Review

With the emergence of the life facilitating features of artificial intelligence, it is seen that risks are gradually increasing (Bhbosale, Pujari, & Multani, 2020). These features include the self-learning ability and unpredictability of artificial intelligence applications, their speed of operation, and the opportunity they provide to capture data that may escape the human eye. In the process of compliance with the rules set in society, there are risks of delegating decisions and control of tasks to artificial intelligence that make it difficult to evaluate (Ersan & Uslu, 2020; Mittelstadt et al., 2016; O'Neil, 2017; Solow Niederman, 2019 cited in Solow Niederman, 2019 ac. Smuha, 2021).

Researchers uncover the ways in which the creation and application of AI can negatively impact society, including the infringement of basic rights. (Zuiderveen Borgesius, 2018; Crawford et al, 2019; Yeung et al, 2020; CAHAI, 2020; Hao, 2021).

The topic of AI and ethics has been increasingly discussed in recent years, with most of the media articles not discussing a specific ethical issue in depth but raising general questions about potential ethical concerns (Chuan et al., 2019).

Artificial intelligence technology is being used to address some of the ethical dilemmas that arise in healthcare and medical education. Studies are being carried out to improve the understanding of the role that AI can play in healthcare, such as the boundaries between the role of the physician and the machine in patient care, and the dialogues that physicians have with their patients about their concerns. There is an increasing need to protect patients' private information, which is one of the threats to privacy and confidentiality. There are studies on patient privacy and autonomy, medical education, and the ethical dimension of AI in more health fields (Rigby, 2019).

In the last decade, research on artificial intelligence in education has emerged as robotic systems (Toh et al., 2016; Anwar et al., 2019), intelligent tutoring systems (Gobert et al., 2013; Nye, 2015) and chatbots (Smutny & Schreiberova, 2020). Concretely, online learning environments and intelligent tutoring systems can provide comprehensive data on students' learning activities, performances and outcomes (Daniel, 2015). Although AI in education aims to improve student learning at its core, developments in other AI fields show that ethical intentions are not sufficient on their own. Issues such as justice, responsibility, accountability, transparency, bias and autonomy need to be explicitly considered. The ethical dimension of artificial intelligence emerges in education. Updates are required to address the ethical issues that arise at the point where artificial intelligence has arrived (Holmes et al., 2018). Studies on necessary updates have been carried out in the field of education (Zhang et al., 2022; Williams et al., 2022; Jiahui et al., 2021; Park & Kwon, 2023; Akman & Açıkgöz, 2022; Akman, Tütünsatar, & Yetişen, 2022).

Jiahui and colleagues (2021) formulated three project-based curricula within an online learning setting. When these studies are considered, it is important to diversify the environment in which artificial intelligence education will take place and the difference in learning styles used to present the curriculum. Park and Kwon (2023) addressed other dimensions of artificial intelligence with a problem-solving-based artificial intelligence curriculum in technology education. Zhang et al. (2022) revealed the importance of artificial intelligence in terms of the ethical dimension of artificial intelligence as well as learning the working system of artificial intelligence in almost half of the students in the artificial intelligence education in secondary school.

Artificial Intelligence and Ethics Curriculum Development Process

A curriculum covering the ethical dimension of artificial intelligence for middle school students has been put forward. The curriculum design is based on the approach of including the ethical dimension of artificial intelligence in education, so that middle school students can evaluate artificial intelligence as a personal and social issue beyond just having knowledge about its functioning. The curriculum comprises three stages: artificial intelligence, applications of artificial intelligence, and the ethical dimension of artificial intelligence. These stages emphasize key aspects such as ensuring students have prior knowledge about artificial intelligence, providing age-appropriate examples of AI applications, and concretizing the concept of ethics. Various methods, including question-answer sessions, brainstorming, and discussions, were employed during the implementation to help students link artificial intelligence concepts with ethical considerations. Students were tasked with creating an ethical matrix to solidify their understanding of ethics and its relationship with artificial intelligence (Ali, Payne, Williams, Park & Breazeal, 2019; "Readyai", 2019). The objective was to encourage students to reflect on the risks associated with the ethical dimension of artificial intelligence and consider alternative future scenarios where AI could be beneficial to humanity (Zhang et al., 2023).

Secondary school teachers and researchers in the field of artificial intelligence education were involved in the curriculum studies. One of the stages planned at the end of the curriculum implementation was to receive feedback and suggestions from middle school students at the end of the training.

Artificial intelligence and Ethics Curriculum Implementation

A curriculum has been developed to teach secondary school students about the ethical implications of AI. The Artificial Intelligence and Ethics Curriculum consists of three lessons. Each lesson is 40 minutes long. The first lesson started with an explanation of examples of artificial intelligence and its applications. It aims to reveal the existence of students' prior knowledge about artificial intelligence and to give students who have no idea about artificial intelligence an idea about artificial intelligence.

Figure 1. Presentation Visuals

The second lesson consists of two parts: The place of AI applications in our lives and a stakeholder analysis using an ethical matrix (Ali, Payne, Williams, Park & Breazeal, 2019; "Readyai", 2019). First, she brainstorms with students on the positive and negative impacts of AI applications such as autonomous vehicles. Apart from this, the use of artificial intelligence applications in surgeries and many other examples were emphasized and the ethical framework was tried to be comprehended by the case study method. In the second part, students are expected to create an ethical matrix. After the steps were explained to the students, they were given a certain amount of time and asked to create their own ethical matrices. Student works are given below (Figure 2).

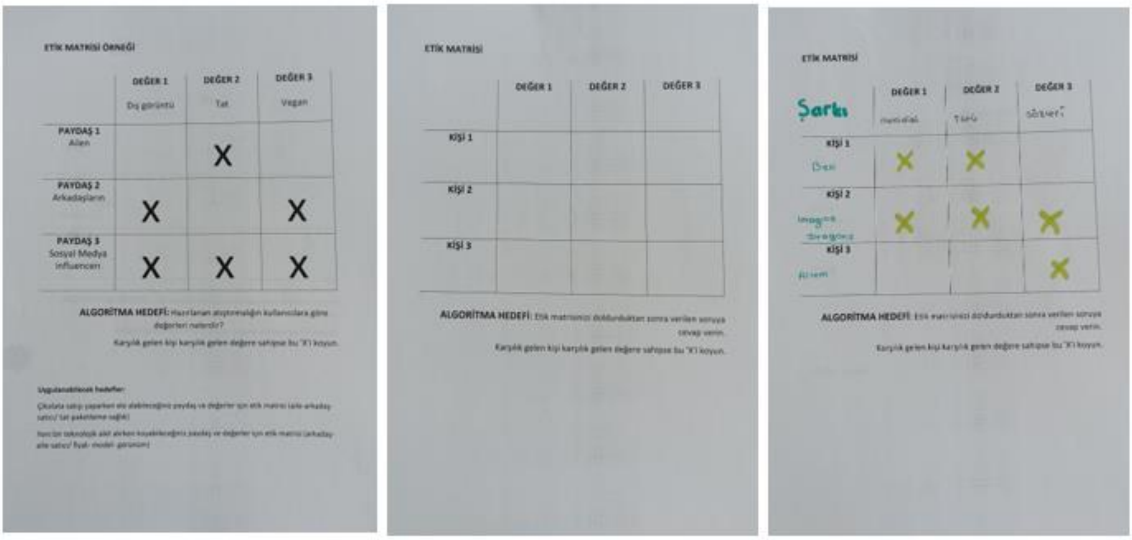

Figure 2. Ethical Matrix Explanation, Example and Student Work

In the third and final lesson, students brainstormed a story and asked whether artificial intelligence can act according to ethical principles. Opinions were categorized and it was revealed which ideas the students concentrated on. Below is an image from the story mentioned in the lesson (Figure 3).

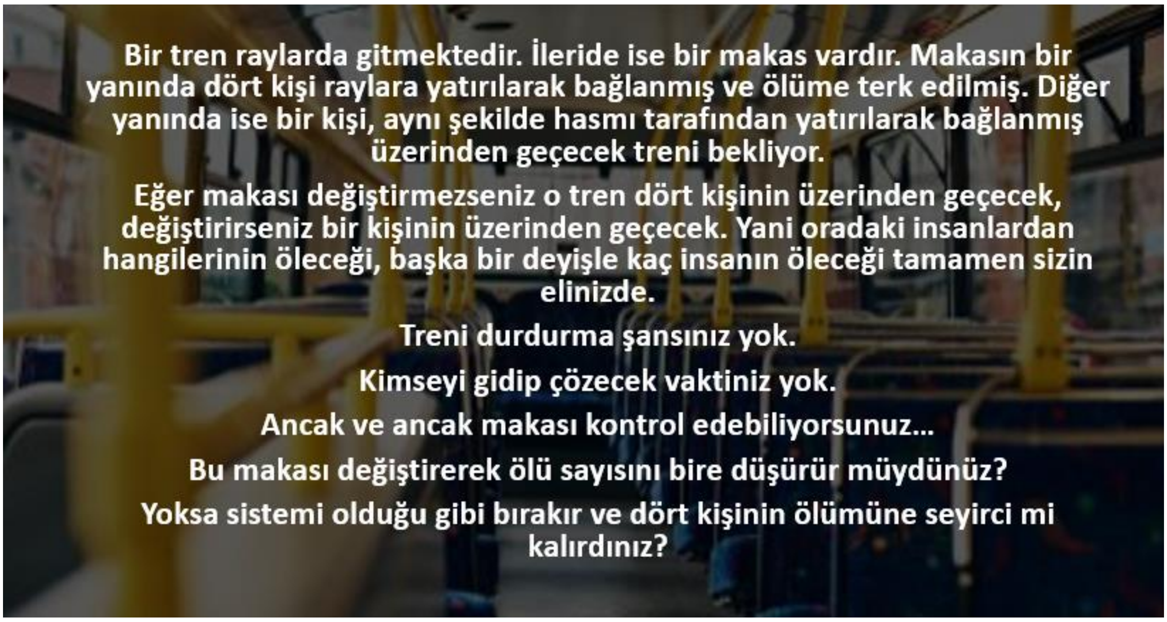

Figure 3. The Story Used in the Case Study Method

Ethical Codes in Artificial Intelligence and Ethics Education

In the prepared Artificial Intelligence and Ethics curriculum, the ethical codes to be delivered to the students were determined (Özan, Polat, Gündüzalp, & Yaraş, 2017). With these codes, the opinions of the students were classified and it was aimed to reveal the effects of the artificial intelligence and ethics course on the students. 7 ethical codes were determined. These are:

1. *Justice*

Keywords: Justice, equity, coherence, inclusiveness, equality, fairness, diversity, pluralism, accessibility, reversibility, remedy, challenge, access and distribution.

2. *Responsibility*

Keywords: Responsibility, accountability, accountability, responsibility, acting with integrity.

3. *Privacy*

Keywords: Privacy, personal or private information.

4. *Kindness*

Key words: Interest, benefit, well-being, peace, social benefit, common good.

5. *Freedom and Autonomy*

Keywords: Freedom, autonomy, consent, consent, choice, self-determination, liberty, empowerment.

6. *Legal regulations*

Keywords: Law, Laws, delimitation of boundaries.

7. *Security*

Keywords: Access to private information, restriction, assurance.

Purpose and Importance of the Research

The aim of this study is to reveal the implementation of the curriculum developed for middle school students to learn about the ethical dimension of artificial intelligence and the students' views on the subject. In pursuit of this overarching objective, the aim was to address the following fundamental questions.

- How do middle school students perceive artificial intelligence?
- What are the contributions of the AI and ethics curriculum developed on the ethical dimension of AI?
- What are the views of secondary school students on the ethical dimension of artificial intelligence after education?

Method

Research Design

The research was conducted in qualitative design. It was conducted as a case study, one of the research methods, to identify, reveal and describe the causes and consequences of this situation in cases where the researcher's control is not over the variables. Instead of numerical data, written opinion forms were used to collect detailed information from the participants and to interpret this information (Çepni, 2012; Yıldırım & Şimşek, 2008).

Working Group

Since it was desired to obtain in-depth data about the situation, event and person that constituted the subject of the research for a specific purpose, the typical case sampling method, one of the purposeful sampling methods, was used. Typical cases are used to express situations that do not differ from the universe in terms of their basic characteristics but represent the universe (Marshall & Rossman, 2006).

The research is limited to the answers to the semi-structured interview form. The study group consisted of 25 sixth grade middle school students in Istanbul, Turkey in the 2022-2023 academic year.

Table 1. Demographic characteristics of the participants

Demographic Characteristics of Participants	Variables	Frequency	Percentage (%)
Education Level	Middle School	25	100
Age	11-12	21	84
	12 and above	4	16
Gender	Female	16	64
	Male	9	36

As seen in Table 1, 64% of the students participating in the study were female, while 36% were male. While 84% of the participants were in the 11-12 age range, the percentage of participants aged 13 and above was 16%. All participants are middle school students.

Data Collection Tools

In the study, a semi-structured interview form consisting of 5 questions created by the researcher was prepared as a data collection tool. The interview form consists of 2 parts and demographic information is requested from the participants in the first part. In the second part of the interview form, questions were included to obtain students' views on artificial intelligence literacy, artificial intelligence applications and ethical rules, and the impact of artificial intelligence on society. Three field experts were consulted for the semi-structured interview form. The semi-structured interview form was finalized by making arrangements in line with the opinions received. The second part of the interview form, which was directed to middle school students, is as follows:

- Do you know what artificial intelligence is?

- If yes, please give an example

- If no, we may not continue

- Do machines and robots employing artificial intelligence adhere to moral or ethical principles? What do you think about this?
- What happens if machines and robots powered by artificial intelligence replace humans in the workplace? To what extent would their decisions be in line with the moral rules accepted by society? How can they decide this?
- Who do you think should be held responsible for the mistakes of machines, robots and autonomous vehicles powered by artificial intelligence?

Data Collection and Analysis

The "Artificial Intelligence and Ethics Written Opinion Form" prepared by the researcher was applied to the participants. Content analysis method was used to analyze the qualitative data obtained. First of all, the forms were numbered. In this context, the data collected in writing were coded, then combined under sub-themes according to similarity of meaning, and these sub-themes were collected under the main themes. In the last stage of the content analysis, the findings were explained by determining the relationships between the themes obtained in the light of the data. In order to determine the reliability of the coding, the coding list prepared by the researcher was also used by another researcher.

The coding performed by both researchers was compared, and any disparities that surfaced were identified. Miles and Huberman's (1994) Percentage of Agreement = Agreement / (Agreement + Disagreement) * 100 formula was used to calculate the percentage of code agreement. According to Yıldırım and Şimşek (2013), an agreement percentage of 70% and above indicates that the researchers have achieved coding reliability. In the study, the percentage of agreement was found to be 0.81 using this formula.

Frequency and percentage were used to evaluate the data.

Validity and Reliability of the Study

Expert opinion was consulted in the preparation of the interview form and content validity was ensured. In addition, coding and themes were compared and compared by two different researchers in the analysis of the data, thus ensuring the reliability of the study. Since the data were collected through an open-ended interview form, attention was paid to ethical principles, especially in the process of concealing the personal information of the participants, collecting the data and analyzing the data. Those who voluntarily wanted to participate in the research were studied and no pressure was applied to the participants in this regard. In addition, in analyzing the data obtained and reporting the findings, all of the speeches expressed by the teachers were reported in a holistic framework without compromising scientific concerns with an objective approach.

Results

Existence of Prior Knowledge about Artificial Intelligence

The data obtained in line with the answers given to the research question "Do you know what artificial intelligence is?" are summarized in Table 2.

Table 2. Presence of prior knowledge about artificial intelligence

Theme	Sub Theme	Frequency	Percentage
Existence of prior knowledge about artificial intelligence	Yes	10	40
	No	15	60

When Table 2 is analyzed, the students who answered "Yes" correspond to 40%. Those who answered "No" constitute 40%. In order to evaluate the students' yes answers, they were asked to give examples about artificial intelligence. The distribution of the examples about artificial intelligence given by the students who answered "Yes, I know" is given in Table 3.

Table 3. Examples given about artificial intelligence

Theme	Sub Theme	Frequency	Percentage
Examples related to Artificial Intelligence	Robot Vacuum Cleaner	4	16
	Google Assistant, Siri	5	20
	Robots	3	12
	Spotify	1	4
	Face Recognition Systems	1	4
	Autonomous Vehicles	2	8

Participants had more than one opinion.

When Table 3 is examined, the examples they gave were analyzed to discover the existence of prior knowledge about artificial intelligence. 20% of the students stated that applications such as Google Assistant and Siri are supported by artificial intelligence. At the same time, 16% gave examples such as robot vacuum cleaners and 12% robots.

Table 4. Distribution of artificial intelligence and its applications in ethical codes

Theme	Sub Theme	Frequency	Percentage
The distribution of artificial intelligence and	Justice	20	80
	Responsibility	20	80

its applications within ethical elements	Privacy	3	12
	Goodness	12	48
	Freedom and Autonomy	16	64
	Legal Regulations	4	16
	Security	10	40

Participants had more than one opinion.

When Table 4 is examined, written opinions were obtained from the students to determine the distribution of artificial intelligence and its applications within ethical elements. These opinions were analyzed under 7 ethical elements and the effects of the curriculum prepared and implemented on artificial intelligence and ethics were examined.

80% of the students expressed opinions on Justice and Responsibility. Another intensity of opinion was related to Freedom and Autonomy. A finding of 48% was found in the element of Goodness. The 7 ethical elements were analyzed as sub-themes and interpreted with the support of student opinions.

Subtheme 1: Justice

When sub-theme 1 justice is examined, it is seen that the opinions of the students about justice among the ethical elements of artificial intelligence and its applications are intense. Most of the students stated that artificial intelligence can act in a fair way. S11, S16, S21, S22 and S24 stated the statements of the participants as follows:

S11 " AI machines behave the way humans code them to behave. But if people choose fair ways of writing these codes, it will also behave fairly."

S16 "Robots can be coded in a good and fair way, robots can do work like normal people."

S18 " He can act ethically because he does what he is taught to do."

S21 " If robots replace humans, work will be much more respectful and fairer to humans and more work will get done."

S22 " I think AI machines behave ethically because, for example, in the train example, two roads were given, one with 5 people and one with 2 people, and it behaves according to how the person who coded the robot behaves."

S24 " I think if robots replace humans, everything will be done very quickly and the decisions they make will be fair and in accordance with the moral code of society.

In some of the students' views on the element of justice, they stated that artificial intelligence cannot act justly and that it is not possible for it to act ethically. The views of S23 and S15 about this are given below:

S23 " We humans are guiding them, so sometimes they don't act according to ethical rules and sometimes they don't act according to ethical rules because of some people.

S15 " They can't act ethically because they don't have minds like humans."

Subtheme 2: Responsibility

When the sub-theme of responsibility is examined, it is seen that there is an excess of opinions by the students, such as the element of justice. The answers to the question "Who do you think should be held responsible for the mistakes of machines, robots and autonomous vehicles working with artificial intelligence?" were discussed. While some of the students talked about positive changes related to responsibility, a large number of them stated that the presence of artificial intelligence in our lives would have negative effects. At the same time, they had a difference of opinion about who is responsible for the mistakes of artificial intelligence. S3, S5, S11, S14 stated that only humans are responsible.

S3 " I think AI machines, especially autonomous vehicles, replacing us would make us irresponsible."

S5 " I think those who code the machines are responsible in the event of an error’’

S10 " I think the person who makes the product should be held responsible. There should be more than one stage of testing."

S11 "In fact, the person responsible for any mistake or ethical problem is human beings. Because the wrong information they give to robots can cause problems and rebellion."

S14 "People are responsible. Because that robot works how they are coded. So I think robots should also be blamed. For example, Deep Blue can be given as an example. Humans coded him but he took an example by playing with humans."

On the other hand, there were students who stated that both humans and artificial intelligence could be responsible. S12 stated the participant expressions as follows:

S12 " Both the robots and the people who code them are responsible. Because he is the first person to design and code it, and robots are responsible for watching humans and taking them as an example."

Another opinion about the element of responsibility is stated below in the statements of S22 participant:

S22 " I don't think humans should be held responsible for robots. Because the person who makes the robot enters the codes, but since the robot can improve itself, I am undecided on this issue."

Finally, there were views that looked at the element of responsibility from a different perspective and stated that there is no responsibility left for people to do. S23 participant statements are given below:

S23 " If humans are replaced by robots, we will have no more responsibilities and robots will take over all of them."

Subtheme 3: Privacy

When Table 4 is examined, only 12% of the students expressed an opinion about the privacy element. The general opinion stated that there is a possibility that privacy principles may be violated by artificial intelligence. Participant statements of S18, S25 and S14 are stated:

S18 " It is dangerous because it gives access to our personal information."

S25 " It's frightening how much of our social media information is available to us."

S14 "Artificial intelligence may become constantly watching us, it follows us wherever there is internet."

Subtheme 4: Kindness

When the element of goodness was examined, opinions stating that artificial intelligence and its applications have benefits and negative effects with its inclusion in our lives were found. The opinions of S5 and S10 participants about the negative effects were stated:

S5 " We may become unemployed. For example, if they work in hospitals, they can lead people to death when they go into surgeries."

S10 " People become unemployed. They cannot meet their material needs and laziness, phone and computer addiction increases."

Students' views on the meaning of good, benefit, interest or being good are also noteworthy. S12, S13, S14 and S25 participants' opinions are stated:

S12 " Thanks to the codes given to them, robots are almost impossible to make a mistake in a job. For example, while the slightest mistake during an operation can cost a life, robots can do this job flawlessly."

S13 "I think people act according to how they teach. That is, if people teach wrong things if they teach wrong things, they act according to good things if they teach right things."

S14 " Robots, like humans, can be coded in a good way and act accordingly. So if the good side of that human is coded good, it works good and if it is coded bad, it works bad."

S25 " People will work less thanks to robots and we will see a good benefit."

Subtheme 5: Freedom and Autonomy

Looking at the views on sub-theme 5 freedom and autonomy, student opinions about the ability of artificial intelligence in areas such as self-determination or acting freely were discussed. The statements of S6, S7, S8, S17 and S20 participants who stated that they could not make choices and make decisions freely are given below:

S6 " I think robots have no choice.

S7 " Artificial intelligence makes decisions by code, not by its own decisions."

S8 "I think robots have no consciousness, they cannot make choices."

S17 " Because a robot is controlled by its owner, it cannot act on its own thoughts and ideas."

S20 " Robots are already run by humans, so their software will be what humans want them to be."

Among the students, there was also an opinion stating that artificial intelligence acts by thinking, but they can make choices in a limited way. The statements of S9 participant are given below:

S9 "Robots decide what they will do by thinking, they have thoughts within the framework of their codes."

Another remarkable view is that times can resemble people. S10 participant opinion is given below:

S10 "If they stand in people too much, they act like them."

Subtheme 6: Legal Regulations

The students' views on legal regulations are that limitations should be imposed on artificial intelligence codes by authorized persons. S22, S7 participant opinions are given below:

S22 " Artificial intelligence can be dangerous, the state should limit and ban their codes."

S7 " There should be rules about robots. If they take part in every field, they can take over the world."

Subtheme 7: Safety

When Table 4 is analyzed, it is seen that 40% of the students' opinions are related to the security element. Students stated that our safety could be jeopardized. S4, S5, S11 participant opinions are given below:

S4 " It jeopardizes our security because artificial intelligence learns all our information and takes shape according to us."

S5 " AI robots can kill people while working in surgeries."

S9 " The slightest mistake of robots can disrupt an entire factory or workplace."

S18 " It is dangerous because it gives access to our personal information."

S24 " I think robots can get out of control with AI, they learn fast."

Students also have positive views on security thanks to artificial intelligence reducing the error rate. S11 and S15 participant views are stated:

S11 " Thanks to the robots themselves and the codes given to their artificial intelligence, they are almost impossible to make mistakes in a job.

S15 " Since robots don't tire like humans, mortality will decrease."

Discussion

Zhang et al. (2022) conducted an exploratory study on artificial intelligence for middle school students and found that after the training, most students had general knowledge about the concepts and processes of artificial intelligence. The most important conclusion is that almost half of the students not only have knowledge about the functioning of artificial intelligence, but also can express it as a subject with personal, career and social consequences. Similar to what we have done in this research, the training we provided to students in the field of artificial intelligence and ethics enabled them to make social judgments on the subject when the opinions of the students were analyzed through the ethical codes determined by artificial intelligence. Similar favorable outcomes were observed, mirroring the findings of Williams et al. (2022). In general, including the ethical dimension in AI education shows that it is suitable for the characteristics of middle school students to develop AI literacy among middle school students.

Jiahui et al. (2021) studied the design of three project-based curricula in an online learning environment to make AI education more accessible to middle school students. With this study, the integration of artificial intelligence into education revealed that it is possible and contributes to provide education about artificial intelligence to middle school students in various ways in online environments. Artificial intelligence and ethics curriculum is a face-to-face education. Considering these studies, the diversification of the environment in which the training will take place and the difference in learning styles used to present the curriculum will be important for the results of the study.

Park and Kwon (2023) study conducted in South Korea revealed that artificial intelligence curriculum is effective in technology education and career exploration. It revealed the educational value of artificial intelligence curriculum based on problem solving in technology education. At this point, the artificial intelligence and ethics curriculum we have developed not only contributes to students' technology education, but also increases the diversity of studies by addressing other dimensions of artificial intelligence and contributes to students' awareness in the social field.

Conclusion

After the implementation of this curriculum, the opinions of 25 middle school students who received the training were taken.

The existence of students' prior knowledge about artificial intelligence was examined. More than half of the students answered "Yes". When the examples given by the students who said "yes" about artificial intelligence were examined, it was seen that there were 6 categories and the most examples were Google Assistant and Siri. After this stage, the analysis was carried out with the ethical codes determined for the ethical dimension of artificial intelligence. These codes consist of 7 elements: justice, responsibility, privacy, goodness, freedom and autonomy, legal regulations and security. When the opinions of the students are analyzed as a result of the education they received, it is seen that the ideas related to the dimension of justice and responsibility are concentrated. In the distribution of artificial intelligence and its applications within the ethical codes, it is seen that the privacy and legal regulations are the ones where students' opinions are low.

The theme of justice and responsibility, where the opinions are intense, shows two important areas within the society. Whether artificial intelligence can have obligations such as justice and responsibility, and the emergence of students' views on these areas is extremely important. The theme of freedom and autonomy also shows a concentration of views. There are opinions about the chance of choice in the decisions of artificial intelligence.

It is seen that the developed artificial intelligence and ethics curriculum reveals students' views on the ethical dimension of artificial intelligence. In the theme of goodness, ideas about the positive and negative effects of artificial intelligence in our lives are put forward. The least opinions are privacy and legal regulations. In these two themes, students' prior knowledge and age group are thought to be effective in the low number of opinions.

In conclusion, as a result of the study, it is seen that the students created an awareness about artificial intelligence, the developed curriculum enabled them to express artificial intelligence as a subject with personal and social consequences other than just learning the working system, and they gained awareness about the ethical dimension of artificial intelligence.

Recommendations

It is seen that the Artificial Intelligence and Ethics curriculum is an important step for students to have knowledge about artificial intelligence applications that will start to take place more and more in society over time, to grow up as conscious individuals and for a generation that will not lag behind today's advances. Studies in this field need to be developed.

- The AI and Ethics curriculum should be further developed with activities to convey the concept of AI literacy and its impact in society.
- Efforts can be made to increase the number of age groups, activity levels and interactive or non-digital activities and lessons.
- The development of research on artificial intelligence and ethics on different age groups can diversify the education to be given according to the level of the student.
- Research can be conducted to further integrate artificial intelligence into the field of education.
- Through various teaching methods related to online and offline blended AI literacy, the level of teaching can be improved in areas where teaching resources are insufficient.
- Teachers can be trained in artificial intelligence.
- Improving the curriculum to reach students from all walks of life will make a positive contribution.

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Interpersonal Violence in Sport

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Abstract: In this study, how they experience the phenomenon of violence in the relations between the actors in the field of sports, their tendency to violence and the culture they created in the field were examined. Athletes declared that they were frequently exposed to physical, psychological, economic and sexual violence by people who were superior to them in terms of age and status. Among the athletes, on the other hand, we encountered examples of peer bullying, which is fed by displays of power based on the desire to create hierarchy and hegemony. The quantitative findings of the study showed that the violence tendency of the athletes who were exposed to violence was high. The quantitative and qualitative findings of the study showed that the athletes who were exposed to violence avoided complaining about this situation, did not believe that anything could be done, and did not know the complaint procedures. It was understood that the athletes experienced sadness, depression, fear, motivation disorder and strong concerns about losing their sports life after being exposed to violence. In addition, the findings; It has been revealed that athletes experience important problems such as incorrect training periods specific to their branches, lack of knowledge about competition and camp programs, injury, loss of performance, psychological disorders, weight problems, not being able to participate in international competitions, and not being able to make career planning due to arbitrary practices made by managers.

Keywords: Violence in sports, Interpersonal violence behaviours, Types of violence, Violence. Social Learning Theory.

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Introduction

Despite all preventive measures in recent years, violence continues to exist. For this reason, we see an increasing interest in learning why people resort to violence. In the studies on violence, especially in the 1990s, the causes of violence were investigated, and the reasons for violence and aggression such as global warming, individual armament, technological developments, increases in psychological disorders, lack of equal opportunities in education, lack of economic capital or economic powerlessness, disappointments caused by unrealized ideals. reported to have increased. (Anderson, 2002)

It is seen that the studies on violence from the 1990s to the 2000s focused on criminal behaviors of community violence, and in the field of sports, tribune events, fanaticism, and spectator aggression were studied. In recent years, the deviant behaviors of the studies on violence, aggression, violence experiences specific to the fields of individuals (health, education, etc.), the effects of violence in the economic context, the interaction of capitalism with violence, crime and abuse, gender-based violence, violence against children and women, men's violence. It is seen that research studies on violence experiences and intimate partner violence have increased. In sports, it is noticed that research articles on locker room cultural studies, coach-athlete relations, sexual assault and sexual harassment, hooliganism, race and gender-based athlete experiences are studied. (Sappington, 2021; Dolan & Connolly, 2014; Parent & Fortier, 2017; Armstrong&Hutchison, 2021; Vitali, 2020; Finkeldey, 2019; Urzeala, 2018; Silivak et.al., 2020)

Postgraduate theses on violence in sports around the world; While focusing on the experiences of violence in participation in sports from a women's perspective, the issues of intimate partner and coach violence, adolescent students, college students' football players and other branch athletes' experiences of aggression and violence, as well as violence tendencies, racism-based hegemonic masculinity and violence in sports, interpersonal power relations, gender basis. It is seen that thesis studies have been carried out on the crime law of aggression and the types of violence in sports. (Coufal, 2018; James, 2017; Harrington, 2019; Pommier, 2016; Schiltz, 2013; Anderson, 2017; Godfrey, 2015)

The literature shows that research on violence and violence in sports tends towards individual relationships and in areas that are getting narrower within the framework of age or special groups. In Turkey, we see that the phenomenon of violence in sports is generally investigated within the framework of tribune violence, fanaticism, legal studies, and violence in individual relations, especially in the field of sports, is studied narrowly. For this reason, we hope that this study, which aims to explore the types of violence experienced in interpersonal relations in the field of sports, will contribute by developing a different perspective.

Purpose and Importance of the Research

In this study, it was tried to examine the violence behaviors experienced among individuals in the field of sports. First of all, some basic definitions will be presented, the theoretical framework will be introduced, the types of violence specific to the field of sports will be discussed and the types, frequency and source of the phenomenon of violence in the relations between individuals will be tried to be understood within the framework of the findings. At the last stage, in the light of the data, the results of the phenomenon of violence in interpersonal relations in sports will be discussed and suggestions will be presented on the prevention of it.

In this context, the aim of the study is to determine what types of violence are experienced between individuals in the field of sports, how and by whom, how often, where it is experienced spatially, to understand the effects of violence on the sports and individual lives of athletes and their tendencies towards violence against others . to understand what kind of struggles the actors exposed to, how they develop strategies to cope with violence, how they feel and behave in the face of violence, and to offer suggestions for developing policies to prevent interpersonal violence. In this study, the experiences of an athlete while gaining the 'athlete' identity and the situation of reflecting these experiences on the playing field are tried to be understood and explained.

Therefore, the main goal of this study is to present an opinion on the power relations and violence between individuals in sports, apart from in-game violence and environmental violence. It is to understand how the competition and power inherent in sports are decisive in the relations between individuals. It is to show that recognizing the cycle of violence between individuals can break this cycle. It is to explain how the glorification of winning can encourage violence.

Raising athletes is a time-consuming and labor-intensive job. First of all, a long time is spent for the selection of talented children and then for them to gain technical and tactical skills of the relevant branch. The first obstacle that children face in the continuation of their sports life is concerns about their education life. A general concern that long and tiring workouts will distract attention and reduce academic success is the most basic problem preventing talented athletes from continuing sports. It is thought that the risk of violence in the field for the athletes who can overcome this problem and continue to play an important role in the loss of the athletes. It is hoped that this research will make a contribution to reveal and overcome the problems in this context.

In addition, it is thought that the study will contribute to the psycho-social measures that should be taken in the field in order to sustain the sports life of the selected talented individuals.

Particularly in 2016 and 2017, the International Olympic Committee (IOC), United Nations, European Union Commissions carried out comprehensive studies and various agreements were signed and reports were made by the member organizations on the prevention of violence, harassment and abuse, ensuring gender equality, inclusive protective practices and policy recommendations for children and women. presented. These reports are prepared in the light of the data presented by empirical studies and these studies are accepted as strong evidence. The expectation of the organizations from the member countries is to create strong evidence by reporting the experiences of the individuals. (IOC) It is thought that this study will provide important evidence for understanding the violence, harassment and abuse among individuals in sports in Turkey and for guiding the studies. (IOC, 2017)

The Problem of the Research

The main research problem is to determine the types of violence that athletes are exposed to, who and how they practice violence, and how they carry the violence they are exposed to in the field of sports and their daily lives in the future. The basic assumption for the research is that the athletes learn violence from others in the field and apply it to others by normalizing the learned violence, thus contributing to the rebuilding process of violence in the field of sports.

The field research planned in this direction was carried out within the framework of quantitative and qualitative paradigm. In the context of the research problem, eight hypotheses were formed to be tested through quantitative research. In these hypotheses, the relationships between the variables of gender, age, sports branch, gender of the perpetrator, job, vocational education, economic status of the individuals and their families, and the type of violence and violence tendency were tested. In line with the data obtained in this context and in the light of the questions created for qualitative research, it was tried to understand in depth and in detail how the athletes experienced violence, how they reacted and what they felt through semi-structured interviews.

The Hypotheses of the Research

The hypotheses to be tested with the quantitative approach of the research were determined as follows.

1- There is a significant relationship between the gender of the athletes and the type of violence they are exposed to.

2- There is a significant relationship between the age of the athletes and the types of violence they are exposed to.

3- There is a significant relationship between sports branch, type of violence and gender.

4- There is a significant relationship between the education of the coach, the sports history of the coach, and the types of violence exposed .

5- There is a significant relationship between the gender of the perpetrator, the status / duty of the perpetrator, and the violence experienced .

6- There is a significant relationship between the duty of the perpetrator, how often he/she uses it, and the violence he/she is exposed to.

7- There is a significant relationship between the frequency of exposure to physical violence and the tendency to violence .

8- There is a significant relationship between the types of violence, the gender of the perpetrator and the status of the perpetrator.

The Questions of the Research

The questions of the research within the framework of the qualitative approach are as follows:

1. What types of violence do athletes experience in their sports lives?
2. Why and how are experiences of violence experienced in this area?
3. How do athletes who have been subjected to violence react to it?
4. Who understands and interprets violent behavior and reaction behavior?
5. What do the athletes who are exposed to violence think and feel?

Conceptual and Theoretical Framework

Sport is usually a game or competition experience with certain rules and boundaries. How and how much people can violate each other's individual spaces are defined by rules. Many contacts and violations within the framework of these rules are considered acceptable by all actors of the sport. There is a well-known framework of violation between the parties regarding the acceptance of possibilities (Parent&Fortier, 2017). However, contrary to appearances, what happens between the actors in invisible areas constitutes the backbone of real violence in the field of sports. The reality of violence in sports begins to emerge when a parent of an athlete begins to research : '… .he hit my child during training , where can I complain about him'. In fact, the issue of how an extremely illegal, deliberate and harsh foul act applied by one athlete to another on the field is grounded and produced is based on the violent actions of the hidden subjects in invisible areas, which is the beginning of everything. For this reason, the definitions of violence in sports and the way it is handled are somewhat sterile and somewhat cyclical. However, it is possible to combat the factors that create this cycle with rationally planned policy documents and new education components, after being identified with an effective analysis.

Violence in sports is considered to be behaviors that cause physical and psychological injury related to the direct or indirect result of a sports experience. Although we are aware of the violence that takes place during a sporting event, the fact that it was caused by sport hides that violence insidiously.

Violence is a visible part of sport today. Increasing media attention to increasing violence, demonstrations and their presentation is extremely common. The use of violence tactics among athletes, fights, spectators, post-game riots and harassment cases make the concept of ethics in sports open to discussion. Schneider defines violence in sports as "behavior that causes causes" that is harmful and unrelated to sports that occurs outside the rules of sports. (Jamieson, 2012)

Violence experienced in sports outside the concept of play is interpersonal and is experienced in the forms of interpersonal violence , physical, psychological, economic, sexual harassment and assault. While Parent and Fortier define interpersonal violence in sports, physical violence It is generally defined as any act of a physical nature that jeopardizes or threatens a person's bodily integrity, physical or psychological well-being . Hitting, pushing, or shaking an athlete are examples of multiple manifestations of physical violence in sports (Parent&Fortier, 2017; WHO,2002). It is any behavior that will harm the person's body, such as slapping, pushing, kicking, throwing something, hitting with a fist or an object, harming or threatening with a weapon or similar object, preventing the person from benefiting from health services (Parent&Fortier, 2017; WHO,2002; Pinheiro, et al., 2014; Gendron&Frenette, 2016).

Psychological violence is defined as actions that include restriction of movement, belittlement, humiliation, threatening, intimidation, discrimination, humiliation, or other non-physical forms of hostile treatment or rejection. (McPherson, 2017) In addition to these actions and attitudes, insulting, insulting, humiliating, being extremely jealous, threatening, using words or behaviors that will make the person feel inadequate, swearing, preventing the person from expressing himself, restricting the freedom of movement of the person, family members and friends. It is all kinds of words and behaviors that affect mental health and are applied without physical pressure, such as preventing a person from having a conversation, preventing a person's freedom to dress as they want.

If economic violence such as forcing the person to work or not to work, controlling the person's income, confiscating the person's money or bank cards, forcing the person to borrow money, not giving any money or giving a very small amount of money to the person, taking actions that will make it difficult for the person to work, not sharing information about the income and expenses of the family with the person . Any attitude or behavior that involves pressure.

sexual violence, Sexual harassment and sexual abuse can be defined as “a sexual act committed or attempted by another person without the victim's free consent or against someone who is unable to give or refuse consent” . Anyone who controls the person's sexuality and puts pressure on him with behaviors such as forcing a person to have sexual intercourse where, in a way or at a time he does not want, to say or to say sexually explicit words, to force him to give birth or not to give birth, to prostitution, to harm the genitals, to humiliate the person sexually. Any behavior is defined as sexual violence. Sexual harassment behaviors within the scope of sports are also defined in the IOC Health Commission report (Parent&Fortier, 2017; Stoltenborgh et.al., 2015; WHO, 1999; Basile, et.al., 2009).

Behaviors of sexual harassment in sports include: sexually explicit jokes, sexually explicit compliments, irritating addresses, sexually suggestive glances, persistent questions about private life, asserting that one sex is superior or weaker than the other. Being disturbed by sexist remarks, sexually explicit messages or materials, persistent invitations despite being rejected, persistent dating offers, notification that you will receive special treatment and some benefits if the sexually explicit offer is complied with, or that your life/sports life may suffer some harm if the sexually explicit offer is not complied with. Being told that you will pay the price for seeing it. (Fitzgerald, 2010; Parent&Fortier, 2017; IOC, 2007; Özen, et.al., 2018)

In this study, although it is related to all types of violence, peer bullying needs to be handled separately in terms of its meaning in sports. Bullying is repeated exposure to purposeful attempts to injure or cause discomfort or pain to another individual through words, physical contact, gestures, or exclusion from a group. Bullying is generally defined as an unintentional and ongoing event by the victims. It is deliberately harmful, aggressive behavior when there is an imbalance of power between the two parties in a relationship. The power advantage found in these relationships is often due to differences in size, strength, physical abilities, social status, personality type, and popularity. All acts of bullying involve an individual or group of individuals devaluing another in the hope of making themselves superior to their victims and peers (Hurley&Brok, 2010).

Victims of bullying are generally described as introverted, passive-submissive, and low in self-esteem. It is reported that there are four forms of bullying behaviors. verbal bullying; includes threatening, mocking, name calling, spreading rumors. physical bullying; includes hitting, kicking, pinching, spitting, tripping, pushing, breaking. relational bullying; spreading rumors, ostracizing the victim, shaming them in public; Cyberbullying includes the use of technologies such as e-mails, mobile phones, text messages, and offensive and personal insults on websites and social media (Lara, 2008).

Limited research on bullying in sports has shown that the competitive nature of sports can increase peer aggression. Escury and Dudink (2010) found that bullying behaviors in sports have some special aspects that differ from school bullying, namely, that there are negative selection processes in youth sports education that can push low-performing athletes to withdraw early. The locker room is a potential place for sports club bullying to occur, as it is less supervised by adults. (Jachyna, 2013; Nery, et. Al., 2018; Volk, 2009; Adler, 2014) reported that adolescent female athletes reported much higher levels of school bullying than female students of the average gender. (Nery, et.al., 2018; Evans, et.al., 2016) It is stated that the prevalence of bullying is generally higher in male teams with male coaches, because coaches tend to devalue these behaviors among athletes by considering them as normal jokes. (Stirling, et.al., 2011) The harsh mentality in sport makes it difficult for victims to break the silence and talk about incidents of bullying. Victimization is recognized as a subjective experience that can range from feeling proud to be part of the ritual to sometimes humiliation. (Kirby&Wintrump, 2002)

Athletes who are bullied tend to quit sports early. (Evans, et.al., 2016) It is known that children who are exposed to violence and ill-treatment are less likely to participate in organized team sports. (Brackenridge, et.al., 2010; Weinhardt, et.al.,2017) Victims develop strategies to deal with bullying. It is possible to examine these strategies under two main headings: 1- Emotion-focused coping; consists of cognitive efforts to regulate the emotions produced by the stressor and influences the perception of problems rather than the problem itself. 2- The individual's problem-solving-oriented coping strategy consists of efforts to change the stressor situation. (Nery,et.al., 2018)

In the IOC 2016 Consensus Statement, all of these types of violence were examined under 5 main headings as 'Harassment and Abuse in Sports. ' *These are defined as Psychological Abuse, Physical Abuse, Sexual Harassment, Sexual Abuse and Neglect. Psychological abuse, imprisonment, isolation, verbal assault, humiliation, intimidation, infantilisation, or any other treatment that may diminish a sense of identity, dignity and self-worth. Physical abuse: means any deliberate and unwanted action. For example, punching, beating, kicking, biting and burning causing physical trauma or injury. This type of behavior may also consist of forced or inappropriate physical activity. For example, injuring and suffering with age or physically inappropriate training loads, forced alcohol consumption or forced doping practices Sexual harassment-sexual Abuse; Any unwanted behavior of a sexual nature, whether verbal, nonverbal or physical, is behavior in which consent is forced/manipulated. Neglect; Within the meaning of this document, the failure of a coach or someone else and the person with a duty of care to the athlete provide a minimum level of care. These may include a one-off event or a series of events, be made in person or online.* ' (IOC, 2017)

Theoretical Framework: Learning Violence

Violent behavior is also criminal behavior. For this reason, 'Social Learning Theory', which is frequently preferred as crime / violence theory, was found suitable for the theoretical framework of the study. The scope and interpretation of the research is discussed with Social Learning Theory and its concepts.

In this regard, Albert Bandura's studies on aggression in the field of experimental psychology in the 1960s are noteworthy. In 1977, he published his work titled Aggression: A *Social Learning Analysis* . In this work, Bandura puts forward the idea that individuals learn how to be aggressive through imitation, observation and modeling; This theoretical view is known as Social Learning Theory. Bandura's Social Learning Theory explains how and why observation and modeling play a primary role in the learning process of individuals. The approach is based on the idea that learning can only happen by observing the behavior of others, going beyond the perception that it is the result of direct experience with the environment. According to him, most individuals learn behavior observationally through modeling; Observing others forms an idea of how new behaviors are performed, and this coded information serves as a guide for future behavior. (Jacqueline, 2017)

Bandura experimented with a toy (Bobo Doll) in order to understand the learning process of children's aggressive behaviors. observed that they also added their behaviors. (Bandura, 1969; Bandura, 1971; Joanne, 1977)

Bandura's work led to the development of other ideas and theories. It is noteworthy that Akers et al. played a role in its development by adding new concepts to Social Learning Theory, which is widely studied in the literature. In fact, it is seen that the studies are now working with Akers' concepts.

Akers' Social Learning Theory, which adopts the social interactionist school, is one of the theories that explains crime/violence in general among social learning theories; Widely tested and supported. We see that Akers' Social Learning Theory is used in social studies, crime/violence and deviation studies. The first studies on the theory were made between 1976 and 1999 by Conger, Akers and Cochran and other researchers to be tested against other similar theories. It is seen that it is the most cited theory among the criminological theories in 1996. Studies conducted between 1992 and 2003 have shown that it is supported in a cross-cultural context.

Akers adopted Edwin Sutherland's basic premise that crime is learned through interaction. In any society, the meanings that individuals ascribe to behaviors on the basis of their relationships with others and their attitudes in this direction also shape their own definitions. The basis of Sutherland's theory, known as *Differential Associations* , is the primary groups with which the individual interacts intensely. In this respect, Sutherland emphasizes that there are social learning processes that can lead individuals to crime/violence anytime and anywhere. Learning crime or violence means learning crime/violence techniques, causes, tendencies, rationalization and attitudes. On the other hand, the critical point in this theory is how Sutherland defines crime/violence or living in accordance with laws/norms in primary environments such as family, friend/peer group, with which the individual is in close contact. In this context, he introduces the Disjunctive Combinations Theory: Although the individual is in environments where laws and norms are defined as rules to be followed; If these rules are not heeded or ignored, he may turn to crime, deviance or violence. In other words, if the life style in accordance with the laws and norms is not supported in the environments where the individual is in close contact, the individual will turn to crime or violence. According to Sutherland, this orientation differs according to the frequency of the individual's contact with these environments, the duration and intensity of the relationship, and the priority and importance of the environment in question for the individual. The theory as a whole is remarkable in that it evaluates the individual on the basis of "learning through collective behavior" in terms of orientation to crime or violence, and it has been quite effective in studies on crime/violence. (Pratt,et.al., 2010; Chamberlain, 2015)

In the following periods, Akers revised Sutherland theory as Differential Reinforcement . According to him, social behavior is acquired both through direct conditioning and through imitation or modeling of the behavior of others. Behavior is strengthened by reward (positive reinforcement) and avoidance of punishment (negative reinforcement) or weakened by aversive stimuli (positive punishment) and loss of reward (negative punishment). Individuals learn evaluative definitions of behavior (norms, attitudes, trends) as good or bad, in interaction with important groups in their lives. (Akers, et.al.,1979)

draws attention *to the definition of* illegal or non-normative behaviors in the "definitions" title of Social Learning Theory and explains it as follows; generally/commonly religious, moral and conventional values and norms predict conformity behavior. On the other hand, it is *subjective* for an individual to evaluate or define a behavior as right-wrong, desired-undesirable, right-wrong . For example, stealing is bad, but stealing from individuals engaged in illegal activities is OK. In this context, Akers not only explains the learning mechanisms, but also clarifies the definitions of crime or violence (Akers, 2000).

The theory argues that crime is learned through interaction with other people and role models that support or object to the criminal in some way through the behavior of the criminal individual or by being exposed to the crime. Social Learning Theory predicts that criminal or violent behaviors may occur with the increase in the frequency of establishing relationships with individuals who behave in this way. Depending on the individual's specific interaction with other individuals and the weight of the impact of each on the individual, he or she may be exposed to attitudes, behaviors, reinforcements and models in favor of or against crime/violence. In short, Social Learning Theory predicts that criminal behavior is likely to increase with increasing association with criminal individuals; when this happens, the rewards or punishments for crime, positive or neutralizing definitions of crime/violence affect the individual, outweighing the individual's own negative definitions of crime (Powers, et.al., 2020; Cochran, 2016; Cochran,2017). On the other hand, the normalization of victimization sharing in contacts with victims of violence, the cultural acceptance of violence as a conflict resolution tool, the effect of traditional gender roles and violent masculinities constitute the social learning process of violence (Cochran, 2017).

The reason why Social Learning Theory was preferred in this study is that it emphasizes that violent behaviors can be learned as a result of interaction with close others such as family and peer groups. In our study; It has been thought that different components such as being successful, being able to compete, being accepted by others, belonging to a social group, being strong, and having one's identity accepted mediate the consolidation of violence in the field of sports and the normalization process without being reconstructed, therefore Social Learning Theory for the theoretical framework. It was found appropriate to examine and explain the relations of sports actors .

The theory also reflects the intergenerational cycle of violence model. He claims that exposure to violence—whether experienced or observed—may affect attitudes towards these behaviors in the future (Gagnon, 2018). For example, children learn behavior from the experiences and observations of social interactions. The modelers of these observations are usually parents and caregivers, etc. It is possible. Therefore, when exposed to violence or hostile parenting practices, they learn that violence is an acceptable conflict resolution tool and will then model this behavior in their relationships (Powers, et.al.,2020; Bandura,, 1973). Similarly in sports_The behaviors of the young athletes who come to the infrastructure are generally learned by choosing their elders and their coaches as models. The individual helps to maintain the behaviors by transferring the positive and negative behaviors learned at a young age to those who come after him. For this reason, the narratives of adults, even those who have completed their sports life, about the past are similar to the current lives of young athletes.

From Disjunctive Combinations to Social Learning: Concepts of Akers' Social Learning Theory

The development of Akers' Differential Association Theory is mainly based on four main concepts: differential associations, definitions, differential reinforcement, and imitation. Akers has worked on the concept of 'learning' in these four theoretical approaches, and his approach has developed definitions of 'law/norm-compliant and inappropriate behavior' as well as explaining learning mechanisms.

Separating Joins

Akers considers Sutherland's (1947) Disjunctive Combinations Theory by reformulating and extending the mechanisms and processes by which individuals learn criminal behavior.

The concept of Distinctive Combinations refers to the process of exposure to deviant behavior and norms. Disjunctive Combinations have both behavioral/interactive and normative dimensions. The interactional dimension refers to the process of interacting and connecting with others directly engaged in a particular behavior. However, it also means establishing an indirect connection with or identifying/identifying oneself with reference groups more distant to the individual.

The normative dimension is exposure to different norms and values that exist in these connected and interacted groups. These groups, where the individual is in the most intense interaction and connection, provide the widest content on the basis of the working process of social learning mechanisms. Violence or disapproved, criminal behavior can be learned not only in the context of definitions, but also through modeling, imitation and differential reinforcement, in other words, positive or negative reinforcement.

According to Akers, the most important of these groups are primary groups such as family and friends. On the other hand, these groups may also be more distant groups with which the person identifies with oneself, such as reference groups. On the other hand, there may be more distant sources such as neighbors, religious institutions or figures, teachers, law and authority figures, community leaders or even the media. These groups will have varying degrees of influence on the individual's tendency to deviant/violent behavior.

Of these connections and interactions, the one that occurs from an earlier age (priority), the one that spends more time (duration), the one that takes place most frequently, and the inclusion of the most important relatives to the individual (intensity) will have the most intense effect on the behavior.

Empirical studies have shown that exposure to behavioral norm patterns that prioritize interpersonal aggression will increase an individual's likelihood of repeating this deviant behavior. (Powers, et.al.,2020; Cochran,2017; Gagnon, 2018; Kabiri, et.al., 2021; DeMartino, et.al., 2015)

Definitions

It is the judgments, attitudes, or meanings that a person attributes to a particular behavior. In other words, they are the evaluation criteria used to qualify an action as right-wrong, good-bad, desirable-undesirable or just-unjust.

Imitation

It is a concept based on Tarde's (1912) theory of 'laws of imitation'. In his theory, Tarde states that human beings perform the learning process through mutual communication and imitation (Özgentürk, et.al., 2012; Cochran, 2017). The concept of imitation was derived from the cognitive learning theory put forward by Bandura in 1978 (Kabiri, et.al., 2021). Imitation is performing a behavior that one observes the other doing (Cochran et.al., 2017). Social learning indicates that proximity and exposure to those who accept a behavior increase the likelihood of the actor imitating the behavior (Nery, et.al., 2018). It is the repetition of imitation modeled deviant or congruent behavior through various sources (Bandura, 1969; Weinhardt et.al., 2017).

Differential Reinforcement

Burgess and Akers (1966) argue that it is positive and negative reinforcement mechanisms (i.e., rewards and punishments) that determine whether a behavior will be repeated. When rewarding outcomes are expected, the likelihood of committing and/or repeating criminal behavior increases because rewards and punishments are predictable (Shadmanfaat, et.al.,2020). According to Social Learning Theory, an expected action is more likely to be repeated if a reward greater than costs is provided (Evans,et.al.,2016). These rewards can be direct financial rewards or financial gain, or they can also be social in nature such as gaining status or recognition. It can even be internal, such as rewarding and punishing one's self. Akers' theory proposes that other individuals and groups that are the main sources of reinforcement or punishment of a behavior will have the greatest influence on that individual's behavior (Cochran, et.al.,2017).

In recent violence studies, we see that Social Learning Theory and its concepts are studied when examining the issues related to intimate partner, partner, family, peer violence, violence behaviors in peer groups, other social groups and individual relationships. In the field of sports, while the number of studies examining interpersonal relations increases, it is seen that studies emphasizing that domestic violence and especially violence against women are intertwined in the professional sports world present remarkable data (Kenon, et.al.,2022)

Studies have shown that as a result of violent behaviors that are experienced, modeled, reinforced and justified through imitation, individuals become accustomed to violence and become ready and habitual targets suitable for recurrent victimization. Likewise, victims may internalize norms that serve to neutralize violence, accept it as normal, and perhaps even approve under certain circumstances. Weakly held traditional morals and values, or situationally neutralized morals and values, are sufficient to induce deviant behavior. The more strongly individuals affirm the norms and values for deviant behavior, the less likely they are to neutralize that behavior. Social Learning Theory predicts that repetitive physical aggression is more likely among those who engage in behaviors approved by close friends (family, friends, and significant others). Tolerating violence can involve social and non-social rewards. That is, costs are the various social and non-social losses that a person may suffer as a direct result of violence. (Cochran, et.al., 2011)

Method

In this study, mixed research method was used. Mixed methods research: It is a type of research in which the researcher or research team combines components of qualitative and quantitative research approaches (exemplary qualitative and quantitative perspectives, use of data collection, analysis and inference techniques) for breadth and depth of understanding and validation (Kenon, et.al.,2022). In our study, the mixed method was preferred because it provides data richness.

Clark and Ivankova (2018) the basic principle of mixed methods research; there is a belief that research methods should be integrated or mixed based on their strengths and weaknesses; They state that by using the strengths of the quantitative and qualitative method, researchers can conduct more reliable studies with the research problem that reveal both descriptive and reinforcing evidence.

Tashakkorie and Teddlie (2015) think that in the classical form of mixed methods research, one of the data types provides great depth, while the other can provide a great breadth, and when used together, it provides results that will enable better inferences. As Creswell states, quantitative results often explain the general trends and relationships required, while qualitative results provide a more holistic understanding while revealing the deep personal views of individuals (Creswell&Clark,2018).

In the study, it was found appropriate to 'evaluate both methods with equal priority' in prioritizing the weight of use of qualitative and quantitative data. In this context, simultaneity was preferred for qualitative and quantitative data. While planning the study, it was aimed to reveal the types of violence that the athletes are exposed to in the field of sports. Thus, it will be possible to make the clear pattern of cultural violence visible in the athletes' communities. It is aimed to analyze the issue in depth by looking for the origin of the violence that the athletes are exposed to in sports, society and management processes. These two main dimensions of the research were carried out simultaneously.

Parallel mixed method design was used in the research. This design includes a methodological framework in which qualitative and quantitative data are collected in parallel, analyzed separately, similarities and differences of quantitative and qualitative data are investigated, related in this context and interpreted in an embedded way. The chosen research design requires simultaneous study in the priority of independent stages, with equal emphasis, in the timing of the stages. In this context, the quantitative approach was used in the data collection phase of the study. A linear research path was followed, the field research was planned in certain steps and hypotheses were formed on the basis of the variables determined on the basis of interpersonal violence in sports (Neuman,2013).

As the qualitative data collection approach of the study, *the descriptive phenomenological* approach was preferred. Generally speaking , phenomenology assumes that knowledge is based on experience. This approach allows to understand the consciously lived experiences, judgments, perceptions and emotions of others in the content of the experiences and as they are. It is used in different disciplines and fields as well as in researching different subjects (Baden&Major, 2013). As beings who co-create the living environment, the themes of our world can have different meanings for everyone due to the experiential differences of individuals. While the subjective experiences of each individual affect the meaning and depth of a phenomenon, they can metaphysically shape the traces left in our souls in different forms.

The descriptive tradition of phenomenology used in the study comes from Husserl and Merleau-Ponty. In this context, the analysis is based on the experiences of the lived world, in other words, the interaction of the body with the surrounding lifeworld (Dowling Husserl focused on the relationship between *normality and tradition* in terms of metaphysics, intentionality, transcendental idealism, time, body, intersubjectivity, and phenomenological epistemology in the world of life . From this point of view, while examining the phenomenon of violence in the epistemological context in the sports environment, I learn what is normal from others -- and above all from my closest relatives, that is, from those who raised and educated me -- as Husserl puts forward in his philosophy, so that a common tradition that goes back to a dark past through the succession of generations. I will be included" is based on the idea. For the first time, it is unclear who committed that act of violence, where and against whom, but most of the time, a behavior such as a way of thinking, a form of ritual, a mandatory rule to be followed is maintained. It shows that 'Social Learning Theory', which constitutes the theoretical framework of the research, and phenomenology, which is a qualitative research design, are fed from a similar epistemological basis and can work together (Zahavi,2018).

The experiences of the athletes in the context of violence were used as a guiding framework for the analysis. In this study *, it includes the effort to understand and make sense of the experiences,* the effort to reveal the violence experienced by the athletes, and the effort to make the previously invisible or invisible visible. Within the framework of the descriptive phenomenological approach, it is aimed to make the violence experienced by the athletes visible within the framework of predetermined themes. This choice arose as a result of the intention to understand the violence experienced by the athletes in more detail, both at the analytical level and in terms of species.

Undoubtedly, the researcher had to question his personal baggage/burden in the context of his feelings, thoughts and beliefs and take it into the background. The focus of the researcher was what and how the participants told, described and made sense of. Then, while reading the texts related to the interview, it was tried to establish a relationship with the text by moving forward and backward. These data were coded and their similarities and differences were emphasized. This is how coding patterns and thematization processes emerged.

Data Collection Tools

For quantitative data A questionnaire consisting of two parts was used. The first part of the questionnaire consists of a 34-item demographic information form. In the second part, how the athletes define the concept of 'violence' through the question paper, the frequency of exposure to violent behaviors, the identity of the perpetrators (gender, role in the field of sports), where the athletes are exposed to violence, the reactions of the athletes to the violent behaviors and finally the continuation of the violence they are exposed to . Its causes and effects on performance were investigated . In the final stage of the quantitative data collection process, Dr. The 'Violence Tendency Scale' developed by Bülent Bayat et al. was used. Permission was obtained from the scale owner (on 16.07.2019) for the use of the scale.

The questionnaire form was prepared by the researcher based on the violent behaviors encountered in the academic literature on violence, and the Violence Tendency Scale was used to learn the violence tendencies of the athletes and the patterns of violence in the field of sports and to understand the normalization process of violence.

Through the qualitative data obtained through individual interviews, it is aimed to investigate and reveal the types of violence that the athletes in Turkey are exposed to in sports. The qualitative interview form prepared in line with the research questions has a semi-structured quality. Qualitative data were collected through the voluntary participation form, which provides information about the subject of the research and the interview process, and by declaring that a voice recorder will be used during the interviews, by obtaining the written consent of the participants.

Data Analysis Strategy

In this study, in which the mixed method approach was used, the analysis was started with quantitative analysis methods. The data obtained as a result of the questionnaire and scale application were analyzed using descriptive analysis and logliner analysis methods.

In the qualitative research part, 'violence' has been tried to be discussed in all its aspects in a phenomenological framework and through interviews. It is aimed to explain the individual sports lives of the participants in a chronological way, to explore the language characteristics of the sports field, the cultural structure of the branch and the experiences in the field of sports. Thematic analysis technique was used in qualitative analysis.

, conformity with normal distribution was tested as a diagnostic statistic for numerical variables . Mean ± standard deviation when appropriate, median (median) min. - max . It was seen that numbers and percentages should be given for qualitative variables with values .

Since the difference between the frequency groups of exposure to violence in terms of numerical variables is provided by parametric test assumptions, it has been determined that it is necessary to test with the Mann-Withney -U test if the difference between the two independent averages cannot be achieved with the significance test.

Pearson chi-square since dependency test prerequisites are met between categorical variables, Fisher's Exact Test, or generalized test according to table size in case it does not. Fisher Exact Test (Fisher-Freeman It has been seen that it should be tested with the Halton Exact Test.

It was found appropriate to test with the Cochran Q test whether the severity type distributions of the addicted groups were similar or not.

On the other hand, after the analysis of the qualitative data, the method of combining the research data with quantitative data during interpretation was preferred. Combining is for the explicit linking of the quantitative and qualitative phases of the research.

This study was carried out with the permission of Hacettepe University Senate Ethics Commission, dated 15.06.2020 and numbered 35853172-755.02.06. (Annex-1) The method and analysis process flow of the research is shown in Figure 1

The 'Violence Tendency Scale' was used in the last part of the quantitative field study. Although questions were added to the questionnaire in the beginning to determine the tendency towards violence, there was a concern that realistic answers would not be given to the questions reflecting the tendency to violence with open voluntarism, and it was found appropriate to add a scale by removing these questions to strengthen the study.

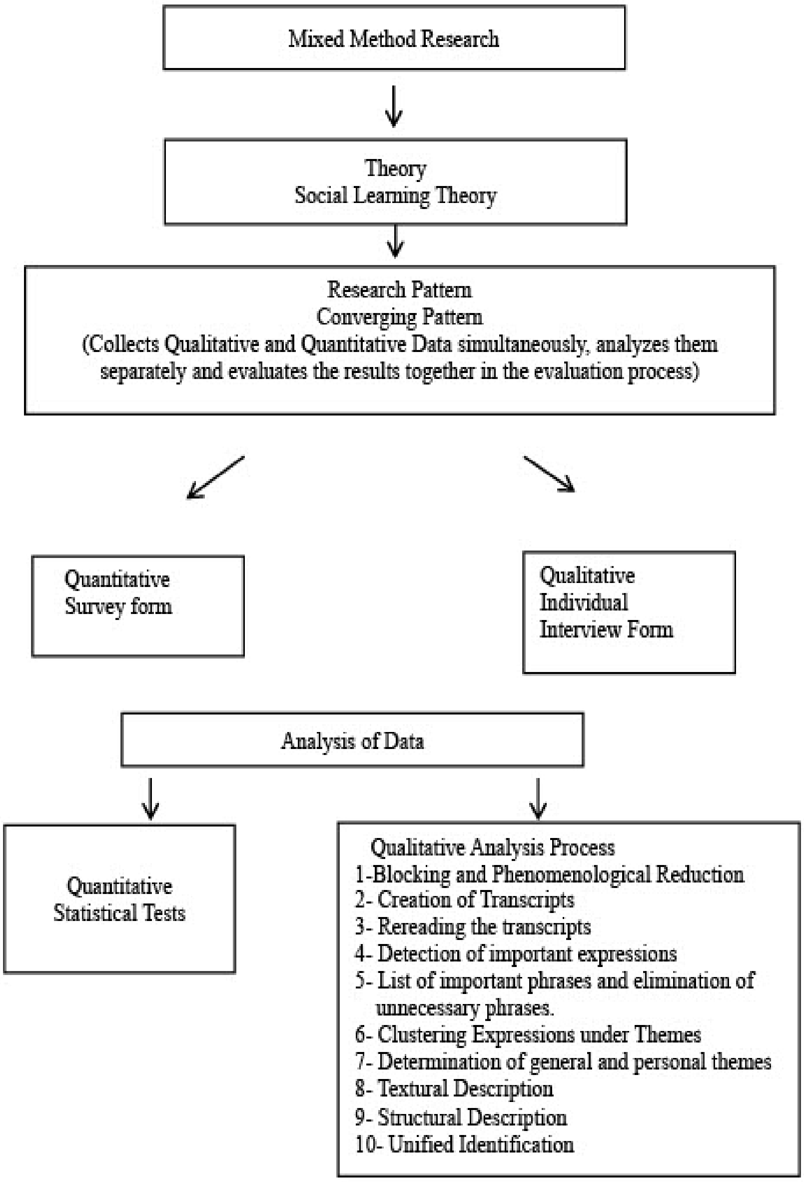


Figure 1. Analysis Process of Research

The 'Violence Tendency Scale', which was used in different studies in similar age groups, was preferred in the study to examine the tendency of people exposed to violence to perpetrate violence, since it has similar features with the questions previously designed and excluded from the study. has been done. (Eraslan, et.al.,2017; Öztürk, 2019; Yönet,et.al., 2016; Göldağ,2015; Taşkesen,2011)

This scale (TC Prime Ministry Family Research Institution 1998, p. 46) was developed by Göka, Bayat and Türkçapar in 1995 for the National Education It was developed to be used in the research on " Aggression and Violence Tendencies of Students Studying in Secondary Education Institutions" conducted by the Ministry of Education. In the research titled "Violence in the Family and Social Area" of the Turkish Prime Ministry Family Research Institution, it was redesigned without changing the basic structure to measure the Violence tendencies of children aged 7-14, and the content validity was validated. provided. The scale used in the research to determine the aggression tendencies of the students is a total of 20 statements. Responses to the statements in the scale 4-point Likert arranged in scale. Ratings are very favorable option 4, not at all option was given 1 point. All statements in the scale are one-sided. Accordingly, the high scores obtained from the scale The student has a high tendency to violence, and a low score indicates the opposite. In the evaluations made according to the total scores, the score between 1-20 indicates that the aggression tendency of the student is "very little", and the score between 21-40 is "less"; A score between 41-60 indicates “too much” and a score between 61-80 indicates “too much”. In the studies examined, the Cronbach Alpha internal consistency calculated for the scale was (0.76) and (a>0.60). (Eraslan, et.al., 2017) In our study, the internal consistency coefficient was found to be 0.856.

In the study; The 20-item statement in the scale was preserved, and a five-point Likert scale was used. Ratings have been adjusted by giving 1 point to Not At all Appropriate and 5 points to Very Appropriate. Internal consistency of perceptions of violence tendency Cronbach's It was deemed appropriate to examine it with the α coefficient. In all analyses, the error test was determined as α 0.005(5%). The co-effects of violence tendency, gender, exposure to types of violence and other variables were examined by regression analysis.

The permission to use the scale was obtained from Bülent Bayat, one of the authors who developed the scale, with a wet signature and via e-mail.

In the qualitative part of the study, 9 female and 5 male athletes participated. As we mentioned before, the snowball sampling model was used while selecting the participants. First, during the survey study, a female athlete who was interested in the subject and stated that she had experiences that she wanted to share was interviewed, and then the participants were reached by both directing the researcher and directing the athletes who she claimed to have similar experiences to the researcher. Meanwhile, each new interview formed a reference for the next. Since the interview with a male athlete did not provide data saturation, it was not included in the study. Another male athlete was withdrawn from the interview because his experiences of violence were in the court process. In this context, the main points taken into consideration while forming the interview questions can be listed as follows:

1- What types of violence do athletes experience in their sports lives?
2- What is the relationship between the gender of the athletes and the type of violence they are exposed to?
3- Does the age of the athletes who are exposed to forms of violence determine this?

4- What is the relationship between sports branches and types of violence?

5- Athletes are usually exposed to violent behavior by whom?

6- How does gender, age, branch, exposure to violence affect the quality of life of athletes?

7- How do athletes react when exposed to violence? What factors prevent them from reacting?

8- Are there athletes who have faced sexual harassment and assault behaviors?

9- How do experiences of sexual harassment affect the lives of athletes?

10- What kind of violence does the sport itself contain in its natural process and how can it be separated from the violent behavior of the actors?

11- Do athletes develop behaviors in the same way to perpetuate violence, and how do they apply it to whom?

12- Are there policies or measures to prevent athletes from being exposed to violence in sports?

Sampling and Study Participants

Quantitative Sample

The universe of the study consists of athletes over the age of 18 who do the Olympic sports branches.

A survey was conducted with a total of 668 athletes in Ankara, the capital city of Turkey. While collecting quantitative data, a questionnaire study was conducted with the athletes by going to the gyms, some trainings of the athletes, through their trainers or individually. The survey application was made with the athletes over the age of 18 by providing the condition of voluntary participation. The aim and scope of the study were explained to the athletes and their participation was ensured by obtaining their individual consent. Athletes who did not want to participate in the study or who wanted to leave it unfinished were not included in the study, and they were informed that they could stop answering the survey questions at any time, and volunteerism was prioritized in participation. In the examination, it was determined that the questionnaires were filled in incorrectly or incompletely, and that some of the athletes participating in the study were under the age of 18, and these questionnaires were eliminated without being included in the analysis process. As a result, statistical analyzes were carried out with the data set obtained from 550 athletes.

The number of athletes in the Olympic sports branches in Turkey and the number of licensed and active athletes in these branches were officially obtained from the relevant units of the Ministry of Youth and Sports. These numbers are shown in table 1. (Youth and Sport of Ministry of Türkiye; Sports information systemof General Directorate of Sports Services)

The hypothesis of the research were arranged and tested, and the number of sample groups was determined as 412. By examining the branch distributions, 57,002 athletes constitute the population of the research. The sample was determined as 455 athletes. For sample determination, stratified purposive sampling and quota sampling techniques were preferred to show and describe group characteristics and to make comparisons between them.

Considering the methodological approach, research design, the number of variables to be examined simultaneously, the data analysis methods to be applied, the confidence level accepted for the estimation, and the amount of deviation to be tolerated, a pilot study was conducted with 30 volunteer athlete participants before the survey application and a study was conducted for the statistical techniques to be used in this context. data set was created, and this data set was subjected to statistical preliminary analysis in line with the hypotheses.

Table 1. Number of Olympic Branch Athletes in Turkey. (2018-2019 data is used.)

The number of athletes in the Olympic Branches in Turkey (06.01.2019 - shgm.gov.tr -)					
Branches	Females		Males		Total
	n	%	n	%	
Shooting	4.165	16	22,274	84	26,439
Athletics	86,375	38	143,248	62	229,623
Badminton	41,480	44	53.006	56	94,486
Basketball	57,709	20	229,655	80	287,364
Riding	3.338	51	3.159	49	6,497
Bicycle	5.773	18	26.117	82	31,890
Boxing	17,089	14	101,873	86	118,962
Ice Hockey	2.271	32	4,931	68	7.202
Ice skating	3.042	61	1.952	39	4,994
Gymnastics	49,086	63	28,664	37	77,750
Fencing	5,866	40	8.595	60	14,577
Football	5.477	2	290,417	98	295,894
Golf	2,499	34	4,796	66	7.295
Wrestle	8,040	6	129,613	94	137,653
Barbell	2,882	22	10,197	78	13,079
Handball	44,266	38	73,593	62	117,859
Hockey	5,099	37	8.590	63	13,689
Judo	36,417	34	70.418	66	106,835
Canoe	2.372	26	6.728	74	9,100
Sled	364	31	793	69	1.157
Spade	1.622	28	4,093	72	5.715
Table Tennis	42,879	34	83,139	66	126,018
Modern Pentathlon	1,804	36	3.255	64	5.059
Archery	12,721	38	20,461	62	33,182
Rugby	2,993	23	9,847	77	12,840
Water ball	3,095	26	8,850	74	11,945
Taekwondo	156,326	33	310,791	67	467.117
Tennis	25,431	45	31,440	55	56,871
Triathlon	1.630	25	5.009	75	6.639
Volleyball	186.044	63	111,235	37	297,279
Sail	5,556	27	15,040	73	20,596
Swimming	79,271	43	106,151	57	185,422

Table 2. The number of active athletes over 18 in Olympic Sports branches

Active athletes over 18 in Turkey (08.04.2019 Turkish Data Processing Department, General Directorate of Sports Services)						
Branches	Females		Males		Total	Total Athletes Eligible to Participate in the Study
	n	%	n	%		
Shooting	221	15	1246	85	1467	6
Athletics	1753	31	3951	69	5704	44
Badminton	381	37	656	63	1037	9
Basketball	34	20	132	80	166	1
Riding	142	46	170	54	312	4
Bicycle	221	12	1603	88	1824	6
Boxing	777	20	3096	80	3873	19
Ice Hockey	91	30	214	70	305	2
Ice skating	116	71	47	29	163	3
Gymnastics	102	55	85	45	187	3
Fencing	101	39	156	61	257	3
Golf	37	25	114	75	151	1
Wrestle	253	7	3285	93	3538	6
Barbell	140	28	361	72	501	3
Handball	1089	35	2022	65	3111	27
Hockey	210	32	440	68	650	5
Judo	295	28	745	72	1040	7
Canoe	29	20	113	80	142	1
Sled	42	32	91	68	133	1
Spade	110	35	205	65	315	3
Table Tennis	535	24	1724	76	2259	13
Modern Pentathlon	33	36	58	64	91	1
Archery	1021	41	1467	59	2488	25
Rugby	283	19	1212	81	1495	7
Water ball	61	19	256	81	317	2
Taekwondo	3004	44	3805	56	6809	75
Tennis	132	32	282	68	414	3
Triathlon	150	17	727	83	877	4
Volleyball	4910	46	5821	54	10731	122
Sail	788	26	2266	74	3054	20
Swimming	1180	33	2379	67	3559	29
Total	18241	32	38729	68	57002	455

Participants of Qualitative Field Research

10 female and 4 male athletes participated in the interviews conducted through the qualitative methodological approach of the research. Snowball sampling model was used when selecting the participants. Snowball sampling is a non-random, judgmental sampling type that is used for the researcher to be practical and to easily reach people who have the desired characteristics. Another condition that necessitates the use of this type of sample is that the sensitive working groups (victims of sexual harassment, drug addicts, etc.) with the required qualifications are unknown, unrecognized or not easily accessible. In the snowball sample design, there are one or more people with the required qualifications and these people are asked to give the names of their friends/acquaintances who are like them. Thus, the sample growing like a snowball is reached. (Gliner, et.al., 2015) In the qualitative research approach, the number of research participants is not taken into account; Interviews are terminated at the point where data saturation is reached.

Validity and Reliability of the Research in the Framework of Mixed Methods
Validity

Creswell and Clark (2018) 'validity ' in mixed methods research; They defined it as collecting and analyzing data, combining, or relating the quantitative and qualitative phases of the research, and using strategies that identify possible issues in the conclusions drawn from this combination, and interpretations that can be reached.

Larry et al. present the issues seen as risks in mixed method research as 'validity strategies' that should be used in qualitative research and these strategies are data diversity, comprehensive field study, external audit, researcher diversity, direct citation, method diversity, contrast sampling, pattern matching, peer review, reflective thinking, elaborative researcher, rejecting alternative explanations, theory variation, variation. (Taşkesen, 2011))

As the internal validity method in the qualitative research part of the study; detailed researcher, method variation as the second strategy and data variation method as the third strategy was used. While it is considered that the people from whom the data will be obtained are athletes over the age of 18 from different branches, to understand the existence and continuity of the phenomenon of violence in the field of sports, former athletes who quit sports were included in the interviews, as well as individual interviews with the athletes who are still doing sports.
Although qualitative research is not concerned with generalization, natural generalization was preferred as an external validity strategy based on the similarity of the research to reported people and the context to other contexts and people.

In addition, the method of receiving feedback from the participants was preferred as auxiliary validity strategies in the study, and the ' theoretical validity' strategy was also used by trying to reveal the compatibility of the obtained data with the 'Social Learning Theory', which constitutes the general framework of the research. At this stage, the transcripts of the interviews were arranged with the blocking method and created in a template with quotations under the codes and themes, and this template was shared with each participant's own interview transcript. The participants were asked whether the events they told were understood correctly by the researcher, whether they found the analysis work sufficient to ensure the confidentiality of information of ethical concern and individual importance, and their views on codes and themes. At this stage, two studies were conducted specifically on the citations with the participants with sexual harassment findings, and satisfaction approvals were obtained from all participants regarding the confidentiality of the information. A participant requested confidentiality in some details. Participants were informed about the text at all stages of the study. Participants stated that they approved the codes and themes reached during the analysis process.

Reliability

Sığrı (2018) classifies the strategies applied in the reliability of qualitative research as diversification, triangulation, and triangulation and presents them in two forms under the headings of internal and external reliability.

External reliability by Yıldırım and Şimşek; whether similar research results can be obtained by the same researcher at different times and in similar environments; Internal reliability is defined as whether another researcher can reach the same result at a different time using the same data.

In the research, data collection and analysis methods as external reliability method were explained in detail. The researcher's position and prior experiences with the phenomenon being studied are clearly expressed. While the theoretical framework used was defined in detail, the research was tried to be continued within the theoretical framework.

As suggested by the sources as an internal reliability strategy, the data were tried to be presented with a descriptive approach, the transcripts of the individual interviews were shared with a second researcher, the participants were selected from different branches, ages and genders, and the diversification strategy was applied, and the opinions of another researcher were taken during the analysis phase. Considering the basic principles of semi-structured individual interviews applied in quantitative form, conducting the interview has also been one of the strategies applied.

By whom, where how and how often the phenomenon of violence is applied, how the exposed athlete feels, how he reacts, how it affects the athlete after the violent behavior of the questionnaire form used, also formed the general framework of the individual interviews. During the individual interviews, in-depth interviews were tried to be made, without affecting the participant and reflecting the researcher identity of the researcher, and it was tried to predict within the theoretical framework whether the athletes who were exposed to violence in various forms inflict violence on anyone or something in their own lives.

Quantitative Data

Analysis of Quantitative Data

The data we obtained in the research were firstly presented with one-way frequency tables; In the second stage, the bilateral relations between the basic variables that we determined in the research were examined with the help of quota tables. Then, Log -Linear Analysis technique was used to examine the multi-directional relationship/interaction between the basic variables we determined in the research.

Logarithmic linear analysis includes a process that allows model building, hypothesis testing, and parameter estimation for categorized data. Categorical data are count-based data and are arranged in quota tables by cross-classifying them. (Akman,2021)

Categorical data analysis allows to measure the statistical relationship between two or more categorical variables, to give the importance of the relationship, to examine how much risk the effect poses on the result in factor-effect studies, to establish a model with categorical variables, to make predictions, and to reveal the relationships between the levels of the variables. It is a collection of methods. (Altunay, et.al.,2021)

In the analyzes to be carried out according to two categorical variables, one of the variables is displayed in the row and the other in the column, and a two-dimensional contingency table is arranged. If the number of categorical variables is three or more, the table expands, and three or more versatile quota tables are arranged. As the number of variables increases, the tables become more complex. (Akman,2021)

In addition to the techniques frequently used in the analysis of quantitative data, the reason why Logarithmic Linear Analysis is preferred is to reveal whether there are binary and higher relationships between the variables. To establish logarithmic linear models, firstly the data were rearranged by making them categorical. For this, all data has been reduced to two categories.

For example, since the participants were 18 years of age or older, age-related data were collected in two categories: under 22 years old and over 23 years old. Data reporting the economic status of families and individuals were categorized as 'Minimum Subsistence Level' and 'Good’. Occupational groups formed about the profession of parents were categorized as 'Working, Not Working’. Educational information was categorized as 'High school and below and above high school’. Sports branches were gathered in two categories as 'contact and non-contact' sports. Team sports and some individual branches were categorized under the category of contact sports. Handball, Basketball, Football, Ice Hockey, Judo, Taekwondo , Karate, Boxing, Kick Boxing, Wrestling, Water Polo branches are grouped under the category of Branches Requiring Contact; Volleyball, Table Tennis, Shooting, Badminton, Tennis, Fencing, Bodybuilding, Weightlifting, Swimming, Athletics, Gymnastics, Underwater , Rowing, Canoe, Dance, branches were gathered under the category of Non-Contact Branches and converted into categorical data. At what age did you start sports; If it was started at the age of 12 or younger, it was determined as the category under 12 years old, and if it was started at the age of 13 and over, it was determined as the second category. Here, care was taken to observe the average age of starting sports in branches. Team categories were reduced to two categories as League Team and Individual Licensed Athlete, out of 6 previously determined categorical titles (University Team, Amateur Team, Professional, Club, Regional, League Team and Individual Categories). The education level of the trainer is categorized under two headings as High School and High School. Coaching Training, below the 3rd level and above the 3rd level; the trainer's sports background is an athlete - not an athlete; the athlete's father's occupation, working and not working; how long he had been doing sports was categorized as below 8 years and 9 years and above, so all the answers were gathered under two categories and made categorical. The distribution of the participants according to their genders by branches is shown in the Table .

Table 3. The number of female and male participants by branches

Branches	Females		Males		Total
	n	%	n	%	
Shooting	1	38	2	69	3
Athletics	52	20	51	18	103
Badminton	2	77	1	35	3
Basketball	20	8	15	5	35
Boxing	31	12	27	9	58
Ice Hockey	1	38	1	35	2
Gymnastics	4	2	3	1	7
Football	22	8	28	10	50
Wrestle	9	3	15	5	24
Barbell	6	2	8	3	14
Handball	67	26	65	22	132
Judo	12	5	32	11	44
Canoe	0	-	4	1	4
Karate	4	2	8	3	12
Spade	1	38	2	69	3
Table Tennis	1	38	2	69	3
Underwater	11	38	2	69	3
Water ball	0	-	2	69	2
Taekwondo	2	77	0	-	2
Tennis	3	1	0	-	3
Volleyball	19	7	19	7	38
Swimming	3	1	2	69	5
Total	261	100	289	100	550

Demographic Information of Participants

Of the 550 athletes participating in the study, 47.5% (n=261) were female and 52.5% (n=289) were male. 69.4% of the participants (n=382) were between the ages of 18-21; 30.5% (n=168) are in the category over 22 years old. Age and gender distributions of male and female athletes participating in the study are shown in the table below in terms of age and frequency. 93.6% (n=515 single) and 6.4% (n=35) of the athletes who participated in the study reported that they were married. 48.2% (n=265) of the participants were high school graduates, 51.8% (n=285) reported that they had a university or higher education. Other demographic information of the athletes participating in the survey is shown in the Table.

Table 4. Demographic information of participants.

Gender	Females n (%)		Males n (%)	
	261 (47)		289 (53)	
Where he lives	Big city	City		District
	317 (58)	214 (39)		19 (3)
The Nature of the Sports Life	Big city	City	District	Bay
	282 (51)	224 (41)	38 (7)	6 (one)
Economic Status of Your Family	Minimum wage		Above Minimum Wage	Very good
	202 (37)		337 (61)	11 (2)
Marital Status of Parents	They married	They Live Separately	Parents Dead	They divorced
	471 (86)	32 (6)	23 (4)	24 (4)
Number of siblings	One Child	2-3 siblings	4-5 siblings	6 and above
	59 (11)	444 (81)	39 (7)	8 (1)
Your Mother's Job	Housewife	Officer	Employee	Other
	440 (80)	17 (3)	61 (11)	32 (6)
Your Father's Job	Officer	Small business	Employee	unemployed Other
	63 (11)	43 (8)	183 (33)	226 (48)
Mother Education Status	Primary school	Middle school	High school	University
	247 (45)	115 (21)	135 (25)	53 (9)
Father Educational Status	Primary school	Middle school	High school	University
	109 (20)	158 (29)	170 (31)	113 (20)
Does your mother have a sports background?	Yes		No	
	71 (13)		479 (87)	
Does your father have a sports background?	Yes		No	
	147 (27)		403 (73)	
How He Started Sports	Phy.Edu. Teacher	Family friend/relative	With Talent Scan	With own request
	499 (80)	50 (50)	- (-)	1 (-)
Team Category	Uni. L.	Amateur L.	Professional L	Club Team
	26 (5)	178 (32)	46 (8)	15 (3)
Team Category	Infrastructure		Junior League	Individual Branches
	3 (1)		35 (6)	247 (45)
Trainer's Gender	Woman		Male	
	11 (2)		539 (98)	
Trainer's Educational Status	High school	University		graduate
	105 (19)	387 (70)		58 (11)
Coach's Rank	1-2.Stage	3rd Tier	Tier 4	Level 5
	187 (34)	251 (46)	98 (18)	14 (2)
Coach's Sports History	Former Athlete in the Same Branch		Former Athlete in Another Branch	No Sports Background
	405 (74)		115 (21)	30 (5)
Coach or Club Replacement Rate	Never or Once	2-3 Times	4-5 Times	6 and above
	485 (88)	48 (9)	11 (2)	6 (1)

While preparing the demographic information form and questionnaire, it has been extensively studied to try to understand the effects and roles of the actors in these fields within the scope of violence. However, it was tried to understand how the questionnaire affected the respondents in the answering process, and what they thought, and a small sample of subjects completely independent of the research sample was studied and deficiencies were identified. The questions about the school and social circles of the athletes were removed from the form, and the areas predicted by the questionnaire were narrowed down to family and sports fields, since it was found to be tiring with the perception that there were too long and frequently repetitive questions by the trial group created to answer the questionnaire. On the other hand, the questionnaire form was also examined in terms of shape and tried to make it easier to understand.

With the Social Learning theory, it is aimed to understand the source from which the athletes learn their violent behaviors and how they continue these behaviors in their lives.

Another reason why the questionnaire and demographic information form was prepared so comprehensively; It is for the overlapping of the data while interpreting the qualitative data by combining the quantitative data.

Qualitative Field Research

In order to understand the basic processes and structures that we wanted to investigate; it was preferred that the questionnaire be semi-structured. While collecting qualitative data, some athletes who participated in the survey stated that they had specific experiences of violence. They were invited to an interview to discuss their experiences in depth, and interviews were held with the athletes who wanted to participate. After these interviews, which were audio-recorded within the framework of a semi-structured questionnaire, some athletes made suggestions to their friends to participate in this research. Since the athletes generally recommend individuals, they know to have similar experiences as their own, snowball, chained sampling model was used to provide the qualitative data of the study.

During the interviews, care was taken to keep a researcher's diary when necessary. Before proceeding to the analysis process, the interview sections that prepared the participant for the interview were presented in demographic tables. The socio -demographic information of the participants is presented in table 5.

At the center of the research is the phenomenon of 'violence'. The literature suggests using similar but different methods in the analysis process in phenomenological studies. For example, Baden's textual and structural descriptions of the phenomenon on an individual basis for each participant; on a combined basis, he makes a closed definition of analysis, while recommending analyzes using phenomenal analysis, which includes writing in a textural structural synthesis. (Cochran, et.al.,2016) Güler, et al. (2015) examine the phenomenological analysis process under the following headings:

'1 -Blocking and Phenomenological Reduction

2- Creation of Transcripts

3- Rereading the transcripts

4- Detection of important expressions

5- List of important phrases and elimination of unnecessary phrases.

6- Clustering Expressions under Themes

7- Determination of general and personal themes

8- Textural Description

9- Structural Description

10- Unified Identification' (Güler, et.al.,2015).

Table 5. Demographic information of individuals interviewed.

Participant Code	Gender	Age	Team Category	Education	Marital status	How many years has he/she been doing sports?
K1	Woman	21	League 2	College	Single	9
K2	Woman	27	Super League/ National Athlete	University	Single	15
K3	Male	28	National athlete	University	Single	12
K4	Male	25	National athlete	University	Single	18
K5	Woman	26	National athlete	University	Single	17
K6	Woman	47	National Athlete	University	Single	25
K7	Woman	29	National Athlete	University	Single	15
K8	Male	38	Club Athlete	University	Married	15
K9	Woman	27	National athlete	University	Single	20
K10	Woman	37	National athlete	University	Single	22
K11	Woman	44	National Athlete	University	Married	17
K12	Woman	32	National Athlete	University	Married	23
K13	Male	31	League 2	University	Single	22

It was found useful to analyze the obtained qualitative data within the framework of this phenomenological analysis process, which is seen to be quite comprehensive. In the analysis process, the common textures and structures of the experiences of violence in the field of sports were also tried to be determined. The phenomenological analysis process suggested by Güler et al. (2015) was applied in the analysis of qualitative data as follows:

1- Blocking Data: Individual interviews were conducted with the voluntary participation of the participants and the consent of the voice recording. The interviews were converted into written text by the researcher and the transcription process was completed.

2- Creation of Transcripts: The data obtained in the first stage of the analysis were blocked on the left side of the worksheet and prepared for the analysis process.
3- Rereading Transcripts: Blocked transcripts were printed out and the documents were first subjected to 3 reading stages by the researcher. 1. No analysis was made in the reading. 2. During the reading, the codes were determined and the quotations about the codes were marked on the document. 3. During the reading, themes related to the codes were created.
4- Detection of important statements: During the third reading, important statements were identified by coloring on the document,
5- Unnecessary expressions listed were tried to be removed or eliminated in a way that would not distort the narrative.
6- A list of codes, themes and citations was created for each transcript document. Thus, the codes of the expressions were clustered under themes.
7- While determining the general themes, it was understood that the subjective experiences of each athlete were different from each other, although they had similar aspects. At this stage, the information that could make the identity of the participants clear was removed from the statements by coding them in the text or closing them with a dot. Names, cities, country names, marital status, where the names of others are mentioned, the confidentiality of personal information of third parties is ensured.
8- Textural Identification: It was determined under which theme the quoted sections were and made them groupable.
9- Structural Description: At this stage, the types of violence mentioned in the quote were grouped within the themes according to their characteristics. For example: being hit with an object, kicked, physical violence is grouped with quotes describing experiences in the same form.
10- Combined Definition: Concept definitions were made by grouping similar code themes and quotations in accordance with the cultural expressions in our country, apart from the general expressions expressed in the literature.

Codes were created by considering both the types of violence defined by the World Health Organization and the types of interpersonal violence experienced in the field of sports defined in the literature, and these codes were grouped under themes. However, in the literature, it was noticed that there is a different field of violence in our country, which is caused by the lack of policy of the athletes or the abuse of the power of the administrators, the 'rituals' that are quietly accepted and practiced among the athletes, and the effort to create a hierarchical relationship order. was considered useful. Thus, the qualitative findings regarding the types of violence that the athletes are exposed to were gathered under 6 main themes and presented. Themes:

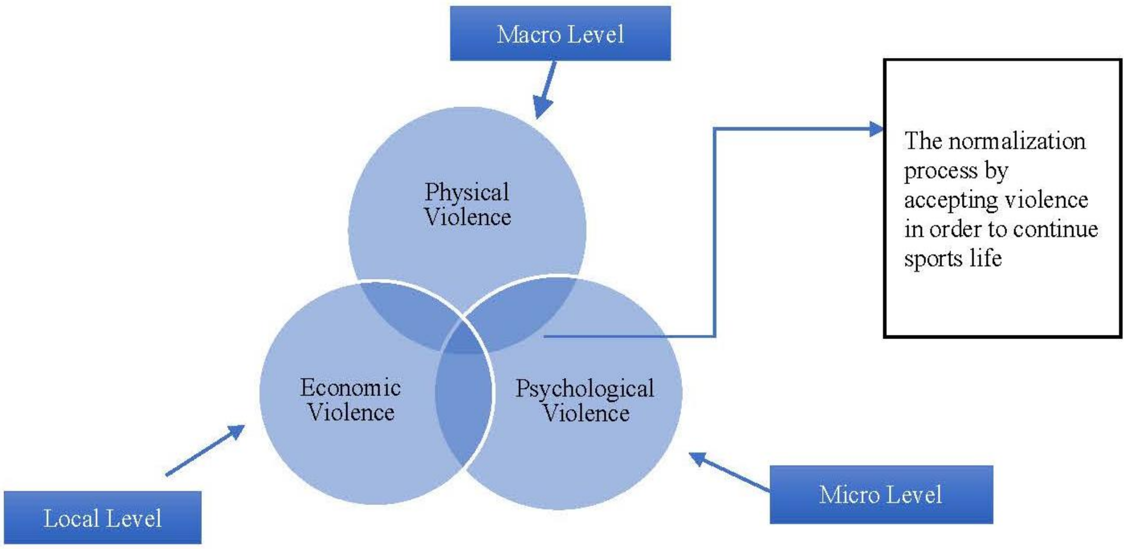
Theme 1: Physical Violence:
Theme 2: Psychological violence
Theme 3: Political Violence
Theme 4: Economic Violence
Theme 5: Sexual Violence

Theme 6: Peer Bullying

Saldana recommends determining the triple combinations of codes, categories and themes obtained because of the analysis, and how they are affected by each other and how they are related. With this method, which Saldana calls the trilogy technique, it offers us the chance to categorize the themes in terms of size and magnitude, and thus enables us to deal with the themes at the macro and micro level. The macro level is the organizational and local themes while the micro level is the individual theme. Ideological change can occur with micro processes and simultaneously determines how macro structures limit the progress of the process. (Saldana, 2019) While discussing the phenomenon of violence in the field of sports, it would not be wrong to say that these types of violence are large in scale because of the more intense exposure in the trilogy where physical, psychological, and economic violence dominate at macro level. We can see another trilogy in Political Violence, Sexual Violence, Peer Bullying trilogy.

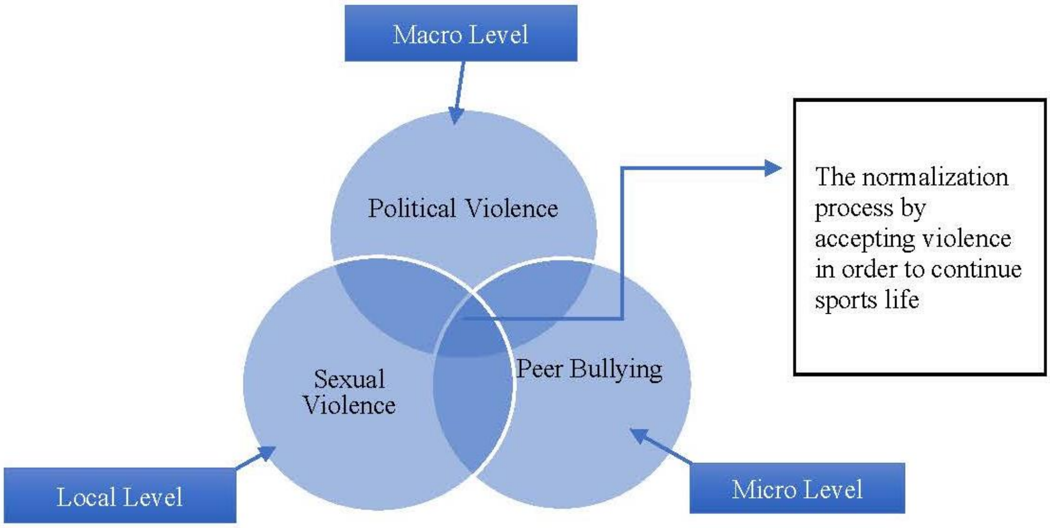
When we consider these forms of violence at the micro level, it is possible to see that they are intricately intertwined. Individual experiences are at the micro level at the intersections of the type of violence each athlete is exposed to: psychological problems experienced, cyclical sports injuries that affect sports life, early sports life, and the center of all intersections is the normalization process by accepting violence in order to continue sports life .

Figure 2. Trilogy Technique Interaction of Physical, Economic, Psychological Violence



The reason why we deal with the types of violence at the macro and micro level is the variables that affect the experiences of the participants. It is understood that age, sports branch, economic, social, and cultural capital of the family and cultural capital specific to the sports branch affect the type of violence experienced, the continuity and size of the violence. Considering gender as a variable, it is seen that male and female athletes have similar experiences of violence. It has been seen that the trilogy technique is useful to understand the magnitude and dimensions of the violence phenomenon that the athletes stated that they are exposed to in the field of sports.

Figure 3. Trilogy Technique Political, Sexual Violence, Peer Bullying Interaction



The trilogy technique also helps us to understand the intertwined structure of violence types. For example, sexual harassment includes psychological and physical violence within sexual violence. On the other hand, it can be thought that the effect of one gender on the other and the effects of the stronger in terms of status on the weaker have political meanings. No matter what type of violence they are exposed to, it is thought that the normalization behaviors and thoughts of those who are exposed and their efforts to see violence as a part of the field have an impact on the persistence of violence, the absence of complaints, and the acceptance of discourses that accuse the victims, not the perpetrators.

Results

Quantitative Findings

The athletes participating in this study 96.5% (n=531) are in the city; 3.5% (n=19) stated that they live in rural areas and 92% (n=506) of the athletes continued their sports life in the city, 8% (n=44) stated that they continued their sports life in the countryside. The participants of 73.8% (n= 406) were over the age of 40; 26.2% (n=144) stated that their mother and 5.1% (n=28) their father were in the age group of 40 and below.

The economic status of the participants' families is 36.7% (n=202) at the minimum subsistence level (minimum subsistence level and below); 63.3% (n=348) stated that they were good (above the subsistence level and very good).

Participants were asked whether they had regular income of their own. This question is asked to the athletes while the surveys are being organized; Sportsmen's allowance, scholarship, club fee, salaries received by any means and similar incomes can be considered as income in this context and they were asked to answer. In the light of this information, 48.52% (n= 267) of the athletes stated that they had a regular income, while 51.5% (n=283) stated that they had no income.

The marital status of the parents of the athletes was asked, 85.6% (n= 471) of the participants were married; 14.4% (n=79) stated that they were separated.

Participants were asked whether they lived with other individuals (stepparents, grandparents, uncles, aunts, etc.) other than their families. 46.9% (n=258) had a relative outside of the family; 49% (n=271) of the athletes stated that they live with their families.

Participants were asked how many siblings they had including themselves. 8.5% (n=47) of the participants had more than two siblings; 91.5% (n=503) stated that there were two of them including themselves.

Participants were asked about their mother and father's occupations, and a classification of occupations was made at the beginning. 20% (n= 110) of the participants stated that their mother and 93.6% (n=515) stated that their father had a profession and worked. 80% (n=440) of the athletes stated that their mothers were not working (including retirement).
The athletes of 90.4% (n= 497) was high school and below; 9.6% (n=53) stated that their mother's education level was university and above, 20.5% of them stated that their father's education level.

The participants of 12.9% (n=71) stated that their mothers had a sports background, 7.1% (n= 2) of the participants stated that their mothers did sports branches requiring contact in the past, and 92.9% (n=26) stated that their mothers did sports branches that did not require contact; 26.72% (n= 147) stated that their fathers had a sports background, 78.1% (n= 139) stated that their fathers did sports that require contact, and 21.9% (n= 39) stated that their fathers did non-contact sports.

The participants of 68.7% (n=378) reported that they did contact sports and 31.3% (n= 172) non-contact sports. Since some participants stated that they were interested in more than one branch, the first branch they answered was accepted as the main branches and included in the categorization.

The participants of 69.8% (n=384) stated that they had been doing sports for eight years or less; 30.2% (n=166) stated that they have been doing sports for 9 years or more. The participants reported (2% (n=11)) of that they worked with a female trainer, and 98% (n=539) with a male trainer.

The education level of the trainers they work with was 19.1% (n=105) high school graduates; 80.9% (n=445) stated that they were above high school. To understand how the athletes define violence, frequency analysis was applied to the gender variable and violence behaviors to develop the definition of violence in sports, whether a behavior of male and female athletes is a violent behavior or not.

Table 6. Definition of Violent Behaviors of Athletes

	Female (n=261)						Male (n=289)					
	Yes		No		I'm undecided		Yes		No		I'm undecided	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
1. Damage to your vehicle	165	(63)	48	(18)	48	(18)	173	(60)	64	(22)	52	(18)
2. Any of your belongings theft	156	(60)	68	(26)	37	(14)	171	(59)	73	(25)	45	(16)
3. Slap	248	(95)	-	-	13	(5)	280	(97)	-	-	9	(3)
4. Being pushed	229	(88)	16	(6)	16	(6)	258	(89)	16	(6)	15	(5)
5. Getting Kicked	257	(98)	4	(2)	-	-	283	(98)	6	(2)	-	-
6. Throwing an object	248	(95)	5	(2)	8	(3)	272	(94)	10	(4)	7	(2)
7. Being hit with a fist or an object	248	(95)	-	-	13	(5)	280	(97)	-	-	9	(3)
8. Damage or attack with a weapon or similar object	242	(93)	9	(3)	10	(4)	269	(93)	16	(5)	4	(2)
9. Being threatened	201	(77)	36	(14)	24	(9)	223	(77)	47	(16)	19	(7)
10. To prevent them from benefiting from health services	131	(50)	59	(23)	71	(27)	149	(52)	73	(25)	67	(23)
11. Insulting, humiliating promise to be told	199	(76)	49	(19)	13	(5)	220	(76)	51	(18)	18	(6)
12. To be humiliated	182	(70)	63	(24)	16	(6)	197	(68)	73	(25)	11	(4)
13. Against you extreme jealousy display	85	(33)	108	(41)	68	(26)	97	(34)	126	(44)	66	(23)
Making words or behaviors that make you feel inadequate	182	(70)	42	(16)	37	(14)	192	(66)	66	(23)	31	(11)
15. Cursing	228	(87)	15	(6)	18	(7)	241	(83)	23	(8)	25	(9)
16. Being prevented from expressing yourself	163	(62)	74	(28)	24	(9)	171	(59)	95	(33)	23	(8)
17. Restriction of your freedom of movement	149	(57)	75	(29)	36	(14)	159	(55)	83	(29)	47	(16)
18. With family members and friends blocking your conversation	164	(63)	63	(24)	34	(13)	162	(56)	95	(33)	32	(11)
19. Obstruction of your freedom to dress as you want	142	(54)	97	(37)	22	(8)	151	(52)	114	(39)	24	(8)
20. Non-contractual sports life sustaining	123	(47)	94	(36)	44	(17)	129	(45)	130	(45)	30	(10)
21. To control your income, to get the promised wage non-payment	147	(56)	73	(28)	41	(16)	160	(55)	74	(26)	55	(19)
22. Confiscation of your money or bank cards	158	(61)	59	(23)	44	(17)	158	(55)	85	(29)	46	(16)
23. Failure to pay the testimonial fee and preventing the transfer in case of a dispute	163	(62)	76	(29)	22	(8)	166	(57)	90	(31)	33	(11)
24. Forcing into debt	192	(74)	55	(21)	14	(5)	202	(70)	74	(26)	13	(4)

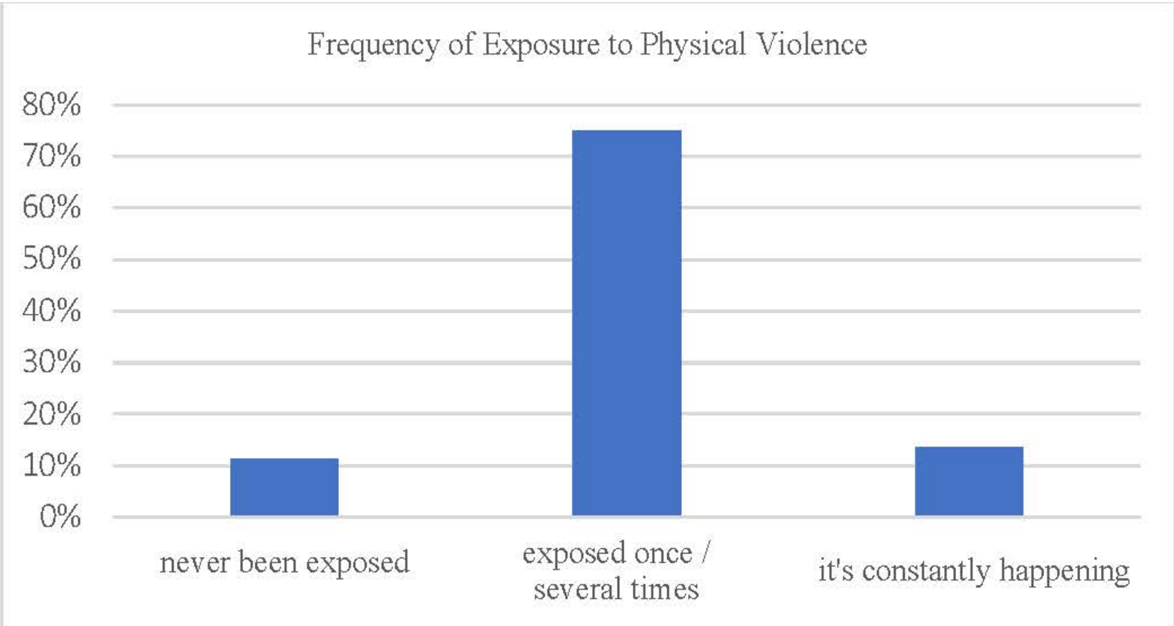
25. Not giving any money or giving very little money	122	(47)	100	(38)	39	(15)	130	(45)	110	(38)	49	(17)
26. Showing sexually explicit materials	177	(68)	39	(15)	45	(17)	187	(65)	51	(18)	51	(18)
27. Insistent flirting be exposed to dating offers	197		(75)		55		Yes		No		I'm undecided	
28. Sexually explicit words to be told	196	(75)	40	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Being disturbed through channels such as phone, e-mail, social media	212	(81)	25	(21)	9	(3)	195	(67)	73	(25)	21	(7)
30. Forced to have sexual intercourse	221	(85)	29	(15)	18	(7)	209	(72)	55	(19)	25	(9)
31. Sexually insult	232	(89)	15	(10)	24	(9)	217	(75)	35	(12)	37	(13)
32. Being exposed to specific and persistent questions about his private life	206	(79)	36	(11)	11	(4)	232	(80)	38	(13)	19	(7)
33.Following with glances, whistles etc. Exposure to undesirable behaviors such as	214	(82)	23	(6)	14	(5)	240	(83)	24	(8)	25	(9)
34.Your size is custom without your consent (with sexual content) making jokes)	223	(85)	25	(14)	19	(7)	208	(72)	55	(19)	26	(9)
35. Making offensive comments about your body appearance	217	(83)	31	(9)	24	(9)	215	(74)	45	(16)	29	(10)
Making annoying bad¨ jokes in the locker room	196	(75)	42	(10)	13	(5)	245	(85)	35	(12)	9	(3)
37. Annoying nicknames	174	(67)	63	(12)	13	(5)	233	(81)	38	(13)	18	(6)
38. Taking away your belongings without your consent	197	(75)	52	(16)	23	(9)	217	(75)	52	(18)	20	(7)
39. You are a beginner by your teammates for bring-and-take to be used in business	137	(52)	76	(24)	24	(9)	194	(67)	70	(24)	25	(9)
40. Elderly athletes' special do their job	172	(66)	61	(20)	12	(5)	214	(74)	62	(21)	13	(4)
				(29)	48	(18)	157	(54)	85	(29)	47	(16)

Athletes easily accept physical violence behaviors as violent behavior, but being one of the types of psychological violence, showing extreme jealousy towards themselves, being forced to do the private work of athletes who are older than themselves, being used to do the chores of their teammates because they are inexperienced, and non-contractual sports life, which is one of the types of economic violence. It is understood that they find it difficult to define behaviors such as being maintained, not given any money by the club, or paying very little wages as 'violent behavior'.

It is thought that the reason for this is that it is observed that such behaviors are experienced very frequently and by other athletes within the cultural structure of the sports field, and that it is seen as a normal, normal part of the natural flow of sports life by the athletes. Qualitative findings give us the necessary explanation in this regard. To determine how the athletes define violence, the results of frequency analysis of violence behaviors are given in the table.

In the second part of the questionnaire, the athletes participating in the study were asked which violent behaviors and how often they were exposed, frequency analysis was applied and it is shown in table 18. It is seen that the rate of being exposed to physical violence behaviors at least once or several times in the sports life of both female and male athletes is quite high (75%). In this context, the rate of those who stated that they were exposed to sexual violence is close to half (45%). In the violent behaviors that we can define as chronic, it is seen that psychological violence is stated in the first place with a rate of 38%. The types of violence that are never exposed in sports life appear in the categories of economic (46%), sexual (45%) and peer bullying (42%).

Table 7. Exposure to Physical Violence



In terms of psychological violence, 20.2% of the athletes stated that they have never been exposed to psychological violence, 42.4% of them stated that they were exposed to psychological violence once or several times in their sports life, and 37.5% of them were constantly exposed to psychological violence.

It is understood from the findings that the athletes participating in the research are exposed to types of economic violence. It is among the findings that both economic and psychological violence are experienced by preventing the transfer of the transfer fee. 46.5% (n=256) of the participants have never been exposed to economic violence, 31.6% (n=174) have been exposed to economic violence once or several times in their sports life, 21.8% (n=120) have been exposed to economic violence continuously. they have stated.

Table 8. Exposure to Psychological Violence

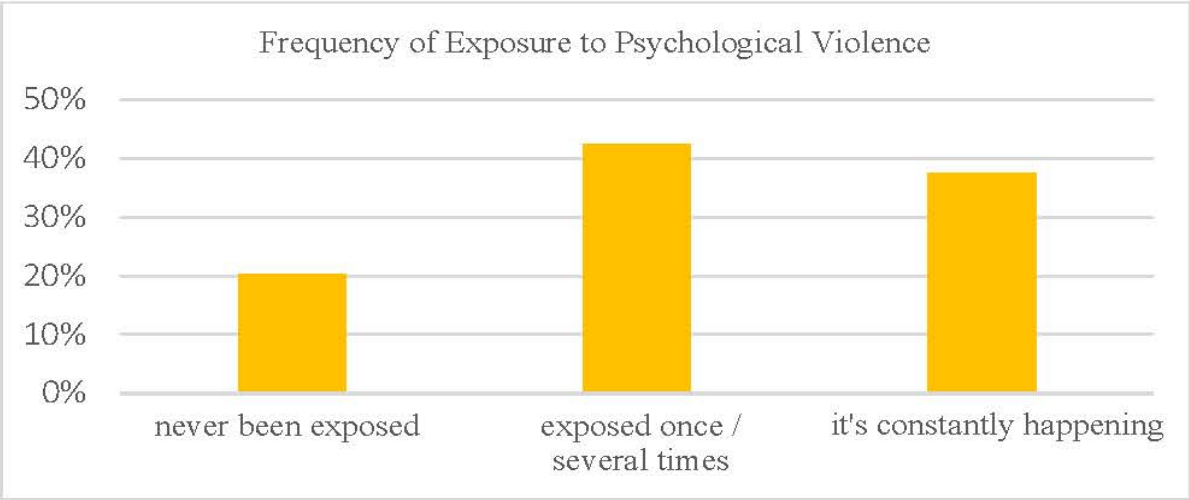
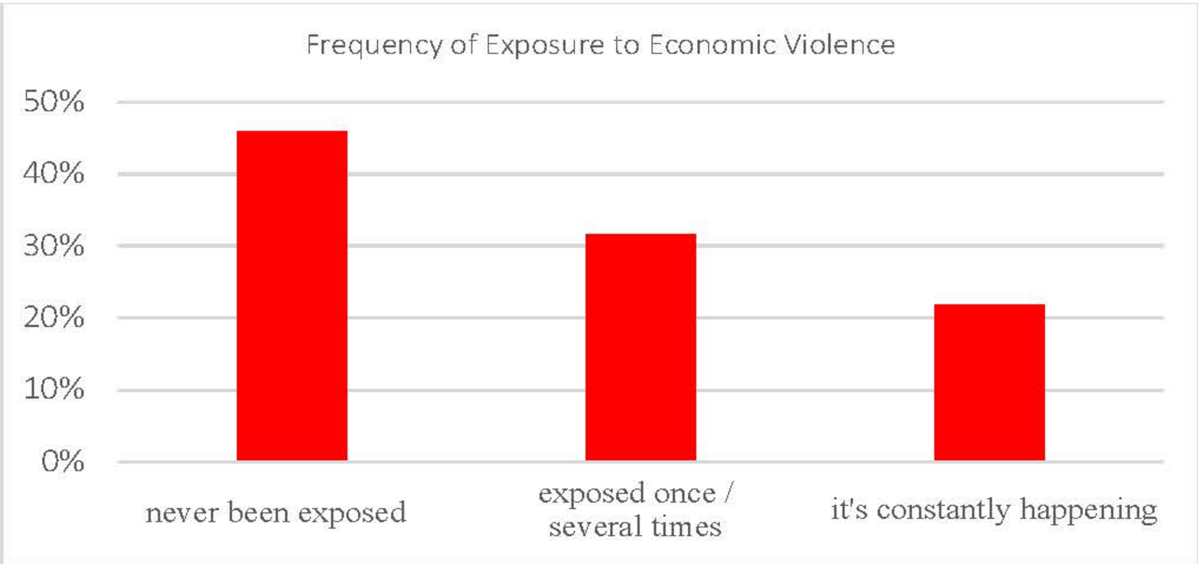


Table 9. Exposure to Economic Violence



The findings of sexual violence behaviors prepared with reference to sexual harassment behaviors in sports show that 43.6% of the athletes have never been exposed to sexual violence behavior in their sports life, while 45.5% of them have been exposed to sexual violence behaviors once or several times in their sports life, and 10.9% of them are constantly exposed to sexual violence behaviors.

38.5% (n=212) of the athletes state that they are exposed to violent behaviors of their peers once or several times in their sports life, 19.5% (n=107) of them constantly.

Table 10. Exposure to Sexual Violence

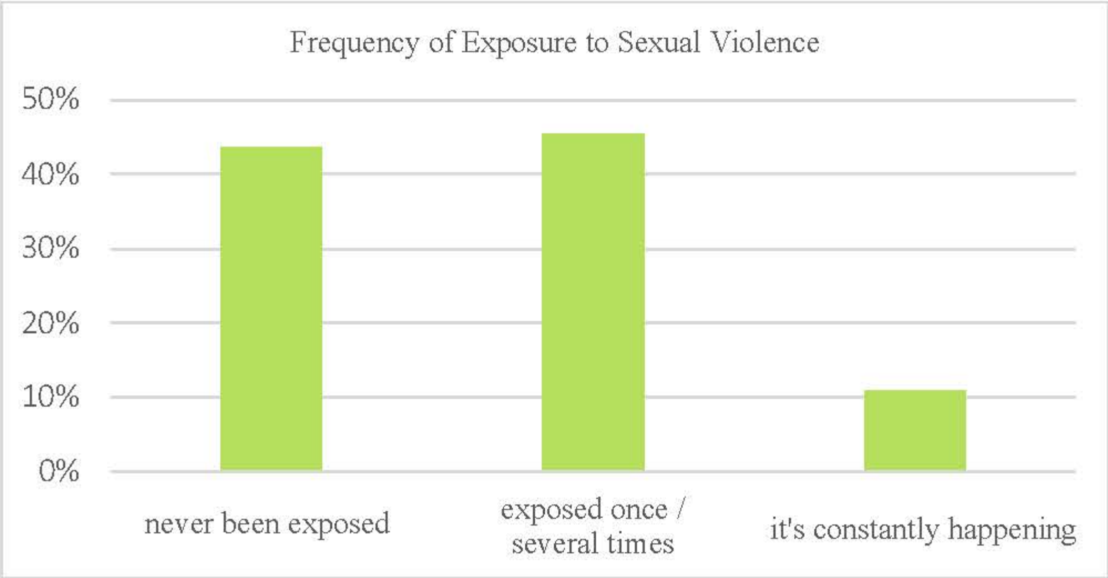
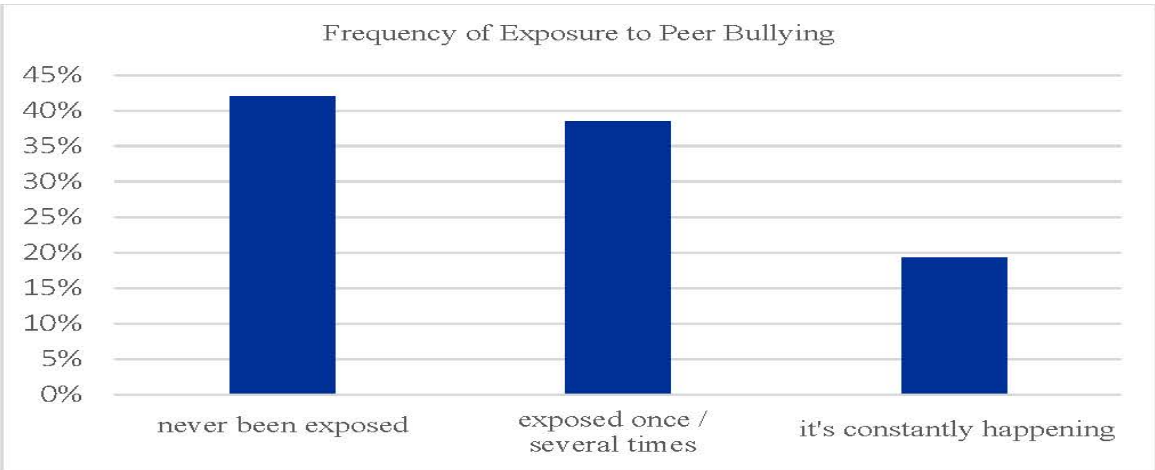


Table 11.



75.1% (n= 413) of the participants were exposed to physical violence once or several times in their sports life, and 13.6% (n=75) of them were constantly exposed to physical violence; 42.4% (n= 233) experienced psychological violence once or several times in their sports life, 37.5% (n=206) continuously; 45.5% of them were exposed to sexual violence once or several times in their sports life, and 10.9% of them were constantly exposed to sexual violence; 38.5% (n=212) stated that they were exposed to violent behaviors by their peers once or several times in their sports life, and 19.5% (n=107) of them constantly. The table shows the violent behaviors that male and female athletes are exposed to and the frequency of exposure.

Athletes generally state that they see violent behavior from men. However, it is seen in the table that they are exposed to violent behavior by perpetrators of both sexes.

Table 12. Violent Behaviors and Frequencies of Exposure

	Female (n=261)						Male (n=289)					
	One time		A Few Times		Happening all the time		One time		A Few Times		Happening all the time	
			n	(%)					n	(%)		
1. Damage to your vehicle	79	(30)	72	(28)	9	(3)	87	(30)	60	(21)	14	(5)
2. Any of your belongings theft	80	(31)	66	(25)	7	(3)	66	(23)	72	(25)	11	(4)
3. Slap	60	(23)	119	(46)	11	(4)	62	(21)	127	(44)	8	(3)
4. Being pushed	39	(15)	116	(44)	11	(4)	51	(18)	127	(44)	8	(3)
5. Getting Kicked	21	(8)	97	(37)	6	(2)	30	(10)	101	(35)	3	(1)
6. Throwing an object	50	(19)	81	(31)	6	(2)	61	(21)	85	(29)	3	(1)
7. Being hit with a fist or an object	63	(24)	59	(23)	6	(2)	62	(21)	63	(22)	3	(1)
8. Damage or attack with a weapon or similar object	26	(10)	15	(6)	-	-	28	(10)	13	(4)	-	-
9. Being threatened	37	(14)	63	(24)	21	(8)	56	(19)	71	(25)	21	(7)
10. To prevent them from benefiting from health services	49	(19)	24	(9)	12	(5)	50	(17)	22	(8)	16	(6)
11. Insulting, humiliating promise to be told	18	(7)	109	(42)	20	(8)	25	(9)	101	(35)	16	(6)
12. To be humiliated	22	(8)	92	(35)	44	(17)	25	(9)	94	(33)	40	(14)
13. Against you extreme jealousy display	33	(13)	66	(25)	42	(16)	45	(16)	71	(25)	25	(9)
Making words or behaviors that make you feel inadequate	46	(18)	50	(19)	40	(15)	52	(18)	52	(18)	45	(16)
15. Cursing	24	(9)	77	(30)	45	(17)	29	(10)	83	(29)	36	(12)
16. Being prevented from expressing yourself	33	(13)	81	(31)	21	(8)	34	(12)	78	(27)	21	(7)
17. Restriction of your freedom of movement	33	(13)	66	(25)	17	(7)	38	(13)	70	(24)	11	(4)
18. With family members and friends blocking your conversation	21	(8)	17	(7)	-	-	23	(8)	17	(6)	-	-
19. Obstruction of your freedom to dress as you want	37	(14)	14	(5)	12	(5)	37	(13)	14	(5)	11	(4)
20. Non-contractual sports life sustaining	36	(14)	18	(7)	11	(4)	38	(13)	18	(6)	9	(3)
21. To control your income, to get the promised wage non-payment	19	(7)	44	(17)	20	(8)	30	(10)	52	(18)	22	(8)
22. Confiscation of your money or bank cards	11	(4)	26	(10)	7	(3)	19	(7)	22	(8)	3	(1)
23. Failure to pay the testimonial fee and preventing the transfer in case of a dispute	36	(14)	15	(6)	15	(6)	61	(21)	10	(3)	18	(6)
24. Forcing into debt	16	(6)	27	(10)	-	-	16	(6)	30	(10)	-	-
25. Not giving any money or giving very little money	24	(9)	30	(11)	35	(13)	33	(11)	20	(7)	32	(11)

26. Showing sexually explicit materials	12	(5)	20	(8)	8	(3)	17	(6)	18	(6)	8	(3)
27. Insistent flirting be exposed to dating offers	22	(8)	19	(7)	8	(3)	19	(7)	28	(10)	7	(2)
28. Sexually explicit words to be told	17	(7)	20	(8)	6	(2)	15	(5)	15	(5)	9	(3)
Being disturbed through channels such as phone, e-mail, social media	18	(7)	18	(7)	-	-	25	(9)	17	(6)	-	-
30. Forced to have sexual intercourse	19	(7)	8	(6)	-	-	21	(7)	3	(1)	-	-
31. Sexually insult	15	(6)	11	(4)	-	-	16	(6)	8	(3)	-	-
32. Being exposed to specific and persistent questions about his private life	13	(5)	13	(5)	16	(6)	14	(5)	11	(4)	17	(6)
33.Following with glances, whistles etc. Exposure to undesirable behaviors such as	24	(9)	26	(10)	3	(1)	31	(11)	35	(12)	6	(2)
34.Your size is custom without your consent (with sexual content) making jokes)	16	(6)	23	(9)	-	-	19	(7)	27	(9)	-	-
35. Making offensive comments about your body appearance	15	(6)	43	(16)	-	-	16	(6)	47	(16)	-	-
Making annoying bad¨jokes in the locker room	36	(14)	25	(10)	13	(5)	36	(12)	30	(10)	11	(4)
37. Annoying nicknames	29	(11)	73	(28)	6	(2)	31	(11)	81	(28)	3	(1)
38. Taking away your belongings without your consent	54	(21)	42	(16)	10	(4)	61	(21)	45	(16)	9	(3)
39. You are a beginner by your teammates for bring-and-take to be used in business	24	(10)	51	(20)	21	(8)	21	(7)	58	(20)	20	(7)
40. Elderly athletes' special do their job	21	(8)	48	(18)	41	(16)	28	(10)	54	(19)	39	(13)

Table 13. Gender of Perpetrators of Violence

Gender of Perpetrators of Violence	n	(%)
Females	9	(2)
Males	327	(59)
Victims of violence by both genders	156	(28)
Those who left unanswered	58	(11)
Total	550	(100)

The job descriptions of the people who perpetrated violence were asked to the athletes, and their answers are shown in Table 25. It is understood that the athletes are generally exposed to violent behavior by their coaches.

Table 15 show that how much work was done with the perpetrator. It is understood that the athletes work in the same environment with the perpetrators of violence, even for periods varying between 3-10 years, where they continue to pursue their sports lives.

Table 14. Violence in the Field of Sports

	Female Athletes (n=261)		Male Athletes (n=289)		Total (n=550)	
	n	(%)	n	(%)	n	(%)
Coach	206	(79)	232	(80)	438	(80)
Executive	49	(19)	67	(21)	116	(21)
Any Athlete	136	(52)	132	(46)	268	(49)
Administrative Staff	17	(7)	24	(8)	41	(7)
Masseur	6	(2)	14	(5)	20	(4)
Referee	23	(8)	34	(12)	57	(10)
Spectator	47	(18)	69	(24)	71	(13)
An Unrecognizable Person	38	(15)	36	(12)	74	(13)
Unofficial Employees	1	(0)	1	(0)	2	(0)
Anybody (audience, vendor, etc.)	7	(2)	17	(6)	24	(4)

Table 15. Working time with the perpetrator of violence

Working time with the perpetrator	n	%
1-2 years	69	(21)
3-5 years	119	(36)
6-10 years	107	(33)
Continuing to Work	34	(10)

Table 16. shows where and in which environment the experience of violence is experienced.

	Female (n=261)		Male (n=289)	
Place	n	%	n	%
on the field	216	(83)	229	(79)
Locker room	181	(69)	184	(64)
Massage Room	43	(16)	42	(15)
Away/ displacement	94	(36)	92	(32)
in competitions	108	(41)	105	(36)
in the camps	102	(39)	91	(31)
in the hotel room	61	(23)	49	(17)
in the coach or executive room	28	(11)	26	(9)
in the friend environment	26	(10)	35	(12)
at school in physical education lesson	53	(20)	39	(13)
in the office environment	24	(9)	23	(8)
in the coach or manager private vehicle	31	(12)	17	(6)

Table 17 shows that how often people are exposed to violence in which places. It is understood that athletes are exposed to violence more frequently in the locker room and on the field.

Table17. Places of Exposure to Violence and Frequency of Exposure

	Female (n=261)						Male (n=289)					
	once		Several Times		it's constantly happening		once		Several Times		it's constantly happening	
Places			n	(%)					n	(%)		
In the field (sports field)	36	(14)	149	(57)	27	(10)	28	(10)	176	(61)	29	(10)
Locker room	15	(6)	147	(56)	15	(6)	10	(3)	165	(6)	13	(4)
Massage Room	21	(8)	7	(3)	4	(2)	22	(8)	8	(3)	5	(2)
Away/displacement	22	(8)	65	(2)	9	(3)	21	(7)	63	(22)	15	(17)
in the competitions	16	(6)	59	(23)	26	(10)	21	(7)	52	(18)	30	(10)
in the camps	22	(8)	42	(16)	28	(11)	18	(6)	31	(11)	34	(12)
in the hotel room	29	(11)	17	(7)	3	(1)	25	(9)	12	(4)	6	(2)
in the coach or executive room	9	(3)	12	(5)	-	-	7	(2)	17	(6)	-	-
in the friend environment	9	(3)	21	(8)	-	-	8	(3)	32	(11)	-	-
at the school in physical education lesson	11	(4)	42	(16)	5	(2)	5	(2)	34	(12)	-	-
in the office environment	11	(4)	13	(5)	-	-	5	(2)	17	(6)	1	(0)
in the coach or manager private vehicle	9	(3)	11	(4	-	-	7	(2)	3	(1)	-	-

The reactions of the athletes exposed to violence can be seen in the Table.

Table 18. Responses to Violence

	Females		Males	
Response behaviors	n	(%)	n	(%)
I ignored	137	(52)	151	(52)
I told you not to	113	(43)	124	(43)
I reacted physically	84	(32)	102	(35)
I got scared and shouted	21	(8)	24	(8)
I also used violence	39	(15)	32	(11)
I asked for help from neighbors	6	(2)	15	(5)
My club - my branch	-	-	2	(1)
I didn't care	151	(58)	101	(35)
Been officially found	1	(0)	-	-
I told my family	83	(32)	82	(28)

Among the reactions to violence, the absence of official complaints stands out strikingly. The values of the opinions of the athletes about why they do not complain about the violence they experience are shown in Table

Table 19. Reasons for Not Complaining about Violence

	Females n (%)		Males n (%)	
I was afraid (fear of being hurt by sports life; afraid of being heard, afraid of being kicked out of the team)	170	(65)	155	(54)
I didn't believe anything would be done	94	(36)	116	(40)
I was embarrassed	20	(8)	19	(7)
I thought it would be trivial	72	(28)	75	(26)
I did not want to prolong	87	(33)	91	(31)
I didn't think it was violence	23	(9)	28	(10)
I didn't know where to apply	8	(3)	8	(3)
I got used to it a lot	57	(22)	69	(24)

Violence Tendency Scale

The Cronbach's Alpha coefficient of the violence tendency scale was found to be = 0.85, and the internal consistency of the scale was ensured. Since the internal consistency of the scale was ensured, the mean standard deviation was given by considering its equal weight. The median median score of 58 was found to be 59.

In testing the difference between groups, the normality assumption, one of the parametric test assumptions, was examined with the Kolmogorov-Smirnov normality test and it was seen that the normal distribution assumption was not met at the 95% confidence level.

Levene Variance Homogeneity Test was applied and since $p<0.05$, homogeneity of group variances was not achieved.

If there is continuous exposure to at least one of the violence types, this was defined as continuous exposure. Since the homogeneity of group variance was not achieved, non-parametric Mann- Whitney U test was applied. Moreover; since $p<0.05$, the difference was found statistically significant in terms of total violence tendency score distribution of the groups.

There is a significant relationship between the frequency of exposure to violence in sports life and violence tendencies of athletes. A significant difference was found between the frequency of violence and the violence tendencies of the athletes whose hypothesis was tested with nonparametric tests . When the frequency of exposure to violence was examined, it was seen that the total distribution was different, and by looking at the prevalence, it was determined that the tendency to violence was higher in athletes who were constantly exposed to violence than those who were never exposed.

Comparison of the frequency of exposure to violence:

Continuous Exposure to Violence	Skewness	Kurtosis	M	SD
No violence or continuity	0.151	0.300	48.00	10,673
Constantly exposed to violence	0.143	0.286	51.00	14,955

Hypothesis: There is a significant relationship between the types of violence experienced in sports life and the gender of the athlete and their violence tendencies.

Manny It was observed that the total score distribution of the violence tendency scale was similar in the gender groups whose hypothesis was tested by applying the Withney -U test (p=0.28).

the Kruskal -Wallis Analysis of Variance , there was a difference between at least two frequency groups in terms of scale score distribution, then multiple comparisons (Dunn-Bonforroni) were used to examine which groups were different, and accordingly, a significant difference was found between the groups stating that they were exposed to violence once or several times (p<0.001).

Qualitative Findings

Theme 1- Physical Violence

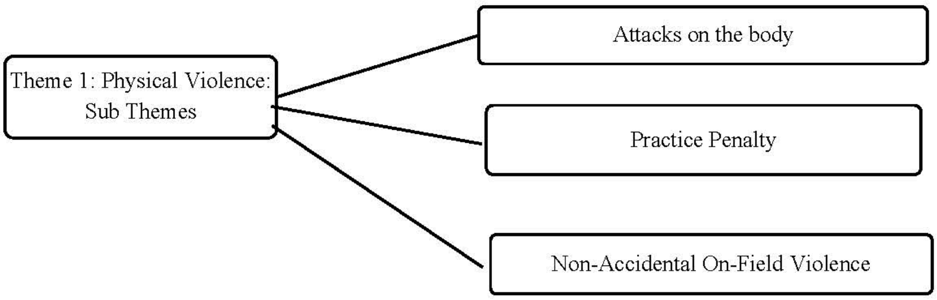


Figure 4. Sub-themes of physically violence.

Athletes participating in the research state that they are exposed to intense physical violence in their sports lives. Physical violence behaviors encountered in sports life; throwing a hard and heavy object, intentionally damaging behaviors, pinching, stepping on, hitting, slapping, kicking, punching, pushing, beating, beating, creating tears in the body that may cause tissue loss, wounding, being threatened, health Not helping or preventing health care, applying pressure to continue training and competition despite injury, hard hits, elbows, persistent touching, holding the head or part of the athlete's body in a hard and crippling way. It has been observed that a hard object (such as a door, iron railing, heater core) has been violently hit and pushed.

Athletes stated that they were exposed to physical violence behaviors during training, during the competition, at the end of the competition, in the gym, sports field, locker room, during the camp, during their free time. Generally, physical violence is among the findings of the coaches, albeit very rarely, by assistant coaches and other athletes.

These findings show that the physical violence behaviors that are exposed are as follows: Slap – punching, kicking, hitting an object, pinching, stepping on the foot, hitting, pushing, beating, beating, creating tears in the body that may cause tissue loss, wounding, injury to the athlete. violent hitting or pushing of the head or a part of the body against a fixed hard object (such as a door, iron railing, heater core) in a hard and disabling manner. These behaviors are presented under the sub-theme of attacks on the body.

Attacks on the Body

She describes the physical violence applied to herself and her teammates by the female athlete trainer, who is a professional athlete and continues her sports life, as follows: ' *He used verbal and physical violence against me for 2 years. I saw and heard you punch and kick the little ones. I was the youngest in the team I played for 10 years, there were 8 foreigners, we were a good team in the team. The elders were around 30 years old. He even used physical violence against foreigners. He was pinching, I know that 32-year-old man grabbed my 32-year-old foreign friend and pinned him to his spare bench and pinched him everywhere. Adults can do this. I know you punch and kick the little ones.* ' (K2, Female)

An Olympic female athlete, who stated that she ended her sports life 4 years ago, describes her experience of physical violence, which is astonishing while listening to the scars on her face, as follows:

'...For 3 years, I was severely beaten by this trainer, but the beating is not meant to be a slap or a punch to death. The beatings I've taken are not something that can be passed with a slap. He's having a nervous breakdown and he's getting over that nervous breakdown for me. I know you grabbed my mouth from here and tore it up here. (She puts her pinky finger on the right junction of her lip and points to a 2 cm area towards her cheek) Herpes came out on my lip here, I am not resistant to cold. We went abroad, my lips were cracked and you know how it would be when it cracked, and you know how it would be, a cold sore came out, he put it in my mouth and began to pull his finger one by one, my mouth was torn up to here .' (K10, Female)

The national athlete, who still continues his sports life and states that he has not been exposed to physical violence too much, describes the physical violence he witnessed when he was slapped once, and his other friends were constantly exposed as follows: 'Our teacher in A… was once violent. *Physical violence, you know, was slapping, especially male athletes. When a friend of ours was defeated in the match, he lifted the chair and walked over to it, but he was seriously using violence* '(K9, Female)

It is understood that the common point of the athletes who are exposed to physical violence from their trainers in different branches in independent environments is to be exposed to this violence from an early age. Both individual experiences and witnessed experiences of others in the stories; Younger age groups show that infrastructure athletes are more open to being exposed to physical violence. Another form of physical violence that athletes experience in their sports lives is witnessing the violence experienced by others. A former national athlete describes one of the striking examples on this subject as follows:

' *When I was very young ***he used to beat my sister a lot, I saw her* ' (K12, Female)

Similarly, a successful former national athlete describes the physical violence he witnessed to his friends as follows: ' *Let's say his athlete was defeated or did something wrong, there were coaches who said, 'Go to that room after the match, wait for me,' and beat their athletes, so such things were happening.* ' (K5, Female)

A successful national Handball player female athlete expresses her experiences in throwing an object, being slapped, and the physical violence behaviors that others have been subjected to, which she has also witnessed.

' *I know we got slapped a lot in the match. I didn't get slapped in the face much, but my friends were getting slapped a lot. More teachers were throwing water bottles at us.* ' (K6, Female)

One of the downsides of being exposed to violence is that it distracts athletes from their goals and plans, they either experience or observe experiences that prevent them from achieving the things they want to do:

'... I scored that girl in that match, then I saw her coach lift her ball bag and throw it at her. I really wanted to go to that team. After seeing that image, I didn't want to go. ' (K1, Female)

Likewise, contacts with victims of violence, witnessing victimization, sharing the violence experienced by others, and creating peer networks unfortunately normalize the violence experienced after a while. It seems that the worst situation in which athletes are drawn into violence is 'normalizing violence'. The teacher wants me to succeed, he does this so that I can be better, the problem is not about me because he does it to everyone, which means that the normalization of violence in the form of normal causes violent behavior to continue its existence in the field without being noticed by anyone. Moreover, it seems that the word 'success' creates an invisibility magic for violence.

The female athlete describes the gradual normalization of exposure to physical violence with the following sentences:

'.... high school was just over, it's very important, we play in a good team, I know that he was in middle school, I also know that the teacher hit the boy's head on the heater, for example, let's say we just left the hall before the second half, when the teacher took off his shoes and threw them at me, we think that these are normal things. Or he threw a water bottle or kicked him into the room and said 'May God give you trouble'. There are trainers and

trainers who throw garbage cans, wax cans, balls, ball bags here and there, hit the wall, throw pencils and things in their hands to the ground. ' (K6, Female)

They explain that violent incidents in individual and team sports that require contact do not differ much, and that after a while, physical violence becomes 'normal' and 'part of the process', especially in the coach-athlete relationship:

' *Our teacher was always beating. He made it normal. You consider it normal at that age because it does it to everyone. This is how it should be, it motivates you like this, we didn't say 'beat me' but you think so. ... but they (assistant coaches who are close to the head coach and coaching) were speechless. When you're beaten, it means you're done. If you were badly beaten, he was holding your head like that and banging on the windows* .' (K12, Female)

He briefly explains his relationship with a female athlete trainer who does a branch that does not involve contact with the opponent, and the physical violence that he has experienced on the field, as follows:
' *Ordinary normal.* ' (K11, Female)
The sports environment, which creates subjects who are focused on success and performance, successfully develops depression, and internalizes violence and keeps them alive without getting lost in the field. Moreover, for the victims of violence, the perpetrators of violence, to whom they develop a commitment, are becoming increasingly exalted role models in their eyes. A national athlete describes how the innocence of tolerating the perpetrator, born of this admiration, was engraved with violence in the young mind of the athlete and experienced:

' *In the match, he used to say, 'There is defeat, there is defeat. You know if you do nothing and get defeated... there are dressing rooms under the stairs in the stadium hall, I know you kicked it once there, now I'm hiding there. It's not such a big argument to argue with me because I had an argument with another girl in training one day, you know, we are small to do this, so then I went out and there our hall was under the stadium, there are big iron gates when entering the stadium or I was standing there, he came there and kicked me flying So I went to the irons and hit my head on the irons. There is no such type of tattoo, it was really losing itself. His strength was that he was a very good coach. ...Olympic degree, ...European degree, ...World degree all ... medals came out of his hall. He still hasn't come to a degree. But later, when I came here, I learned that this is not what coaching is.*' (K12, Female)

Athletes in all branches candidly describe the behaviors of kicking, slapping, throwing an object, shouting, swearing that they and their other friends experience in the following sentences:

' *A coach was constantly abusing his students. Both verbally and physically. (Was he slapping or what was he doing?) No no kick slap.* ' (K7, Female)

' *Those who throw a stopwatch, shout, scold, scold, push because the athlete didn't get a good grade.*' (K4, Male)

' *When we made a wrong move during the training and did something that disrupted the flow of the training, the coaches could hit our leg with the sword. They were shouting a lot. A trainer slapped me once.*' (K5, Female)

The female athlete explains that sometimes being exposed to violence is not related to a mistake, but for an arbitrary reason such as 'not liking or not liking the athlete' as follows:

' *… because the national team coach did not like it, he said to me, where are you going, my teacher K… my friend is not in the room, I said I am going to pick him up. He said come in, he slapped me, I looked at the second slap, I held his hand and closed the door, he shook his hand on him, this is the most innocent thing, of course he got up that night' (K10, Female)*

In addition to physical violence, it can be understood from the following sentences that the accompanying threat is a situation that is experienced as a part of sports life.

' *When you can't fight in the race, getting a small kick, stepping on your feet where no one else is looking, no one sees, he doesn't show, but you step on your foot. He says he will kill you, he even said that he will bury you here in a very lonely environment. We stayed in very threatening environments.*' (K11, Female)

While these violent behaviors are continuous, the athletes who are rarely (only 1-2 times) exposed to such incidents in their sports life also stated that they experience and are affected more by the violent behaviors that happen to other athletes.

B. Non-Accidental On-Field Violence

Athletes participating in this study stated that the people who apply physical violence such as pinching, slapping, hitting, punching, kicking, throwing an object during periods such as training and competition are usually their trainers, while the sports branch allowed, except for the contacts such as intentional fouls. They describe the violence on the field they are exposed to by their fellow athletes and their reasons as follows:

' *It's not like that in men's teams, but it exists in women's teams. For example, if I have a backup and I'm always in the top 11, my backup hurts me while I'm on the opposite team in training so that he will be the top 11 next week, because he knows that unless I get injured, the coach does not give him a chance, so he comes directly to me and acts hard. Which happened to me a lot. If a team is weaker, if it is at a lower level, that team is already clearing the score in their head, and they start to injure the best players of the opposing team. They come and slip on his feet, his teacher says, for example, this player says go very well and break his foot* '. This is how the athlete describes the violence he has experienced and the direction he has witnessed in the form of violence and aggression that has nothing to do with the flow of the game.' (K1, Female)

We find that the environment in which athletes are exposed to violence the most by other athletes is the moment of competition, in their posts about their experiences.

' *Some branches require contact at my branch 4x400 Elbows must fly to grab the lane advantage. I got a lot of elbows, and this is of course violence. The first national team race of my life, …. (date / location information) My first national competition in my career I was among 3 people as a national team athlete, so they cut my way, I was stuck, elbows were flying, there was only one way, but of course, although it was not very violent, I went out with elbows to both sides, but it is very sweet, it will close your hands I threw an elbow to block them, so I got out of there. You will be disqualified sweetly. There are dimensions of physical contact in international federation rules.*' (K3, Male)

We see that there are physical violence events such as being pushed, being bitten, elbowing, and hitting.

' *They bit me, my hand bled once, I put him in the suffocating position. My hand is like this here (showing a grip on the front of his neck) I was going to strangle him, he bit my hand because I choked. I have a picture of me.* ' (K9, Female)

Seeing individuals who are suitable for the sport branch as stronger, athletic, fast, agile, flexible, ambitious, and talented compared to their peers and encouraging tactical violence and competition in order to develop these characteristics, in some cases, it is possible that the selected individuals reflect their already existing violent tendencies in a controlled manner. It is possible to understand the reflection of sports as a catharsis at the point of violent interest in sports and the reflection of deontology on winning to the experiences of athletes from the following statements:

' *Physically, there is a lot of violence in races. I ran cross country and middle distance is my main branch. I will never forget, for example, we are running a race in .... the last 100m will be finished, he passes in front of people, I pass him, I was just passing by the athlete, I got an elbow on my chin, I fell on a solid elbow.* ' (K4, Male)

'*… we played a semi-final match with him in a competition, it was the world cup.... he slapped me in the match, he really slapped me in the match. I beat him there in the matches we played. I think he got greedy at the club he was sent to…. Just because I'm in weight now.* ' (K9, Female)

Seeing the tactics that trainers teach and encourage aggression or violence within the framework of deontological morality also shows that the violence applied is expected violence in some way. Accepting the same violence to be applied to oneself in an environment of gain at all costs satisfies the principle of universalization of deontology. (Jamieson, 2012)

' *We were beaten a lot, let me give an example from the fans in the away games. I am the team captain in the A… D. sports club. We went to the away game with Çorum Spor. Before the match, the floor is checked, the boots are here, you can walk as a team to see if I should wear screw or plastic, I went in a field and no one* *came after me, I am the captain of the team 6- 7 people cheerleaders pressed me for a while there, of course we were beaten, I couldn't play in the match. Hit and smash win this match! you are experiencing that cheer.* (K8, Male)'

C. Practice Penalty

It is understood that the behaviors perceived and experienced by the athletes as physical violence are wrong and loaded training. It has been understood that presenting sports and training to the athlete as a punishment tool is a wrong behavior that puts the health of the athlete at risk. In addition, not helping or preventing health services, and pressure to continue training and competition despite an injury also mean violence for athletes. It is understood that forcing the athletes with high expectations while trying to do their job in a way that improves the athletic behavior of the athletes causes loss of performance and recurrent long-term injuries.

' *We are going to the matches again in the big ones, but this time it started to feel heavy. The previous year, my friends, my rivals, were either going to the match in the youth or they started to take me in both categories in the adults. I got very tired. I broke my anterior cruciate ligament in 201… (date information) I had an operation in Antalya.* '………. ' *I was injured while I was preparing before going to the Olympics. My shoulder was coming off, almost every match, every training session, I kept wearing it instead. The doctor or something was shocked, they would think he was kidding if I told him, but these are real. The doctor says to me that your shoulder is dislocated, I say to the doctor, no, I did not know that my shoulder did not come out because I learned that after the Olympics, there was such a thing as to plug it out. I realized later that he was sitting.*' (K9, Female)

' *They were giving us training, I had to train 4 100m, when I said that I couldn't do the 4th when I did 3, 'how can you not' he was trying to get it done under pressure. That's my strength anyway. If I could go to the 4th, I would go anyway … I had an injury in my right knee. I was doing a coordination that allowed me to get over the hopscotch and be fast. I shot my foot during the coordination, I was not even taken into account, I was jumping 3 steps, it is not very good there, the fields were already on the side of the 3 steps, I hit my knee on the pavement while I was jumping 3 steps and my knee bled for hours, no one looked at it, nobody even said why this girl's knee is bleeding, I went to the provincial directorate for dressing didn't even do it* .' (K7, Female)

' *I went to a weight training at 8 am, which weight didn't mean much. Since we couldn't do that set well in the set training the previous day, the teacher put us on the weight in the morning. I lost that 90 kilos in the morning, it was very cold, the body was not warmed up well, the body could not be stimulated in the morning, because we could not get up in the morning, because we had a very heavy training yesterday, we did not have a chance to rest, so in that training I entered in the morning, I fell under that weight and my disc slipped. Sometimes insistence and unplanned bad training have very bad consequences. Even if the injuries were not present at that time, as the age progressed, for example, my hip impeachments or finger fractures were all the result of not adjusting the intensity of the heavy training intervals well. For example, the weight was pressed on us before I was 16 years old, and our waist compressions, disc compressions, perichondrium's, pains in the elbows,* *patellae, wounds, waist slippage, posture disorders, sacrum fractures, all of these unfortunately result in a bad lifestyle as a result of heavy training* .' (K6, Female)

' *It doesn't matter if you're physically exhausted or injured. Your trainer plans your training to a certain level, right or wrong, I think it is mostly wrong. Especially when you are younger because running 5 races in a month is not healthy. Are 5-6 races a healthy thing? You are training hard, you are entering a rigorous race process, I had serious ailments, especially from my feet, knees, and waist, and I had surgery on both groins. These are all from unconscious training'* (K4, Male)

While describing the reactions of the athletes who were exposed to physical violence; They felt embarrassed, their motivation decreased, they felt angry, saddened, cried in the face of violence, they thought that if they complained, it would affect their sports life, they thought that it happens to everyone, as a result, they perceived these behaviors as normal. They stated that they struggled with this by leaving the environment, preferring to move away, thinking that it was caused by.

... 'I saw a lot of people who had brush bites after the race, I was embarrassed ' (K4, Male)

' *This happens all the time, your motivation drops, you get angry, I'm an emotional person, I immediately react by crying, when I cry, I get angrier.* ' (K2, Female)

'I realized that nothing he said was mine, I didn't cry, for example, because he said that to me. Because he did it to everyone, when he did it to everyone, it doesn't become individual and this is a general attitude, not special to me, so I figured out that this attitude is not related to my personal self ' (K7, Female)

The common characteristics of athletes who are exposed to physical violence are that they can live away from their families or could continue their sports life in another city to continue their sports life, their families generally go through hard times economically, and they feel obliged to create economic support for parents and siblings, and to undertake the responsibility of family livelihood. For this reason, it was understood that they could not leave the environment in which they were subjected to violence and could not complain. In addition, it is understood that experiences of physical violence generally begin at a very young age. The examples of physical violence that the athletes are exposed to also provide a profile example for the perpetrators. We understand that the perpetrators are generally male, have power over the athlete, try to establish authority, lack self-control, anger control, and lack the ability to empathize.

Theme 2- Psychological Violence

Athletes can explain the attitudes and behaviors of psychological violence that they are exposed to in their sports life, being endured, being threatened, match-fixing, being deprived or deprived of quality materials, not being able to eat enough balanced nutrition, being deprived of nutritional support, being devalued, not being interested in health and weight problems, being slandered, being defamed. gossiping about being badly introduced to people, being humiliated, staying away from family, not being informed about his/her own sports life and long-term programs, being fired from the environment, being cursed, expressions of bad faith, wasting time, overloaded training, intense camp schedules, being left alone, They define it as being made to feel unattended, being prevented from developing friendships, making one's success feel as if it belongs to another source, being forced to do something physically impossible, and being subjected to pressure and manipulation.

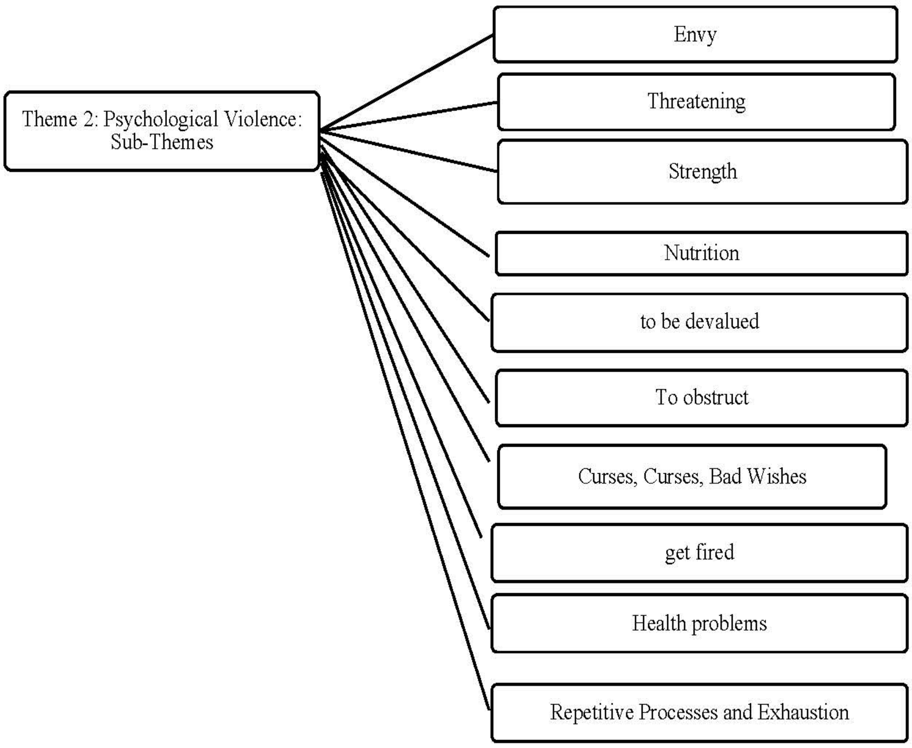


Figure 5. Sub-Themes of psychological violence.

A. Inability

The female football player explains how the emotions that we will define as 'endurance-jealousy' among the athletes in sports life affect sports life as follows: " *I think that violence is related to my teammates, there is envy in women's football. There are many. If someone is better than you, they play to cripple him, this has happened to me many times. In other words, deliberate actions, from the referee to the coach, I witnessed a lot, I heard a lot of the coach of the opposing team saying to the girl, 'If you do not injure her, I will do this to you, I will do that'. The girl wants to do it, supports the trainer, and threatens the athlete who does not want to do it, saying 'I will do this and that to you '. I've heard a lot about this being done. I have never seen violence from my teachers that I have observed, but the opposing team and their teachers have such things, they cannot bear it, this is the violence I have been exposed to the most* .' (K1, Female)

This and similar acts of violence, which are called intolerance, are carried out within this framework; It can be defined as an effort to neutralize and eliminate the successful athlete in the field.

B. Threat

Another form of psychological violence that athletes frequently encounter is being threatened. It is understood from the findings that the threat mentioned here is made especially in the direction that the sports life of the athlete will be adversely affected. They describe how they experienced the threat, which was made to prevent the athlete from complaining about the disturbing situation, which would negatively affect their sports life:

' *His threat was always something like 'I'll end your sports life' he wouldn't say it at that moment, but then he would put it in your mind in such a way that 'I will end your sports life' He used to say that no club would take you again in Turkey, you can't do sports anywhere... It's bad with me He said, "Don't be, I'll make you experience things you can't. He wouldn't have said it at that moment, but then he would put it in your mind in such a way that 'I will finish your sports life, you are a state athlete, if you say these, do you want to remain a state athlete? You know, don't say these things, he still says it.* '(K12, Female)

The fact that the athletes who are exposed to physical violence are threatened with their sports life to prevent them from complaining to any authorized unit shows that they experience the psychological violence that accompanies the physical violence simultaneously. ' *Every time I was afraid, if he didn't take me to the game, if he didn't take me to the camp, if he wouldn't take me to the team, he would say to me, 'Tell a person what happens to you, can you see the face of the national team again'.* ' (K10, Female)

We understand that the perpetrators who threaten the athletes are very aware of what they are doing, from the fact that they develop strategies for what may happen after the event. The statements that openly presented as a threat that sincere relations established with people in management mechanisms that can be complained about, will be used against the athlete, also proves how helpless and lonely the athletes are in the face of violence: ' He said *that he will not play in the team. This was not a problem for me, he was already doing it, but even though I played well, he wouldn't play. I was not following his rules. He said that even if you complained to me, nothing would happen to me. He was openly saying 'I can deceive the managers at two tables.*' (K2, Female)

C. Strength of Material

Psychologically, we can understand the belief that an ordinary item they wear in their success and failure turns into a special motivation tool and brings good luck, and the effect of the colors, quality and brands of the materials used from the following expressions: 'For example, we ran with glasses for years. *If I felt good, I would wear glasses. For example, I had totems that felt good with a bandana, for example, I wore a sock for 5 years. Every time I ran in that sock, I scored. We made different totems psychologically. When an athlete enters the race psychologically, he shows himself by forgetting his opponents and concentrating on the race with the comfort of that moment. For example, I was very competitive, I was very impressed by my opponents while warming up in the competition…. Let's not talk about Turkey, you're going to the world. The man wears spiked shoes. The tights that the man wears are the tights we have not seen in our lives, the athletes we have not seen in your life. Even there you are affected psychologically.* '(K3, Male)

It is understood that the economic value of the materials used, the confidence and comfort they give during the competition is much more meaningful for the athletes than is thought:

' *Of course, you feel worthless. Being in a few of the best clubs in Turkey, and being in the lower league clubs, you feel the difference between the two. For example, the use of the right material, the use of quality materials, the differences in materials, etc., are scientifically proven, and the performance directly affects 10-15% . First, I would run in a normal black rubber style shoe like this. After that, when I transferred to Turkey's biggest club, I can't explain the self-confidence that the colors of that uniform, the shoes I wore, the tracksuit I wore. Yes, the material affects my self-confidence a lot. If you are in the best club in Turkey, if you are wearing his jersey, even this affects your opponent, you are ahead 1-0.* ' (K4, Athlete)

It is understood that the specialty of the materials is a great economic responsibility for the families and athletes who cover the expenses, and for these reasons, the materials have become even more important for the athletes. 'The clothing is very expensive, it has a lot of material other than the material and the clothes, and they are not all very expensive individually affordable items, and you pay for them all yourself.' (K5, Female)

Sports equipment has a very important task for the athletes, such as being more than just a tool that makes the branch do the best safely and properly, it expresses prestige, and has a very important task such as being the determinant of class belonging with the rival athletes in the environment for the competition. We understand from the expressions:

'... Even the shoes are the last thing we said, let's pay ourselves, let's buy a pair of shoes, let's go to the competitions that way. I remember, I went to my first race, my foot was 39 sizes, I ran a race with 42 spikes. I hadn't joined the national team yet; we went to the race. The Fenerbahçe team is coming. Enka comes in a full suit, Beşiktaş comes in a full suit, the shoes are always the same until the socks, we come, one dressed in red, one dressed in orange, the corner of the socks of someone is torn at work, the tracksuit does not fit, we do not have shoes, of course, I was very envious. '(K7, Female)

It is understood that the fact that the materials purchased for the athletes' use are withheld from the athletes, and that the materials that are required to be used for training and competition are deprived of them create insecurity and resentment *in the relations with the coaches: 'The coaches would not give us such a raincoat to the child who came out of the infrastructure, the coaches had that mentality.* (K8, Male)

D. Nutrition

One of the most important elements of sports life is the regular and healthy diet of the athletes, as well as being in a nutrition program suitable for their branch. However, athletes state that they do not receive support from clubs or coaches and that they are deprived of a scientific nutrition program: ' *The biggest problems we experience are malnutrition and regular nutrition. Now your trainer plans your training to a certain level, right* *or wrong I think it is mostly wrong. Especially when you are younger because running 5 races in a month is not healthy. Are 5-6 races a healthy thing? You train hard, you enter a rigorous race process, you don't get a reward in terms of nutrition.*' (K4, Male)

The nutritional disorders accompanying the emotional states experienced after the race were never controlled, the way of reflecting the changes in the psychology of the athlete did not attract the attention of coaches, managers, families, and other athletes. We understand from his experiences that turned him into an eating disorder:

'…what I experienced after that Olympics was incredible and this caused me to have an eating disorder, I'm sure, I mean it's very, very bad I have acquired a disordered eating habit than I have ever eaten in my life I started not having breakfast I can say that my routine is confused because of this pressure. …….. I started getting better after the surgery, I get on the mat, I don't really want to, but this is the thing, when I get on the mat, I want to eat something, I was leaving saying I was tired, I was going to the market, I was buying junk food, I was eating junk food, I really gained a lot of weight, I don't want to do anything at that time, I definitely want to quit, I always cry, nothing I don't want to do anything and I didn't talk much anyway, as if no one around me was helping me, I wanted to stay on my own with no one, they didn't seem to understand anyway. What do you want…? you have everything …. !, you are a successful athlete…..!, here you can recover, it always revolves around such things, but I don't feel like it, I want something different, finally, I started doing research on my own, no one helps me, I said I'll help myself or leave , I searched for a sports psychologist, dietitian or something… . I found him in Istanbul, I texted him at 2 o'clock in the night, I found his phone number and said, I'm like this, I want to talk to you, I'm very bad. You don't throw it at both times of the night, so if I don't, I won't throw it again because I don't want to get help but I can't sleep like this anymore. At certain hours, when you can't sleep, or when people's thoughts return, he came back to me and then we started working with him. I asked if there is a dietitian you can recommend, I have a friend who said yes, I was very pleased with both, we really came a long way in 3 months, at least I had a recovery psychologically, then I joined my first match safely. (K9, Female)

Unhealthy diet, psychological conditions and the current periods turn into a big problem for athletes, especially in branches where weight determines the competition category. The change in the weight of the athlete means that the competitors also change, specific to the branch. Adapting to the new weight, training the body with that weight, preparing for the competition is another source of anxiety and pressure for the athletes. For this reason, it is seen in the following statements of two female Judo athletes who participated in the study that they have serious efforts and concerns about losing or losing weight:

'Losing weight was just a big problem for me. I would go on if it wasn't for the weight loss problem, but I hate to lose weight. Yes, you must adapt to that weight this time, there are athletes of that weight. So, you must adapt to them again, so you have to be very good so that you can adapt to a higher weight. ' (K12, Female)
'After the surgery, I started to gain 51-52 kilos, it's very normal for these athletes, but I didn't know that it's

normal. When everyone around me saw me gain 1-2 kilos for the first time, it becomes obvious when I'm small, I guess you've gained weight! Did you gain weight? How much do you weigh?' When I said something like that, I didn't want to be weighed, I guess I didn't have a belly or something. I was afraid of sitting lightly like that, I was afraid to be weighed a little. I don't have that thing, I don't have that setting of my eyes, I didn't understand myself either. I was afraid of being weighed if I had gained too much weight, and this affected me psychologically. After the Olympics, I started to gain more weight this time, this time I paid a little attention to what I ate. This time I'm gaining weight or something, I said okay, I'm normal, then again with these pressures, they say, 'You seem to have gained weight, you really gained weight', I'm 55 kg. .... . How will I continue in weight e.... I want to continue in weight, I left it there, I want to start from there. ' (K9, Female) (The *weight information given in this interview was expressed with ... to hide the identity of the athlete. Since the athletes competing in some branches at certain weights can be predicted by their period and age, the private information in the interviews was not written in a way to hide the identity of the athlete.)*

E. Being undervalued: interrupted by career: (Handed down)

Undoubtedly, being one of the best in his branch is the most important goal for an athlete. Going to international competitions, doing sports in better conditions in a good club, being able to join the national team are among the career goals of the athletes in their sports lives. They express that they expect the support of their coaches while making efforts to achieve these goals. However, it is understood that the coach was able to prevent the athlete from participating in the national team camp:

'When I was a kid, the national team coaches came to our matches and took our names, they wrote me twice (the list of players invited to the national team camp) because of my teacher because they told him, they didn't tell me, I couldn't attend the national team camp twice. ' (K1, Female)

We see that as a type of wearisome violence that affects athletes enough to want to leave their clubs, their efforts are not seen, their efforts are exploited, and their feelings are not understood. A female football player wants nothing more than to experience the joy of being a champion, but she explains how the loss of her championship led her to a process as follows: ' *We went to the play-offs, we became champions that year. In the play- off match, the coach knowingly sold the match to the opposing team, our goalkeeper and our teacher knowingly sold the match. I was small then, but I strive for something, I want something for the future. I became a champion for the first time in my life. I wanted to experience that happiness, to go to a higher league, to come to better places, but when the teacher did so, I sold the match, and I couldn't make myself lose my pride. I said, sir, I want my license like this, I want to go to another club.* ' (K1, Female)

Athletes report that injuries experienced at the beginning of the season, in the middle or between two seasons can cause them to leave their clubs and coaches.

' *Your sports life doesn't end, but you go to a sports club at a lower level, and that didn't happen. If you can't* *find a lower club for a lower level, you continue individually for a while, that is, until you get a good grade, then you enter a good club again. The club I was in did not pay a salary for sometimes 3 months, sometimes 4 months. In fact, you are worthless. You're as good as you ran, if you didn't run, you don't exist. Being in a few of the best clubs in Turkey and being in the lower league clubs, you feel the difference between the two.'* (K4, Athlete)

Athletes in some branches stated that they frequently experience injuries due to the intensity of camp, competition, and training programs, and that this is psychologically exhausting.

'*… the training camp plans the competition they choose everything. I have no choice. They drag me here and there. When they're successful, they take care of themselves. But they don't look at me when I get injured because of that loading of them. They remove it and toss it aside. So you can't say, what are you waiting for? You can't say it because of you either.' (K9, Judo)*

It is understood that the thing that wears out the athletes psychologically is the disgrace experienced after the failure, even though the sports life is still going on. This situation causes the athlete to feel worthless.

' *So, it was very nice to sign the first of many things .... ' (International competition information he won a medal) the first medal came from me, after that I went 3 times as a continuity and got a medal 3 times. Seniors ..... I am leaving the year I had surgery for 4 years in a row in the championship 4 years in a row, except for 1 year .... I came in 3rd in the world teams, for the first time since 1962 a federation has been established in Turkey, I brought the rank, and it was up to me to play the match 2-2. Think about it, when you are defeated, you are a hero. When you are defeated, everyone is in Goddamn mode.'* (K10, Female)

Although they could talk and discuss the problems, they experienced among themselves, the athletes were discouraged in conveying the issues they were uncomfortable with to their managers and coaches; They reported that the reason for this was their concerns that their sports life would be adversely affected.

' *We can talk easily among ourselves. But let's go outside and let's go to the teacher together and say that I am disturbed by this behavior, or I have not seen anyone speak out when we say that this behavior of the administration is disturbing us. I think they are afraid that their sporting life will be affected.'* (K2, Female)

It is understood that another psychological situation encountered in sports life is that the athletes are slandered, they lose their reputation by creating gossip about themselves by their coaches or teammates:

'...then I worked with young people as well as adults. All the athletes were against me. They told us you were very wrong, they said.' (K10, Female)

'It was not allowed. Talking to me, playing matches, training was not allowed, so my friends kept themselves

away from me. Just so that they would not be harmed, their sports life would not be harmed, and they would not be put at risk. On the one hand, I struggle, they somehow stay away from me or, I don't know, when we go to the camp to the match, that conflict arises, and we are kept away from each other. There is a constant warning against them: 'You will not talk to ..., you will not train with .... After this pressure and manipulation, the same athlete expresses the situation he came to as follows: ' *...I left. Because I was already very tired. I quit when I started college. After the vice president of the Federation resigned, they fell on me, but I couldn't taste that taste anymore, I was too far away, and I was too focused on my social environment. It was difficult for me to adapt to the same environment again.'* (K5, Female)

In addition to the interventions in their friendship relations, they also state their complaints about the serious obstacles to their social life, their development of social relations and the interventions made to their friendship relations as follows:

'Although we are all older, some prohibitions and rules were forced upon us. Since no one on my team made a sound, we had to accept it. Because only one person can't accept something. We were staying at the clubhouse. We are in pairs. My only chance was to stay with my childhood friend. Our houses were beautiful, but everything was forbidden. Every place you could go was forbidden; it was interfering with your hours. Well, how can I say, you can go to some places, but they forbid everything. Even going to the cafe was forbidden. Since Trabzon is a small place, our photo was taken somewhere in the cafe and sent to the coach and the manager. They were also asking, where are you? Messages were coming. We were at the cafe, drinking coffee, what's the deal? Don't try to force someone to do something because you won't go to that cafe again.' (K2, Female)

'He loved chaos and avoided the risk that his human relations would be too tight, and that he might even be allied and turned against him. How are you a rival, you are from the same branch, you should be angry, you should not be friends with him, maybe you should not talk. It was creating an atmosphere of chaos, that is, he was able to keep his own dynamism alive. But that never happened to him.' (K11, Female)

Athletes come together on a common point when evaluating the violence processes they experience, being away from family, not having a caregiver, being at a young age. While expressing that they experience these feelings in the face of the violence applied to them, it is seen that they come together with a common word: 'dispossession':

'... they think in such a thing that I don't have my family behind me, you know, they think that you can do anything and everything.' (K12, Judo)

' *If we had good people at our head, I would get 10 times the success I got because I didn't have a coach, I had no supporters, I had neither a club nor a supporter, there was no one. I struggled alone, I struggled with everything alone. It's a bit of agitation, but that's how it is.' (K10, Female)*

' *Success is perceived like this, you know the trophies, you are successful when you become a champion. It took a long time, I'm very fond of my family, now we came back from EYOF, and I don't want to go to the world championship, but they also took us to the camp, this is psychological violence, but they were forcibly taking us to the camp. You are old, you do not have a mother, you do not have a father, it has been 1.5 months and you are somewhere far from home.* ' (K9, Female)

He describes his struggle and experiences despite being exposed to pressure and manipulation as follows: ' *I was having a very difficult time. I was in the national team at that time. I must live that togetherness. I'm in the national team, my friends are in the national team, I see them more than my family everywhere, I go with them. But that communication cannot be established because the vice president prohibited by. Since he is the vice president, everyone is afraid of his own future, whatever he says is done. For example, I go to the national team training, I go to the training every day, I go to the training, I do the warm-up with the athletes. I was leaving the training session and I was crying. Then I go back to training the next day, all the coaches were warned, the athletes were warned, no one can talk to me, they can't work, the coach can't teach me, I put a mask in front of me and worked with him. Naturally, this is very tiring psychologically. On the other hand, you want to prove yourself, 'you want to say that no matter what you do, I will not give up'. For example, I worked alone for 1.5-2 years without a coach, but I did not give up again. I've been very busy.* ' (K5, Female)

F. Cursing, Insulting

Athletes convey their experiences of heavy swearing and curses that they have experienced in their sports lives, both with the spectators and with their coaches, as follows:

' *Shut up already. He already has no limit to the swearing of the fans. There is also among the athletes, of course, the trainer swears.* ' (K8, Male)

'…. . I've *heard your curses a lot.* (K12, Female)

' *The first violence already begins with verbal violence. After a while, when you can't do some movements, when you can't perform the movement or the desired behavior in general, this is not an attitude against the trainer, but when you can't do it, small little warnings, shoving, scolding in public with an extremely loud voice and then swearing. humiliating things happen.* ' (K6, Female)

' *He cursed at a very high level, insulted, read troubles. Sometimes there was a lot of noise in the field, and when he realized that he would be seen, he would cover his mouth with his hand and curse and curse. He turned his back on the grandstand to pinch a friend of mine.*' (K2, Female)

' *On the way to success, I witnessed that the coaches put serious pressure on their athletes, shouted, insulted, cursed, used different methods of pressure when they could not succeed, and even made physical contact. pushing oooo ... I saw it in the slapping trainer, I saw it in the beating trainer. It happens in races too, it* *happens a lot in training, it happens when you don't listen to your teacher's words.'* (K3, Male)

G. Being Expelled, Cursing, Expressions of Bad Faith

We understand that it is important for the athletes to hear good wishes and wishes, and the negative effective sentences that show the opposite are impressive in a way that even prevents them from doing what they are doing. It can be thought that why the cursing affects the athletes so much is related to the way the trainer is positioned in the athlete's life. Believing that the person who trains has a right over himself is thought to be one of the reasons for the normalization of violence between coaches and athletes and for keeping silent and retreating in the face of violence. It is understood that the reading of curses that create the metaphor of 'being a victim' or 'sacrifice' on the axis of rights and labor has a deeply impressive meaning and it is related to social culture. For this reason, we understand that one of the types of psychological violence that they are most affected by is being cursed by the trainer.

' *Constant swearing and violence in every way. As I complained, even when someone else made a mistake, he was yelling at me and giving me trouble all the time. He was trying to walk over and hit me. But he did not dare to hit. He knew that I would complain. He cursed and cursed, threatened, insulted.*' (K2, Female)

It is seen that the trainers use bad faith expressions as a success tactic, and this is created on the axis of rights and labor. A bad situation that is believed to occur because of a curse is brought into the environment as if it is a result of the failure of the athlete, and the sense of achievement of the athlete is suppressed by other cultural and emotional factors. It is understood that during the process of being exposed to violent behavior, the athletes do not like the behaviors against them, they feel sad, and they are affected. It is understood that some psychological sanctions are applied to put the athlete under pressure, to make him ambitious and to condition him. While trying to explain to the athletes that they need to push themselves to get a degree in the branch they do and to be better, it is understood that pressure is put on with sentences such as 'if you can't do it, your mother will die'.

Even the 'if you don't throw it out, think your mother is dead' style is very repressive so that I can do it better, if you don't do this, your mother will die anyway. On top of that, of course, these are insults and curses. Ordinary normal. (K11, Female)

Athletes report how they are dismissed from the training environment, sometimes by their friends, sometimes by their opponents, by being humiliated, and how they are exposed to curses and other bad intentions from time to time:

'They did not give my license from Antalya because my teacher there did not want me to go. I told him exactly how I talked to my family. He fired me and verbally abused me. After that, he said Seriously, 'Don't let two people get together or something.' (K9, Female)

I tried so hard, actually, he fired me, I went, he fired, I went. I did not give up in any way, I worked alone, I *worked without a coach, I even worked with a different branch coach so that I would not lose that condition. Thank God he had to resign later, he resigned and then the federation started to fall on me. Because I was a successful athlete.* (K5, Female)

'...there were minor arguments, we quarreled with my teacher, for example, he fired me, he said go, so I went.' (F 3, Male)

H. Lack of Interest in Health Problems

Athletes state that they work devotedly by using their strength to the fullest and they do their branches. Long-term injuries negatively affect sports life. They want to see that they are valued during these periods of disability, surgery and rest. The feeling of 'loneliness', 'own lessness' and thoughts were seen in the narratives about the periods of physical violence and in the posts about the disability periods. This situation makes us think that the emotional states experienced during the disability period are as strong and like those experienced when exposed to physical violence. They expressed the following feelings about the periods they experienced disability:

' *Frankly, before this match, I had a very harsh conversation with the president of the federation. He didn't call me once after my elbow came off to see how you are. He told me that when I didn't enter the Turkish Championship in that match, they understood the seriousness 'You gave up judo, he came to me and said, I didn't know you quit judo' I said, my elbow came out …. I didn't say bro in the president there…. I said bro, my elbow came out, you didn't call me once. You said ask …how many times have I called the teacher I said …did you call the teacher that I will quit judo because of my elbow …. I told the teacher, if you had learned from him, then why are you asking me? Is it the same thing?' (K9, Female)*

'I usually have musculoskeletal injuries, so I'm a little shorter than my body build. Collective muscles. In general, I always had muscle tears on my knees and ankles... If you play well, if you are successful, you are the king. (K8, Male)

Even though you are not inclined to that sport, you are chosen there and it's as if the teacher thinks you can do it, but you can't actually think you should, but you don't have such a skill, but this time the teacher insists, insists and you feel like you have to do it, and you feel like you have to do it psychologically . ' You're a loser, in fact, it's a complete loss, you're incompetent, you're like that.' (K6, Female)

In their evaluations regarding the injury period, the athletes think that they experience recurrent injuries due to the lack of good programming by the coaches, overloaded training, unplanned race programs, and intense camp programs. It is understood that the physical and psychological burdens they will undergo are not planned together, the tiring pace between the competitions and the camps, the absence of any other social life rights make the athletes feel the feeling of being in a cyclical process and being stuck. They express their feelings about their inability to break this circularity and their bodies and lives are in the hands of those who have the power in the decision-making process as follows:

' *They were going to take me to the world championship. We are at the camp in the Netherlands. We are preparing for the final training camp. My performance is good. I am working very well. Since I weighed 51 kilograms, I did not have any problems with weight. I was using food supplements, even before returning there to get a little stronger, my elbow came out in the last training, this time oops, it was very bad, so my shoulder and knee was a story, this time I'm screaming on the mat like this, my elbow came out of place, no one can touch it judo They don't know what's wrong with their clothes. They put it in a plaster cast and we'll be back 2 days after that , but really, the thing happened at first was that we came to the room and my roommate was very upset, I said, should I tell you something, I said I'm not upset, I thought my arm was going to break (Starts to cry) it was really such a pain that I can't tell you . I really don't feel sorry for anything because I couldn't go to the World Championships right now, I can feel my arm I can't feel my arm there is no down here then I was very impressed then I said I should really quit now or something. ..... After that, we prepared for Antalya, 2 months of good preparation for that psychology is not enough, I am aware of this, but people are not aware of this and everyone is waiting for something to come out again ee .. Let him play as he did in the Olympic year. How could that be? (Crying) but it's like a joke, it's psychological violence but (his voice is cracking and he's crying) and they say, how can you play like that? There was an argument there. I said you won't go; you won't go, I said if you can send it, I said send it, then they won't take you to any game this year again. We are in April, there are still 8 months, I said what should I do, if we go here, I will be very bad psychologically, they should not take it away. I said I'd be ready, if I'm going to do this job, I'll enter next year. At least, I'll feel ready both physically and psychologically for the Turkish Championship. Because I can't. Maybe I can do it for someone else from the outside, but I can't do it for myself.'* (K9, Female)

'You don't have a social life anyway. You don't have a girlfriend, you don't have a family, you don't see anyone, there are 2 days off in a month, so we go to school and go to them. We must complete our school. You must constantly succeed. You join the national team, the head of the national team, the president of the club, the rector of the university, the school principal, your teacher, your classmates, everyone expects success. But we can't always succeed.' (K3, Male)

İ. Repetitive Processes Accompanying Feeling of Burnout

In the sentences they used while describing their own sports life during the interviews, it is seen that the statements such as "they took me, they said that you will participate in the competition, you will go to the camp", that the athletes could not participate in the decision processes taken on their behalf, are remarkable. It is understood that they feel trapped in a vicious circle that creates a feeling of burnout when they enter the cyclical training, camp and competition after the injuries experienced in the camps and competitions and the processes of surgery and treatment in the following process, after their opinion was not taken in any program. It has been understood that the athletes experience similar processes in their sports lives and the cyclicity of these experiences turns into a form of violence.

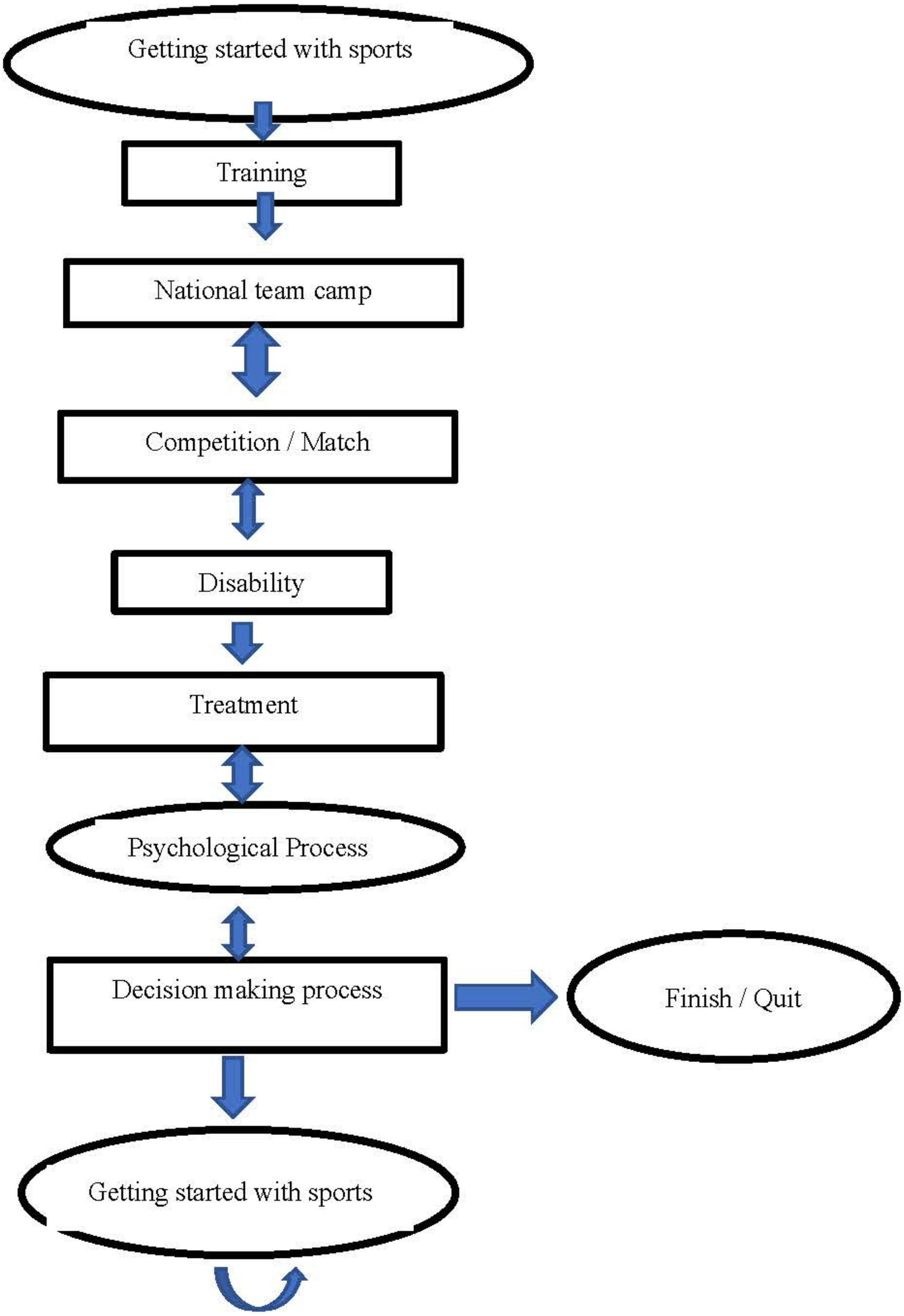


Figure 6. Sports Life Matrix / Repetitive Process Intensity

They also state that they struggle to create their own social space about escaping this cycle and that they can sometimes make wrong choices:

'After that, they use cigarettes, they have substance addictions, you say you start using alcohol to save your mind, or you get married early or there are no marriages at all.' (K6, Female)

They state that the psychological struggle experienced negatively affects the relationships of the coaches and athletes, as well as the personalities, social and sports lives of the athletes:

'*… I couldn't sleep until 7 in the morning, the doctor gave me pills for him, I used it for a long time. Then I explained these to the psychologist in more detail and he said that I can't come up with a solution for you right now, this man will not change. Because you can't even explain yourself, he has something on his mind, and he is constantly trying to make you apply it. I used psychological pills for 5 months just so I wouldn't hear it so my mind would relax. Because I couldn't hear it. Close your eyes and play, it didn't work. Because he was doing everything until he made himself known to you … He said he wouldn't play for the team. This was not a problem for me, he was already doing it, but even though I played well, he wouldn't play. I was not following his rules. He said that even if you complained to me, nothing would happen to me. He was saying it openly. He used to say that I can deceive the managers at two … tables. …. I have discomfort in the shoulder area and lower legs, my disaster has deteriorated. In my private life, I became an angrier person, I started to react, I started to experience things that I could not control myself. There was trembling or something.'* (K2,Female)

'People generally accept this, they have to accept it, they are rejected, they are disqualified, they are rejected in the field they are in. It's not just about the sexual thing, they face complete discrimination. You play very well, you are very fit, you are not played, you are sent to the stands, or why are you sitting on the bench? You have to behave as people want, there is no end to it! ' (K6, Female)

Theme 3 - Economic Violence

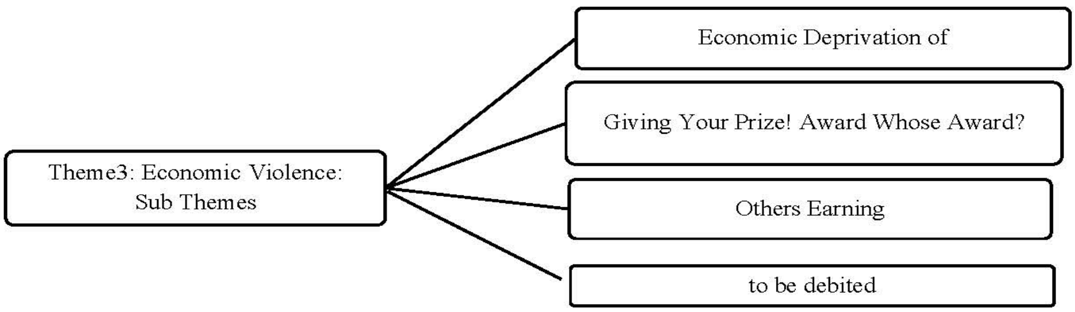


Figure 7. Sub-Themes of economic violence

While continuing their sports life, the athletes' earning wages after reaching a certain performance level and continuing sports in a professional way cause them to develop a new field of relationship with others in their lives . Although it is thought that this is an economic empowerment and a hopeful and pleasing development, it is understood that 'money' enters the athlete's world as a new control mechanism and a different means of pressure.

A. Economic Deprivation of Amateur Athlete

After the athletes enter the financial control mechanism, the promised salary (written or verbal; or without a contract) in the contract, the salary, the wages per competition, the promised financial values are not paid, the female athletes earn little or no money even though the male athletes earn money in the same branch. It is seen that there are experiences such as giving low wages, confiscating his wages or the reward he deserves, not paying the testimonial fee, using the already existing economic capital inadequacy of the athlete as a means of pressure to control him.

Athletes state that they have to meet the 'sportive life support' required by the management mechanisms with the 'pocket money' they earn as follows:

' *I wasn't getting paid at all, I was even giving out of my own pocket. They didn't pay any money; I was using that team as a steppingstone to get to a better place. The teacher did not allow him either.* (K1, Female)

'In the countries of the world, every athlete has a doctor, physiotherapist, masseur, and psychologist. Amateur athletes do not have very serious sponsor support, we do not have very serious club salaries, so we need to have a very serious massage 2 times a week, we need to go to the sauna, we need to go to therapy, we need to go to ozone therapy, sports psychologist, we started to do them ourselves slowly after we earned money. We did it with our own pocket money. This is the main reason why there are no Olympic athletes in the country. We go to the world championships, we see the men, we have no difference, physically, in terms of strength, in terms of talent, but the guys just pass us because their scientific opportunities are better, then Turkish athletes become stubborn, they become ambitious, they resort to other ways when they are greedy, they use doping, they are caught, their sports life ends. ' (K3, Male)

Sports life requires using quality materials, good and regular nutrition. The economic deprivation of the athletes who have problems in reaching these and cannot get enough support, causes them to have to work in additional jobs from time to time in addition to intensive training camps and competition programs.

It is understood that unpaid wages and needs that must be met create a source of failure, deprivation, poverty, devaluation, lack of ownership, fear and anxiety for athletes.

'...the club did not pay a salary for sometimes 3 months, sometimes 4 months. Sometimes you must go to extra work or something. Sometimes you need help from your family. I have not received any support from my family for about 12-13 years. Also, the salary given to me is 400-500 TL, the money I spend on food is 700-800 TL for the way I spend on sports. In fact, your income does not cover your expenses, which creates incredible pressure, you are greedy, you are overly ambitious, what is going on? (K4, Male)

The fact that the economic burden is on families to maintain a sports life and the number of children in the family become important factors in maintaining a sports life. For this reason, it is understood that it is important to support the athlete economically, independent of factors such as coach, club, manager, family, in the continuation of his sports life. Having economic power is one of the important factors of a sustainable sports life.

' *We were giving money to the club. The matches and camps I went to when I was in the national team are covered by the federation. But other than that, the clothing is very expensive material, and it has a lot of materials other than the clothes, and they are not all very expensive and affordable materials one by one, and you pay for them all by yourself. There was no such salary system in my time.'* (K5, Female)

B. Presenting the Award: Whose Award is the Award?

Athletes share their experiences in which they are not supported economically, and the material values they receive from time to time are tried to be forcibly taken from them as follows:

' *I was 1. After I became 1. As I remember, they gave me 5 full gold, I bought 5 full gold, we had one branch manager, he was a person I didn't like, he said everyone should come to me and see me. People who have nothing to do with us are trained by our coaches, even our coach does not tell us such things, while a branch manager who has nothing to do with us says so.* ' (K7, Female)

Being economically oppressed means that the prize is demanded and taken away by force, meaning that the field is 'unsafe' for the athletes. Especially female athletes stated that they felt obliged to quit sports after such experiences or that they saw people who quit. *'Let's say the coaches in the provinces, I am doing the European championship, I received an award. The coach was taking half of the award from the athlete's hand. For this reason, one of my friends left the sport. After he became the 2nd in Europe, he forcibly asked the girl for half of the money, and his family did not want to give it to him, so his financial situation was not that good, so he had to leave the sport.* '(K9, Female)

While awarding a reward to the athlete is explained as a reinforcer that approves the behavior in the theoretical framework; deprivation of the reward has been defined as 'punishment' that weakens the behavior. Indeed costs – outputs; The athlete, who received the reward he deserved on the award-punishment axis, preferred to leave the field by leaving his sports life.

It is seen that economic factors create a different field of experience for adults who are managers, coaches, and mature adults, that their financial abilities and knowledge of earning and managing money are different from young athletes who are still in the development stage and lack the ability to acquire, create and manage financial resources, and that they can use this knowledge from time to time. It turns out that they can be used against them. Moreover, it is understood that the ethical and moral knowledge and personal characteristics of developing young individuals are eroded by adults who use economic power as a pressure tool. This situation is far from the gentle, peaceful, strong, moral human profile that sports claims to create.

A football player relates his experience that he was 'slandered' and had to leave the club because he was injured when he was a young athlete, and could not receive the agreed fee to be paid by the club:

'I was very popular, a lot of teams wanted, but Rize Pazar Spor was in the 2nd league at that time, a few of my friends were transferred, they gave me good money, I went there at the beginning, I played there, I scored 6 goals in the first 6 games, then I got injured, it took about 4-5 months, then I came back after my injury. When I said I did not play, I did not play, I did not get my money. But on the way there, the club president gave me a check and gave me his personal check, I went with that condition anyway, it was very serious money, I'm talking about 2005, it was very serious money. I don't want any money, I just said give me my testimonial. It was going on in the matches, it hurt me so much that it hurt me a lot. (K8, Male)

C. Others Earning More

Athletes state that they experience unfair and disproportionate remuneration for equal work, both in terms of race and gender. They report that especially if a foreign athlete is recruited to the club, he is valued more, his needs are taken care of, higher wages and other supportive economic benefits are provided. They state that they find it unjust to be treated in a way that hinders their economic development goals in their sports life:

'If you are a child, you understand after you reach a certain thing. I have worked for you, should I send it to the Metropolitan Municipality, you do not think that a small child will come. My father investigated how, the youth went to sports, wrote a petition, stated that we moved to Istanbul, and he paid the money and got my license from there, and then I was transferred to the municipality. There is a difference between men and women, they brought recruited athletes from abroad, and although we had the same success, they received 2-3 times more salary than us, so I see it as a great injustice, they paid half of the rent of their house if you brought such a distinction to the sportsman you brought with the athlete trained in your own country. , they were paying some of their bills, I see this as an injustice, that is a great injustice. (F9, Female)

Despite their young age and limited opportunities, it is understood that the athletes undertake responsibilities such as supporting their families in difficult times economically. Moreover, this sense of responsibility that they fall into obliges them to accept some problems by remaining silent. A judo athlete describes his experience of economic, psychological, and physical violence with his trainer, who is aware of this:

' *Moreover, now we were in such a period that my father was not working, he was retired, my brothers were studying. One of them was studying at university, two of them were in secondary school and one was in primary school. I provided for the family with my earnings. Every time, my fear was that if he didn't take me to the match, if he didn't take me to the camp, if he wouldn't take me to the team, he would say to me, tell a person what happens to him, can you see the face of the national team again. But it worked well for me too. As a coach, he was a good trainer, but that's the psychopathy he had. He also beat the athletes before me. He beat the others after me too. But it's not a torture-sized slap or something ...* In *1 year, I see my family for 1 month or not. My* *mom said I missed you so much baby (she puts her hand in a caressing position towards her hair, showing that she wants to caress her mother's hair.) I did this (showing the defensive position that shows that she wants to protect her head by making fists at the elbows and protecting her head.) My mom said, you come here, let's see what happened to you. said. I said mom, I can't stand it anymore. He said what happened. I said that teacher Y. is beating me. I don't speak out because our food will be cut off, but I said I'm done. I'm not in the mood to play. I just don't want to go to the match, I'll sell lemons, water, and see you .... '* (K10, Female)

It is seen that the emotional hunger that the athletes feel close to with their trainers, the longing for their parents they are far away from in their lives, the need for the love and attention of an elder, the mentor, and the desire for family relationships in their lives. For this reason, the violence they are subjected to is more than simply a physical contact, it means the hurt feelings, the construction of insecurity in life. For some athletes, sports life is a necessary struggle area that expresses deprivation and loneliness.

'I didn't have a family with me, he approached me like a father at first, his wife was getting paid like that, but you had to see the places where we ate, there was no such thing, there are restaurants like that, you know, they used to eat under something and we never stayed in a hotel, we stayed in the homes of the children's families. ' (K12, Female)

D. Being debited

It is understood that another way of economically suppressing the athletes is to make financial demands, to borrow money from them and to impose economic penalties. ' *A rule came to the gym if you don't come to the training, this much TL if you don't come to the gym *** TL bank account number was written or something, but it didn't end with that, there are worse things... You know when you bring a deodorant like this, if it's powdered, it turns white when you squeeze it. We were given a per diem, we used to spend it there, but if we could bring it as soon as we could, it was a big thing for us. They were making such a pressure, they even looked and found that I bought it from Turkey. Money is their everything.'* (K12, Female)

Theme 4- Political Violence

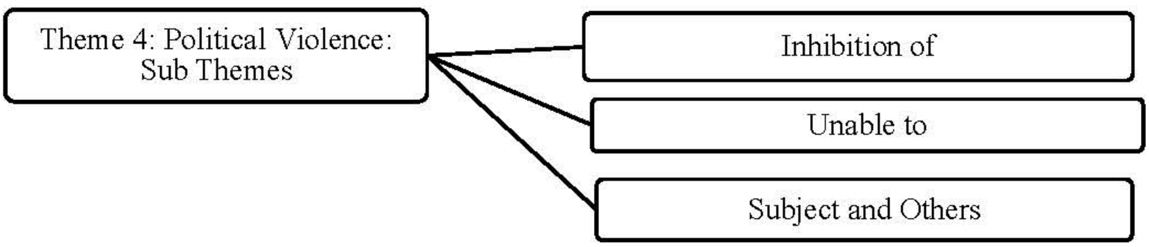


Figure 8. Sub-Themes of political violence.

that the athletes have some obvious problems with the coaches and managers, and even with the club managers.

It is understood that transfer opportunities increase after the athletes register a certain level in the infrastructure and start to be successful. It is seen that stronger and bigger clubs offer attractive opportunities to athletes such as training, scholarship support, club salary, and health insurance. Athletes accept the good transfer offers that come with advantages and want to leave their first trainers who discovered themselves in the infrastructure. It was generally seen that the first conflict problem was experienced here. The coach or the manager of the first club does not want to hand over the athlete's license to the athlete for this transfer. As the athlete cannot move to the other club, his relations with his current coach and club also deteriorate in that process. It is understood that the main problem experienced is not getting the documents and not being able to leave the club. Depending on the branch, the club usually asks for a very high transfer fee for the athlete who wants to switch. If the club that wants to recruit the athlete does not pay this price, the athlete will be able to stay in his current club, but during this process, his relations and balances are disturbed. It is understood that many athletes have experienced this process. The first political problem is the inability to experience a professional transfer process. At this point, the strict attitudes of the trainers can cause the athletes to move away from sports life and even to be unable to do sports. The athletes describe their problematic process as follows:

A. Inhibition of Sports Life

' *I said, 'I couldn't make myself eat my pride, teacher like this, I want my license, I want to go to another club. At that time, there were many clubs who wanted to come to our team, I said that I wanted to get my license, and the teacher said that he would give it during that journey, but when he came to Ankara, he said that he will not give it, the club was not terminated directly because I was under the age of 18, so the coach's signature was required, so I did not give it for 2 years I couldn't play ball all the time because of my teacher. He demanded money, for example, he asked the national players from the clubs I went to the price they wanted. Some clubs accepted, he was saying the amount he accepted, I was going to meet with the club, and when the club said okay let's give it to the teacher, the teacher was increasing the money a little more. That's why it was a setback, I couldn't play for about 1- 1.5 years.*' (K1, Female)

It is understood that such inhibitions are experienced by both male and female athletes:

'It was completely political, they paid a very high fee, and when we didn't give it, then there is nothing decisive, there is no training fee or something, whatever they say, we could not go. It wasn't fortunate. Ankara Demirspor railways club president, head of department, deputy head of department in charge of football, bureaucrats can't even say football, he says ' fitball '. Now there is a department called sports management, people are studying it, then there is no such thing. He says you will give 200 thousand liras, the professional athlete came that year, the man Demir Sporda M… for 200 thousand liras. Will he give 200 thousand liras to? '(K8, Male)

International sports organizations, of which our country is a member, carry out preventive policy development and implementation studies for the protection of athletes. In 2017, the International Olympic Committee (IOC) created and published a support program for the Protection of Athletes and the Prevention of Harassment and

Abuse in Sport in collaboration with more than 50 members and organizations. The IOC support program includes Athlete Protection Policies, Procedures and practices for International Federations and National Olympic Committees. With the decisions and commission studies taken in 2016 and 2017, the IOC has committed to put the athletes at the center of the Olympic movement, especially in the 2020 Olympic agenda. This commitment aims to protect all the rights of the athletes and to provide a safe and supportive sports environment. (Kirby, 2002).

On the other hand, the protection of athletes is guaranteed by the constitutional arrangement in our country. Article 59 of the 1982 Constitution is about sports and is as follows: Constitution of the Republic of Türkiye, (1982) 'Article 59 – The state takes measures to improve the physical and mental health of Turkish citizens of all ages, and encourages the spread of sports to the masses. The state protects the successful athlete.'

However, naturally, what is expected from the management staff of sports is the encouragement and protection of successful athletes. The concept of 'protecting' mentioned here is understood to be a deep and comprehensive concept when sports management processes are examined. The concept also means to protect the rights of the athlete. For example, if the athlete is successful, directing him to organizations where he can participate in important competitions, making preparation camps for them, etc. activities are among the duties of sports managers. In their stories, the athletes narrate that even the right to participate in the Olympics, which every national athlete dreams of, where the athletes were not sent to the competitions where they could be successful, was taken away by arbitrary practices as follows:

' *For example, a federation vice president used to be our club's coach long before I started. After leaving the club with the club, which had some problems, he started to take part in the federation management. Then he started to use that power in his position. .... I looked and I was suspended for 6 months. We immediately objected. This time, it was a penalty that should have been removed because they sent the files late, but the documents were sent late so that the penalty would not be lifted, so that penalty was applied. I could not participate in the European Championship at that time. It was my best period. I've always worked with adults. I was in better shape for my category. These have absolutely nothing to do with national feelings and achievements. Just their own greed. I don't think those people want the sport or those athletes to come anywhere, their own ambition is purely a sense of self-affirmation. I'm better than you I can get anything I want I can do anything I want my horn goes off. His success depends on me. This athlete should come to a place and raise our flag, let him sing our anthem, it's an effort to prove himself, whoever I want will be there. At that time, all successful athletes were leaving our club, paving the way for many successful athletes. tried to cut it. For example, I was playing a critical match, and he was putting the referee he knew, I could not win that match in any way, or he could try to interfere with a referee even in an international match where I represented my country.* ' (K5, Female)

While the management processes reveal how the opinions and thoughts of the managers can affect the career goals of the athletes positively or negatively with examples from their lives, they also explain how the managers can act arbitrarily in the decision-making processes:

*'There was a federation president, arbitrary grief did not take me to the matches. They didn't take me to the 20** Olympics and there was no justifiable, official reason. There is nothing, so that they don't let me into the camps, we put people in, and he says, 'We don't need that Olympic medal'. They won't take me even though I've been beaten. There was no one better than me in Turkey at that time. They don't take me to quota competitions either.* ' (K10, Female)

Athletes are selected by determining the abilities and skills they are considered to have. The process of raising athletes is a long and difficult process that requires effort and sacrifice for athletes, their families and trainers. Relevant institutions try to select and train these athletes. It is understood that the athletes whose athletic technique and tactical skills have been developed have had to leave the sport with the negative attitudes and behaviors of the actors in the field, amateurish approaches, and some have not been able to achieve their career goals in sports. Athletes describe the damage done to their sports lives by the way of thinking that sees encouraging the athlete to be more successful as more points, better grade, and absolute gain rather than moving him to a better point:

' *Even though I was the champion of Turkey in youth that year, all my friends who ranked in youth were called to the national team camp right after. I don't have a name because I went from *****. So, I called my trainer in Istanbul and said, my teacher, like this, I became the champion of Türkiye, and everyone has a name, mine does not. Then he called me 1-2 hours later, he said now, look, they wrote me to the camp.* ' (K9, Female)

'There is no professional contract in any athletic club, unless you are an Olympic athlete, so your salary is less and this is not guaranteed. The man says that you will run 3-4 races a year, if you do not run well for me, I will not give you your money, I will send you to the court. Because there is no contract. It's about outward promises. You're human, you trained well, you're super, you're going to break records in Turkey, you're injured in club training that week, you'll race next week, the stress you're experiencing at that moment, the anxiety for the future, the financial dimension of this job is very effective and incredible violence, that is, it exists as psychological violence.' (K4, Male)

' The reason why *I couldn't go to the 20th.. Olympics is because they brought spolia. I passed the quota. But what happened, they destroyed all the ***weight athletes who came after me ***they did the same with weight ***there are no Turkish athletes in weight right now.* ' (K10, Female)

About these experiences, for example, about their trainer, to the athlete; 'why did the coach do this about keeping the license fee and non-payment license?' In response to the question.

' *My coach didn't want to lose me, I was one of his most valuable players We talked face to face, and he said that I was very afraid of losing you, that other teams would take you. I wasn't even getting paid; I was even* *giving out of my own pocket. They didn't pay any money; I was using that team as a steppingstone to get to a better place. The teacher did not allow him either. Would I not be able to play ball again, was my sports life over, because I did not know how, then my different coaches came and enlightened me, I thought that I would not be able to go anywhere else from that club or get my license, I was sad and scared. My father helped us, we talked, we went to the Turkish Football Federation. I was sad because I thought that I would not be able to play football again, I even asked if I should do another sport at that time. I tried to get my football license. I wanted to play football.*' (K1, Female)

The experiences of the athletes tell how their sports careers are negatively affected, how easily they can be removed from the field, they are reduced to the position of unwanted, eliminated people despite their success and abilities, and they experience deprivation of rights. It can be said that the main reason behind these experiences is the lack of policy documents. The lack of contracts, protocols, and mandatory protective agreements for the club-coach, club-athlete, club-manager, which will support the pursuit of rights in the legal field that protects the rights of the athlete against injury, transfer, and the club, increases the experience day by day. On the other hand, despite these deprivations, the trust, loyalty and love of the athlete to his trainer prevent him from criticizing him. The trend to normalize the process thus continues.

B. Subject and Others

Until this point, it has always been tried to look at the field in terms of victims. However, it can be thought that it is also important to understand the strategy in this political process created by the perpetrators in order to understand why these grievances are experienced. It cannot be thought that it is a coincidence that people with power generally choose bright, eye-catching athletes and that they experience problematic processes. Coaches and managers, that is, the subject with power, that is, the one who is in power, has to create a political space to expand the domain of authority. In this, the concepts of friend and enemy should be in the field. While offering various conveniences to his friends, the enemy subject must be crushed and battered so that the others show silent submission. A successful female athlete who has experienced many forms of violence explains this as follows:

' *We can talk easily among ourselves. But let's go outside and let's go to the teacher together and say that I am disturbed by this behavior, or I have not seen anyone speak out when we say that this behavior of the administration is disturbing us. I think they are afraid that their sporting life will be affected.*' (K2, Female)

While trying to understand the politics of violence, Carl Schmitt's words can guide us: 'The essence of politics is to distinguish friend from foe.' Schmitt defines the concept of hostility as the founding element of identity. 'The enemy is a matter of our own existence…. Therefore, I must be at war with it so that I can gain my own measure, my own limit, my own shape.' This is why there is an invisible war in the field of sports. Drawing its own field, determining the boundaries of the field, is the borders drawn by the one in power for their own identity. In other words, what Schmitt defines as the politics of violence is a politics of identity. This policy creates subjects of obedience and discipline. For these subjects, the other person is always the other, there is a constant competition between them and the other in a society focused on success and performance. (Ohlert, et.al., 2021).

Pressure, reward, and punishment As Akers underlines in Social Learning Theory, subjects who experience violence form their own definitions of violence, the definitions lead them to imitation behaviors about what behaviors they can use and how. The imitating subject creates the subject to be submissive or disciplined in the face of the powerful. Thus, with differential reinforcements, undesirable behaviors for 'others' are punished, and desired behaviors are rewarded for 'others', while the wishes of those who have power rule the field, while violence is hidden in the field and continues to exist. Costs, which are outputs of the behavior of the 'other' subject, can increase the likelihood of a behavior being repeated or destroy it.

' *My coach didn't really want to lose me* ' is the definition of losses created by the coach. Losses are the costs incurred by these behaviors. The Athlete is the price paid here; that is, it tries to define the pain arising from 'cost' positively. The meaning of this definition in the athlete is: 'coaches can block the career goals of the athletes they value, this is normal.' What is dangerous in this definition is that those who are in the position of coach or manager can continue to implement their arbitrary practices and decisions as they wish.

C. Unable to Complain

Sharing his experiences, the former fencing athlete talks about the pressure he went through with one of the federation managers, and how he was intimidated by the others. Here, the fact that the athlete is fired from training, having problems, negatively affecting his sports life, being invited to the national team camps, but not being taken to training by the manager, preventing his friends from talking to him shows the concept of 'costs' to others. By drawing the boundaries of the field of obedience and discipline over an athlete, the facilitators obtained by others constitute their costs. It is for these reasons that the athletes, who are intimidated, silenced, and lose the courage to seek their rights, have similar social profiles. It seems possible to find out why they are hesitant to complain in the following sentences:

' *I didn't complain anywhere because why? I need to know my rights, I'm an orphan, I don't have a father, the mother is already trying to support the children financially, so you don't know where to complain to her like this, you don't know where to complain to her in the system, you don't know where* you *will complain. You don't know whether they listen to him or not, you don't know if he is much stronger than you, it is a very difficult thing to go and complain to someone.* ' (K11, Woman)

It is understood that the political violence in the sports that the athletes live in is oppressing the subjects, the position, the power of which they know the deficiency of the powerful, by using their position and power in their favor, as a status. Hierarchically different perpetrators hindering the sports careers of athletes in different ways is a type of violence encountered both in the process of psychological violence and in the process of political violence. The form of violence that hinders the career of the athlete, which is applied by people with administrative titles with high political and social capital, is considered as political violence. Because, the type of psychological violence that is hindered, is generally applied by the coach to the athlete and when he requests to leave the team or leave the club, it appears as an intimidating and deterrent punishment that restricts his freedom. However, as a form of political violence, it is understood that there is a very serious force and pressure to use the current position and status and to end the sports life of the athlete. The perpetrators do not refrain from harming the career of the athlete with willful and hostile feelings.

Theme 5- Sexual Harassment / Sexual Violence

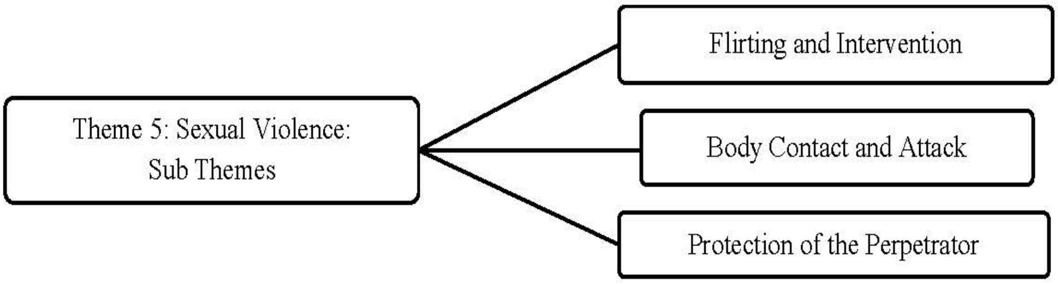


Figure 9. Sub-Themes of sexual harassment / sexual violence

Sexual harassment is a phenomenon that can be experienced in the relations between all individuals in the society because of the organizational power and authority resources that people acquire afterwards and their abuse. It includes words, attitudes and behaviors of sexual content that are made without body contact with the person and are not based on consent. Continuity is not sought in sexual harassment behaviors, so a single incident is considered as a sexual harassment crime. We see that research on sexual harassment and abuse in sports has become more frequent in recent years. For example, a study by Fasting et al. in 2000 showed that 51% of elite female athletes in Norway were sexually harassed, while a comparative study by Fasting et al. in the Czech Republic and Norway reported that 79% and 54% of female athletes indicates sexual harassment. Sexual harassment is closely related to power relations between individuals. (Fasting, et. Al., 2000;2010;2014)

Studies show that sexual harassment and abuse occur in all sports and in areas where power relations are experienced at all levels and negatively affect the physical and psychological health of athletes in a way that harms performance.

‘In order to prevent sexual harassment and abuse in sports and to protect athletes, international organizations, the United Nations Children's Fund International Olympic Committee (IOC, 2007) acted and in October 2006, the International Olympic Committee Medical Commission held a conference on 'Sexual Harassment and Abuse in Sports' (Fitzgerald, 2010, Fasting, 2015). *Leading sports psychologists, sociologists and psychiatrists attended the conference. Participants expressed their opinions to prevent sexual harassment and abuse in sport and to produce guidelines for early intervention. In the same study, the scientific evidence presented on the*

frequency, risk, and consequences from research on sexual harassment and abuse in sport is as follows: 'Sexual harassment and abuse includes human rights violations. Sexual harassment and abuse occur within the organizational culture that facilitates such opportunities. It can also consist of systematic and repeated, but not necessarily sexual, humiliating behavior. Sexual harassment and abuse can occur in all sports and at all levels; more common in elite sports; those with power and authority with the athlete are seen as primary agents; it has been determined that peer athletes also take part in these acts; men are more often perpetrators than women; sexually abused and abused athletes are often silenced; Protection of the perpetrator of abuse and abuse is particularly associated with age and maturity. The most important thing is the lack of evidence. Environments where risk situations are experienced in research; locker room, playground, long trips, coach's house or car, places where social events are held, especially places where alcohol is consumed. Studies have reported that sexual harassment seriously affects the physical and psychological health of athletes. Sexual harassment can impair performance and become a reason to quit the sport. Clinical data has revealed that there are some serious health consequences such as psychosomatic diseases, anxiety, depression, substance abuse, self-harm, and suicide. Passive attitude/non-intervention, denial and/or silence of people in powerful positions in sports, sexual harassment and abuse also increase psychological harm. ' (Fitzgerald, et.al., 2010)

Sexual harassment behaviors in sports include sexually explicit jokes, sexually explicit compliments, irritating addresses, persistent stalking, whistling, slurring, sexually suggestive glances, involuntary kissing, hugging, persistent questions about one's private life, sexual harassment from one gender to another. Being disturbed by sexist words expressing that he is superior or weak, sexually explicit messages or materials, persistent invitations despite being rejected, persistent dating offers, notification that he will receive special treatment and some benefits if the sexually explicit offer is complied with, or that he will lose his life if the sexual offer is not complied with. / Being told that he will pay the price that his sports life will suffer some harm, being forced to have sexual intercourse (physically) (IOC, 2007).

A. Flirting and Intervention

Athletes who are exposed to persistent dating offers, jealous attitudes towards their relationships with others, asking questions about their private life, interfering with their private life, sexual harassment, describe their experiences as follows:

' *It was forbidden to even go to the cafe. Since Trabzon is a small place, our photo was taken somewhere in the cafe and sent to the coach and the manager. They were also asking, where are you? Messages were coming. We were at the cafe, drinking coffee, what's the deal? Don't try to force someone to do something just because you won't go to that cafe again. Managers did this. It wouldn't be a problem if you went with the managers. If you are going somewhere with managers, there is no problem. If you're going without them, it was a problem. I can't blame the whole place for the manager, but it was there. They wanted to flirt with someone from the team. They made their intentions clear. We were also exposed to them. My boyfriend was not at that time. It was forbidden to come to Trabzon with the boyfriend of those who happened at that time.'* (K2, Female)

' *In a camp, a man took his coffee cup and came to me, you will look at my coffee fortune, I don't know what, I didn't open the door. He said you will pay a heavy price for this. After that, he cut me off and told everyone in the staff that I was disabled. I was 25-26 years old; I left my uniform on the door of his room and came back to Ankara by the first bus. ... now I prefer not to greet them when I see them. People accused me of arrogance. But his popularity continues anyway.'* (K6, Female)

The athlete, who was offered sexual intercourse without his consent, describes his reaction when he experienced sexual harassment and the experience of the managers who protected him and thus strengthened him after he complained to the authorities as follows:

' *Something like this had happened to me before, and I told him directly. On a plane trip, when I go to ***, someone I call brother is sitting next to me. He said he drank, he said, he gave me the ***. He was a member of the committee in the federation. He said, "Let's be together," he said to me. I got up from him on the plane.* (K12, Female)

The athlete, who witnessed sexual harassment experiences of other athletes regarding sending sexually explicit e-mails, messages, materials, and making sincere addresses (my love, dear, baby, etc.), describes these as follows:

' *We were together when I came to college, but we didn't see each other much because I was in college and then I said, if I come up with something like this, my name will be tarnished. You know the situation in society, no one will believe it. When I went to the training, I was suspicious, does it do it to other people? There was a girl who was going to the room all the time, but she was always calling her baby and something like A… There is another girl named A… I see the correspondence because I sent the emails etc. A…. He says, 'my baby or something...' and A says to him, 'You can't talk to me like that, teacher.'* (K12, Female)

B. Body Contact and Attack

It is understood that the sexual harassment behavior that athletes frequently experience is touching their private parts. In the massages performed by the trainers and masseurs, the athletes state that they are hesitant to express their discomfort. The culture of blaming victims in sexual harassment experiences not only prevents them from complaining about the harassment they have experienced, but also creates a suitable environment for perpetrators to continue their actions.

' *I had events like a touch. But I can't be sure. Because you can't be sure because she's massaging. I'm not sure if it was by mistake because she was doing the massage. There were a couple of points that I doubted. The same trainer did it several times. He touched the private area. He didn't touch it persistently but didn't apologize, that's why he did it consciously, I don't know, but I heard from my teammates that the children were squeezing their chest or something. My friends from Trabzon told me that I left from *** because I was a foreigner. I* *guess they were afraid they didn't tell their families.'* (K2, Female)

' *We had a masseur; he would give us injections before the matches during the training sessions. Things like B12 or something like a muscle relaxer. The man was laying us on a stretcher and sticking the needle in our hips and doing nothing. Then he would come and touch us here and there. If you move and do something wrong, you can't do something that will break the needle.*' (K8, Male)

Athletes, who later shared their sexual harassment experiences with each other by the same perpetrators, learned that the same behavior was done to others through 'peer sharing'. It is understood that peer sharing is important for victims of sexual harassment and abuse, to seek rights together, as well as to get rid of the feelings and thoughts of self-blame when they know that they are not alone.

' *I didn't feel anything because it was normal as he did it to everyone. He did the same for the national team. He was weighing you in the national team, he was weighing you naked, you know, he was doing the same to everyone, so you believe that this is how it is. He was taking it out, I mean, he was getting everything taken off, touching it here and there. For example, I have a friend named A…. He used to bring her into the room and touch her breasts or something. You wouldn't expect it, so we all went through the same things at that time, without any of us saying anything to each other.'* (K12, Female)

Athletes describe their experiences of trying to kiss, hug, and abuse behaviors against their consent, as well as the experiences of other female athletes as follows:

' *For example, when a coach was massaging his student inside, there was such a conversation inside. It happened in the environments we live in. We are upstairs. The girl went downstairs to drink water. A man we love, who has nothing to do with us, tried to kiss the girl, the girl ran away and came to us, and then the man left the environment.'* (K3, Male)

'He had a room in the living room, he used to call me there all the time. ' Your teacher had such a kissing style. But you can't say that he kisses everyone like that and kisses his sister-in-law like that, so he is molesting us. He used to kiss here and there (pointing to the junction of his lips) and right around the corner of his mouth, but he also kissed everyone like vacuums. But then we were in the national team camp in Izmir, we touch and there is a different way of touching, I said: I said I understand what you are doing, then I was 12-13 years old, he went out into the corridor and started shouting 'what do you mean or something? . After that, I never approached again, I always stayed away. He tried to get close to me and started saying why don't you come close to me, give me some warmth. ' (K12, Female)

It is understood that in cases of sexual harassment experienced especially in sports activities held away from the family, such as camps and hotels, the harassment of athletes reaches the level of sexual assault, and the perpetrators do not hesitate to display harsh behaviors:

'The teacher came into the room. He's trying to talk to me, its dim, he's looking for music on the TV, he said, let's dance with you, he said, you smell good, he started hugging. I said, " God," I said, "I'm sick right now. It's not normal for you to be here, would you please leave the room?" I said I want you to stop. He said, "If you make a noise here, I will tell you that you forced me into the room." I died there, I went, so my child, I am afraid. I did not raise my voice, I pray, my God please .... (teammate) please come ... I pray that he will not forget, anyway ... my friend came and knocked on the door ……. a few days later he called me to his room, I went to the room, my God, I went to the room once (covering his face with his hand and looking up) he lies naked on the bed. He said come with me. I cannot go. I have become this way because of you, here's why my groin hurts because of you, this happened, this happened. After that, there was another person who knew about that incident (his voice is shaking, he is crying but he is holding himself) I told him, I said to him, such an incident happened to me, I said, I don't want to stay here, I said, these are not the things I will do. Can you imagine? It's like rape.

' *I was sitting next to him on the bus. We are ahead, but he was so brave that we have the driver with us. He was putting his finger in my mouth, I did not understand that I was so ignorant I was such a child that I did not understand, I did not know. I really didn't understand, and I didn't understand until all the girls said it. My friend named *** said to me, *** Hodja is harassing me. He calls me to the room, touches my breasts, kisses me on my lips, he said. He said he's not leaving. But there are others, there are younger ones, there are girls around the age of 12, they can't tell their families, one of them said he quit sports. After all, I found the children who had problems with their fathers and families, then I found the little girls and went so far by touching their genitals and locking the door.* (K12, Female)

C. Protection of the Perpetrator

For athletes subjected to sexual harassment and abuse, as damaging as harassment is the protection of the perpetrator. Victims whose trust is damaged will carry the traces of these experiences in their future relationships. They describe the harassment of the perpetrator of sexual harassment by their relative, who is their assistant coach, as follows:

'His wife *sees one of the girls in the game and says: 'Well done, did my husband kiss you on the side of your lip* ?' *or something. We called the police and complained again, he was suspended.'* (K12, Female)

The use of expressions that accuse and humiliate victims after sexual harassment reports helps to make the perpetrator invisible by mitigating their guilt, even if they are condemned by those who produce the same discourse. Establishing empowering networks such as peer networks and women's networks on sexual harassment is one of the measures that will alleviate the pain of victimization. This type of empowering bonds is effective in the emergence of other harassment bonds that are experienced but not spoken. As a matter of fact, the athlete, who investigated whether others experienced the same thing after sexual harassment, states that he found evidence about them.

It is thought that gender inequality also plays a role in the occurrence of sexual harassment and abuse in sports. For this reason, it is recommended to develop a policy within the framework of international decisions for the prevention of sexual harassment and abuse. For this reason, a strategic action report on gender equality in sports has been presented for the European Union member states to be implemented between 2014-2020. Some basic expectations regarding gender equality in national sports institutions from member countries were presented in this report and it was demanded that more roles be given to women. (European Commision, 2020)

It is noteworthy that cases of sexual harassment and abuse in sports do not come to the fore at the time of their occurrence. Social learning theory explains this situation with the concepts of cost and output. Athletes do not want to give up the field they have acquired and their role in the team on the axis of maintaining the life of the sport. Thinking that a sensational event such as sexual harassment will end his sports life causes the athlete to display behaviors such as ignoring the harassment, being afraid, staying silent, and staying away from the environment. Being able to do sports here is the output of sports life, and making sexual harassment visible is its costs. On the other hand, reaction behaviors developed against sexual harassment; learning to be ashamed, criticizing and accusing the victim rather than the perpetrator; Definitions that produce meanings such as being discredited, losing reputation, being tainted and being open to new harassment cases if heard of being a victim of harassment are the outputs of the social learning process acquired from social life. Sports is an extremely important field in the struggle for socialization of girls, especially in rural areas, to exist in the public sphere. However, social sanctions against girls make it difficult for them to maintain their existence in this field. The silence and fear of girls and women in the face of sexual harassment stems from the fear of losing the enthusiasm for freedom, joy, being an individual and moving one's body freely, which sports life adds to their lives, rather than the perpetrator. The interviewed athletes confirm that these fears are also used by the coaches, by saying that they will never find a place in another team, and that they will not be able to play sports if they complain.

Theme 6 - Peer Bullying

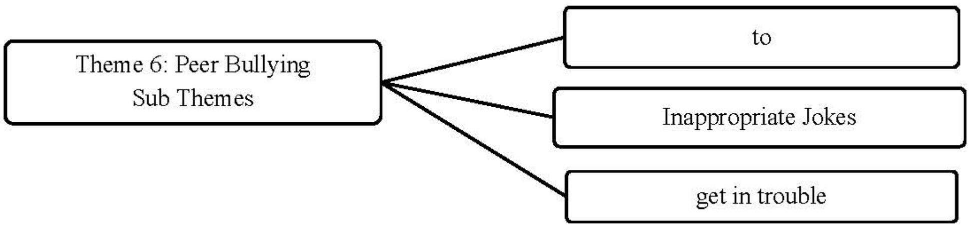


Figure 10. Peer Bullying Sub- Themes of peer bullying.

Physical violence is the most common form of violent behavior. While the visible concrete traces of physical violence constitute a repetitive reminder of the victimization for the victim, they turn into a concrete indicator in the eyes of the perpetrator and others. At the point where there are physical signs, which are a concrete indicator of power, in which the perpetrator has proven his age, the invisible wounds of psychological violence and other traces of violence are not mentioned much. It is ignored by everyone, as if psychological, sexual, and economic violence caused less harm.

However, we learn about the violent behaviors we inflict on others and the violent behaviors we are exposed to by others from 'others' – 'other subjects' in the field. For this reason, power and hierarchy-oriented violence experiments among peers are based on the simplicity of being able to apply what they have learned to others while testing their own power and building the power field. Although they present it as a blessing to young athletes not to inflict violence against peers they have experienced in the past, we learn from the following statements how they mediate their existence with the threat of the same cycle of violence by making them feel that they are in that position and power that they have learned and can apply:

A. *to serve*

“There *was no such thing in our team. But there are things I have heard, for example, there are older sisters, they always give the same example, for example, if our little ones did something, you should be grateful to today. we are not doing anything.* ' (K1, Female)

Akers discussed in Social Learning Theory, states that being exposed to behavioral norm patterns based on interpersonal aggression is the possibility of individuals to repeat this behavior, while it states that the experiences of those who enter the field for the first time are the experiences of the previous ones. For this reason, subjects who were novices before and who recorded their experiences when they first entered the field exhibit similar behaviors towards those who entered the field after them and who were relatively inexperienced. The behavioral dimension that we encounter in differential association shows that being a part of the environment, field, field, and team in the field of sports depends on the cycle of enduring, accepting and then applying these behaviors.

' *I am Ankara, …. I joined the professional team in .. My job is to carry baggage and carry materials. One day, I took a shower, wow, my brothers went to the beach with clogs, asking why you took a shower before us. '* (K8, Male)

that the behavior of serving someone older than themselves in the normative dimension has turned into normed behavior patterns for the younger ones. Even if it feels uncomfortable, carrying the belongings of the elders, giving them tea, changing some simple furniture, being given the task of cleaning their dirty things, sometimes leaving a uniform, a room, a loved place, constitute the normative dimension of differential association, which normalizes the other's getting it without deserving it just because he is older.

'*… when an older brother asked me to bring me a coffee, I would bring it, but I never did when asked to bring coffee. Has anyone tried it this way? I had problems with these, but when I was told, "Can you bring me coffee,* *my friend, let's have a coffee and arrange it, can you bring me coffee, brother," I had no problems. No one could influence me, but they did, yes, for example, my friends started not seeing me because of such a thing, I have friends who realized and improved between us* .' (K4, Male)

B. Inappropriate Jokes

In Social Learning Theory, Akers explains the process of behavior that we learn from others with the concept of imitation. However, imitation is not simply the repetition of what is seen, experienced, felt. The concept we call imitation is one of the weakly expressed aspects of the theory. Behind the imitation lies a neurological reality. For this reason, it is necessary to deal with 'mirror neurons' in the neurological structure, and it seems to have been preferred in recent psycho -social field studies because it provides a scientific basis for explaining behaviors. The first period studies on mirror neurons were discovered by studying monkeys and the discovery that there are neurons that are activated when a movement occurs, when they see someone else doing it or when they do the same movement. The perception and understanding of movement is not the result of abstract processes based on visual representations, and the motor system actively participates in this process. The specific task of mirror neurons is to present and reproduce movements for motor purposes. The conclusion that can be drawn from this function is that the perception and production of movement are not two separate cognitive processes, on the contrary, they are tightly integrated. Together with the purpose of motor action, they are involved in different neural mechanisms, from the most primitive behaviors to higher cognitive functions such as the ability to imitate. (Demir&Gergerlioğlu, 2012)

In fact, the most striking area in which the victimization of violence, which does not appear in any interrogation or examination, is disclosed is the personality traits of the victims. Violence is the whole of the behavior of the strong in status, by causing the low, the homeless, the powerless to suffer in various ways and to make them feel distressed. Victims of violence experience a constant sense of insecurity and threat, and a sense of deprivation, which is a long-term state of helplessness. (Dixon,2010)

neural mechanisms of which they are not aware and apply them on their peers. Because, as stated above, behavior perception and production is a tightly integrated cognitive process. This exercise, which is based on the transfer of behavior between peers, is violence that overtakes the individual in neurological and psychological terms. This exercise is also now a cultural part of the area. Thus, it continues to exist with intergenerational transmission. Sometimes it's a novice joke, sometimes a welcome, sometimes a welcome, but it turns out that it usually happens all the time. Like a ritual of being accepted into a team, the 'joke' applied to the novice is the systematic violence experienced by the practitioners, and it is presented to the novice as a tradition of the branch. We think that we wouldn't be exaggerating if we define these cruel 'jokes', which sometimes amount to sexual harassment, as a ritual of devotion, assuming that it is a ritual of preparation for the psychology of being a victim.

' *For example, our pot jokes were famous, and our great athletes would often joke about newcomers or athletes* *who had a first-time match. It could be in very ugly things, it could be in things related to violence, it was not raised because it was under the name of a joke. Boys did it to boys, generally girls to girls, and boys could tie the person to be potted to a place and do something in certain places. Yes, they could lock it in a room. What do I know, they used to rub something on his face while he was sleeping at night. Something was happening in time. Bengay was on time.*' (K5, Female)

' *When I went to the youth national team, they greeted me, it was very cold at that time, the weather was very cold, they put me in front of the door, they kept me waiting outside and said welcome to the national team. Two sisters opened the door, otherwise I could not enter. You think these are normal and it's not nice. For example, he comes to you, says something, for example, his jersey is not for him, it is too big, he takes your jersey from you. For example, the little ones carry bags and get up and call them tea. Instead of teaching something as if being a big sister is something like this, instead of teaching something, you are my slave, you are my slave. Go give your sister a massage, go get tea, go carry your bag outside. Frankly, you feel obligated to favor them. Sometimes they wouldn't even play. For example, the older sister goes to the goal, she was the senior goalkeeper sister, for example, if you play better than her, the other team sisters would get angry, they will say, "Don't play, what are you trying to do?"* (K6, Female)

C. Getting in Trouble

' *I was very young at that time, but I had to go to the senior camp. An incident happened. It was because of alcohol and cigarettes, but it had nothing to do with me. I was caught carrying the bag. I can't say they were my roommate, my sister knew that they were all 28 years old, I was 13-14 years old, the coaches there know that everyone's defense and the defense of the woman who carried the bag to me is that it has nothing to do with me, the camp is over, the other camp went to the match, everyone returned to their city, but I was suspended for 6 months and the owner of the real belongings the penalty was deleted, the defenses of all of them changed in an instant.* ' (K5, Female)

' *I have been strong since my childhood, I was strong physically and mentally, but I did not beat the weaker than myself, I saw it as helplessness. I always thought of beating someone older than myself, I would beat the one who is younger than me anyway. I've only beaten a woman once until now. He deserved it too.* (K10, Female)

Athletes participating in the interviews and the answers given to the open-ended questions about how they reacted to violence and how they felt in the questionnaire were analyzed and the following results were obtained: when the athletes were exposed to violence; They stated that they gave reactions such as getting away, reacting, normalizing, moving away from their goal, leaving the sport or the coach, complaining, demanding to leave the team, losing their anger control, getting angry, crying, trying to tolerate , swearing, leaving the club.

Athletes exposed to violence; They reported that they felt sad, afraid, hopeless, high anxiety, angry, orphaned, lonely, powerless, afraid that their sports life would be damaged.

Athletes experience loss of motivation, inefficiency, loss of confidence in others and the environment, loss of self-confidence, loss of psychological performance, expectation of attack after being exposed to any violent behavior, experiencing relationship problems, becoming aggressive, disturbed sleep patterns, feeling blocked, trembling, crying spells. They stated that they had a negative impact on their performance.

The athletes who were exposed to violence were asked what the source of the violence might be; Not meeting the demands of the coach, not understanding what is demanded, the coach's desire to discipline by establishing authority, wrong leadership behaviors, high expectations towards the athlete, provoking the perpetrator of violence, having an aggressive character, lack of empathy, using violence for higher performance and success. convincing the athlete that it is necessary, inability to digest defeat, the perpetrator's corrupt psychology, what he brought to the field from the past, reacting very harshly to mistakes, oppression of younger age groups, lack of respect of the athlete, not respecting women, good athletes influencing coaches and managers, and oppressing others, coaches violence They stated that it is caused by having a habit, seeing violence as a means of discipline and pressure, loss of rights, psychological problems and high ego.

Discussion

This research was carried out in order to discover the types of violence experienced by the athletes in the field of sports in their interpersonal relationships. For this purpose, a questionnaire study and individual interviews were conducted with the female and male athletes participating in the study.

Undoubtedly, the first thing that comes to mind when violence is mentioned is physical violence, because it leaves tangible traces. Individuals exposed to physical violence carry visible traces of violence. Bruises, scratches, swellings, beat marks, advanced bruises and fractures on the body make the violence exposed. On the other hand, the narratives about sports tell us that sports have aspects that offer opportunities for love, friendship and entertainment. From this point of view, sports condemn unsportsmanlike behavior, intentional fouls, all acts that violate the rules of the game and injure opponents. Assertiveness and aggression are not morally problematic in contact sports. The point where violence differs in this context is that it is aimed at wounding rather than a struggle for superiority. Dixon's (2010) study mentions a distinction between violence and athletic aggression. However, when evaluated within the framework of Social Learning Theory, the research data reveals that the violence tendencies of the athletes who have experienced physical violence are also high. This finding shows us that the individual will behave in a way that will apply the violence he learned in the next stage, whether it is experienced on or off the field. In other words, individuals do not hesitate to apply violence after learning about it.

Morrison et al. (2017) delinquency and exposure to domestic violence; reported that boys who witnessed parental or community violence and/or were victims of child maltreatment, sexual or physical abuse are particularly at risk for intimate partner violence. Our research findings show that men are as much at risk of being victims of violence as women athletes. Although the studies carried out reveal the victimization of women in violence, we understand that male athletes have serious experiences of violence in the field. Unfortunately, the reflection of these experiences of violence in social life continues with the victims assuming the identity of the perpetrator in the relations experienced in another field.

Some of our findings provide a framework that can assist interpretation in terms of evaluating power dynamics. It has been observed that the violence tendency of the athletes who are exposed to any type of violence and especially physical violence is high. Similar to our findings, in the study conducted by Cheever and Eisenberg (2022), it was reported that athletes with a high level of violence tendency have high crime rates. The data of the same research also reports that the risk of sexual violence is high for athletes who are exposed to aggression.

Radenko et al. (2022) with athletes aged 11-18 in Serbia reveals that boys are more involved in destructive behaviors than girls. Since it is an area that cannot be controlled by parents and coaches, the spatial dimension of the locker rooms is seen as a place where violence can be easily practiced. It is one of the findings of the research that girls have a higher perception of psychological and physical violence than boys based on gender. In addition, those living in small settlements reported that they were exposed to sexual violence compared to those living in urban areas. If the education level of the parents is at the primary and secondary education level, they reported the manifestation of physical and sexual violence with a higher rate.

Similarly, in our study, the relationships between the frequency of exposure to violence and their tendency to violence, parents' educational status and family economic status were analyzed, and it was understood that they were independent from each other. It is understood that athletes exposed to all types of violence have an increased tendency to violence. When evaluated in the theoretical framework, the relationship between being exposed to violence and tending to violence, as revealed by all the concepts of social learning theory, shows that athletes learn violence because of exposure. As a result of the findings, it is possible to easily express that 'violence' is learned and then applied at the point of developing power relations. Since strong dominant identities and roles are nourished by violence, individuals who want to imitate them try to build their own strong identities by showing a tendency to violence. This situation feeds the cycle of violence and transforms into intergenerational transmission and constitutes the infrastructure of the interpersonal relationship culture of the field. The unequal power relations in the field turn into a field culture that starts with simple violence contacts and becomes aggravated. At this point, examining the relationships of athletes in their social lives will shed light on the effects of violence in sports on our lives.

Research findings show that, like the findings of Radenko et al., athletes in Turkey experience violence in the locker room. However, it is also understood that the athletes participating in our research have experienced violence in the field, locker room, massage room, competitions, camps, hotel room, coach-manager room-vehicle, friend environment, physical education class at school, and office environment.

Kristy and Grant (2022) in their study of interpersonal violence against women in sports with adult sportswomen in 2022; They state that in sports dominated by men, athletic men see themselves as 'one of the men' due to their position and are less likely to talk to their peers about violence, and this is perceived as highly masculine. In our study, both male and female athletes stated their experiences of violence in their questionnaire responses. In the loglinear analysis studies performed by considering the gender variable, it was seen that no relationship was established between the gender variable and the exposure frequency. However, in the qualitative findings of the studies, it was seen that female athletes were more open about sharing their experiences of violence. Although some male athletes were offered interviews in the same branches, some of them refrained from bringing their experiences of violence to the court, while others stated that they had no experience. Although the interview was conducted, the interview data of a male athlete were found insufficient and were not included in the analysis. The findings show that male athletes have similar concerns and perceptions of masculinity about sharing their experiences of violence, as Fosdike et al. (2022) stated in their study, even if they have experienced violence.

A study by Alexander et al. (2011) in England in 2011 found that more than 74% of adult athletes (between 18 and 22 years old) suffer psychological damage before the age of 16; 24% suffered physical harm; Another study conducted by Mc.Pearson et al. in 2016 in Australia reported that 23.4% of 107 adult athletes were physically abused by their coaches before the age of 18 in sports. In the study conducted by Parent et al. in 2016, it is reported that 0.5% of the athletes between the ages of 14-17 have been sexually assaulted by a trainer. In addition, these studies show that athletes tend to normalize some inappropriate situations. It is reported that these behaviors are seen as a part of sports, especially at the level of competition. However, it is seen that their perceptions that normalize these behaviors have changed after they quit sports.

It is thought that one of the most difficult types of violence to measure or detect is psychological violence, since there are no obvious traces of it. The absence of visible traces of violence suffered by victims makes it difficult to address this issue. However, it is also stated in the literature that sleep disorders, eating disorders, crying spells, decrease in social competence, decrease in performance, alienation, alienation are the most obvious outward reflections of psychological violence. Therefore, it is difficult to measure and differentiate psychological violence.

Fortier et al. in 2020, working with a sample of young athletes and developing a questionnaire to understand the types of violence that athletes are exposed to in interpersonal relationships, it is seen that three types of violence are emphasized. The inclusion of some items suitable for the definition of physical violence within the scope of psychological violence reveals different results with our study. In this context, it is thought that the point where our study differs from similar studies is that it offers a broader perspective on the types of psychological violence that athletes report they are exposed to. Behaviors that prevent the development of manipulative social and emotional skills, which are not allowed to develop relationships with friends or others, are evaluated as psychological violence in our study. Undoubtedly, differences can be seen in social studies within the framework of social cultures. It is thought that the scale development study conducted with this aspect is not satisfactory in measuring the types of psychological violence.

The exposure of elite athletes to psychological, sexual, and physical violence in Germany, Belgium, and the Netherlands in 2021 was investigated by Ohlert et al., 2021. 1665 elite athletes (n=53 Dutch, n=1.132 German and Belgian athletes) participated in this research. Psychological violence in two-thirds of elite athletes; Among the findings, one third of them were exposed to sexual violence and 13% of them were exposed to all three types of violence. The research is important because it provides the opportunity for comparison between countries. The most important finding of the study is that it reveals the high prevalence of psychological violence. Our study shows that the athletes participating in the research are exposed to physical violence at a high rate, and that they are exposed to psychological violence in the second place. In addition, female athletes who were exposed to sexual violence reported that they had experiences of sexual harassment in male athletes, although it showed a high rate in terms of female athletes, like the study presented as an example.

In the study conducted by Fournier, Parent, Paradis in 2021, the relationships between the athletes' norms of self-sacrifice and refusal to accept their limits and the psychological violence of coaches were examined. Research findings show that the more girls participating in individual sports comply with ' sacrifice ‘, the more they are exposed to psychological violence by the coach. It has been reported that the more boys participating in team sports comply with this norm, the less they are exposed to psychological violence. In addition, the more athletes participating in individual sports, regardless of gender, comply with the norm of refusing to push their limits, the less they are exposed to psychological violence by their coaches. It is understood that the athletes expect information from their coaches to push their limits. In other words, the athlete calculates the cost and output to push his limits. What will be the output of more power and effort, that is, the contribution to his life, and the output in sports life? That's why they want to learn the explanation for everything sacrificed in power and life. The information that is not given and the plans that are not explained cause the athletes to stay away from the environment, reluctance, burnout over time and feel themselves in a cyclical process.

Fasting et al. 2002; Owton and Sparkes' 2017; Pinheiro et al. 2014; Smiths et al. 2016; Stirling and Kerr 2008, 2009; In their studies conducted in 2013, they mostly revealed the experiences of sexual abuse, emotional abuse, and physical abuse from a trainer when the athletes were young. These studies show that athletes tend to normalize some of the inappropriate behaviors they experienced when they were young, especially in terms of sexual and emotional violence.

An important issue related to psychological violence that is difficult to measure is the violence experiences in the family axis. The perception that families absolutely think about their children and adopt a protective attitude prevents the fact that the critical and preventive attitude of families, especially towards doing sports, is a form of psychological violence. While our study was being planned, the sections that predicted the educational field and the types of violence experienced in the family were included in the survey, but since it was thought that it would be boring and confusing for the participants and complicate the analysis, it was deemed appropriate to exclude school and family factors from the considered dimensional factors of the study.

Özgentürk, Kargın, and Baltacı (2012) state that in their studies, domestic violence experienced in childhood is imitated during adolescence and adulthood, and that these behaviors occur more often under stress or during conflict. There are studies supporting that violence experienced or witnessed in childhood is associated with behaviors that include domestic violence in later years. Özgentürk et al. reported in their study by White and Widom (2003) that a study conducted with a group of 939 children consisting of children who were abused before the age of 12 and children who had never been, was tested by interviewing again after 20 years. It has been shown that 41% of children who have never been abused or neglected commit violence against their spouses in later ages. It is seen that the cited studies reveal similar findings with our study in that individuals who are exposed to violence have a higher tendency to violence.

Sports offer athletes a social togetherness environment with close relationships like family. In this respect, it is thought that it is normal for the violence events experienced by the athletes in the environment to be reinforced and reflected in the field and other areas in their lives in the future. If we want to prevent violence against animals, children, women, and the elderly, which are common in social life today, we must prevent children from being exposed to violence and learning about violence in all social interaction areas.

In this paper, the frequency of exposure to domestic violence was identified as a deficiency. This deficiency indicates that future studies can contribute to the field by reflecting the violence experiences of athletes who are exposed to domestic violence. Among the female athletes who participated in the qualitative part of the study, 4 female and 1 male athlete openly declared that they were exposed to sexual harassment behaviors. Two male athletes, on the other hand, stated that they witnessed the 'forced hugging, kissing' behavior towards a female athlete. The narratives of female athletes show that the process of sexual harassment starts with simple sexual harassment behaviors and low violence, and then includes severe sexual harassment behaviors such as contact and coercion that reach the relationship proposal. It is understood that all team athletes are exposed to the sexual harassment process that the male athlete has experienced, and it has been seen that it is related to being exposed to severe sexual harassment behavior by touching their private parts, trying to show it as a joke. In addition, it is understood that behaviors such as acceptance to the team, welcome, novice jokes, rituals, touching private parts and certain parts of the body are sexual harassment behaviors among peers.

All the athletes who have experienced sexual harassment stated that they felt powerless and unattended in the face of these behaviors, that they were afraid of being heard, and that they had worrying thoughts such as embarrassment to their families and close circles, being disgraced, being badly remembered. Female athletes exposed to sexual harassment behaviors; stated that they were considering leaving the team, one of them stated that he left his duty in the national team and the national team camp.

It is understood that being exposed to sexual harassment is generally experienced with trainers. However, one of the female athletes stated that she had bad experiences that affected her social life, such as being socially isolated and forced into a relationship, during sexual harassment experiences involving herself and her teammates. The sexual harassment experienced by this female athlete is important in characterizing the perpetrators' perspective in terms of understanding the roles and position assigned to women in the gender identifications in the geographical region. This female athlete stated that she was exposed to sexual harassment behaviors against herself and her teammates in Trabzon. He explained that in the 90s, because of the disintegration of the Union of Soviet Socialist Republics, he was exposed to unacceptable behavior in the sports club, such as forced labor against foreign women who came to Turkey for commercial and economic purposes, and not being allowed to meet with anyone other than those found suitable. Moreover, this athlete stated that if female athletes are going to go to a social environment, they can go with one of the male managers on the club's board of directors, they cannot talk to them that they will not have any male friends other than them, and they cannot go to social places freely with their female teammates. The statements of the athlete explain how women are positioned by men in defining the gender identities of the geographical region. It is understood that the experiences of women who are foreign, orphaned, and have no roots or ties with the region, who come from another place to the geography they live in, are based on the social teachings of the sexist identity definitions attributed to femininity by men, rather than being alien and lonely. The fact that the managers are silent about the violent behavior of the male coach creates an environment that makes the male coach feel safe and female athletes feel powerless and helpless. Seeing women as a commodity, as a sexual object to be used for sexual purposes, is essentially a misogyny aimed at humiliating gender. Fitzgerald et al. (2010) utilizing the classification of sexual harassment researchers Pryor and Whelan (1997); They define it as a subtype of sexual harassment based on hostility. This is explained by researchers as a strong response and gender harassment given to women by men as an intrusive or outside group. (McPherson, et.al., 2016)

It is reported that sexual harassment experiences were experienced in the camp, during the journey, in the vehicle, in the hotel accommodation, in the gym after the training, in the dressing-massage room.

Athletes state that they are forced to be kissed or hugged against their will, that their private parts are touched, that they are offered a relationship, that they are told that if they do not comply with these offers or if they complain or tell someone about what has happened, they cannot continue their sports life, and that they will gain various benefits if they comply with the said offer. .

Athletes reported that they were generally afraid of sexual harassment, did not know what to do, felt helpless, upset, wanted to quit sports, leave the environment, could not complain because they did not know what would happen in the future if they told their families, that their sports life would end, they would be embarrased, and they were worried that others would hear it.

In the study conducted by Gündüz, Sunay and Koz in 2008, in which 356 female athletes participated in Turkey, 56.2% of female athletes declared that they had been sexually harassed. In the same study, the most exposed sexual harassment behaviors; persistent dating offers, unsolicited jokes, questions, and sexually explicit remarks, as well as spam and phone calls. Research findings show that 40% of the athletes are harassed by the audience, 33% by their teammates and 24.8% by the coach. In addition, 4% of the athletes were exposed to sexual harassment continuously, 43% several times, and 12% once; They stated that sexual harassment behaviors usually occur after matches and training sessions, before and during the competition, and they react by ignoring the harassment and warning them not to do so.

It is seen that there are some common points in sexual harassment experiences. Athletes stated that they were exposed to sexual harassment especially at a young age, that they were away from their homes when they were sexually harassed, that their parents were separated, and that the economic situation of their families was bad when they were sexually harassed. The most painful detail in all these common points is that they feel responsible for mitigating the bad economic situation their families are in and supporting the family, and if there is economic support such as the salary they receive from the club, they must remain silent in order not to lose it. In the face of the threat of the end of sports life and the loss of opportunities, the athletes tried to get out of the situation without losing their current opportunities by feeling complex emotions. It is understood that the age and growth of the athletes prevent the perpetrators from their actions. However, it is understood that this is only a matter of changing the victim's name, that it does not prevent the perpetrator from committing the crime of sexual harassment, that the perpetrators continue their actions, as similar events are shared with peer groups in which other athletes live.

Although it is not possible to make a full character analysis of the perpetrators, the events told by the athletes, their experiences, the perpetrators; They express that they have authoritarian personality traits that experience outbursts of anger, are extremely angry, do not hesitate to exhibit aggressive attitudes, cannot digest failure and defeat, attach importance to materiality, prefer to exert power, and behave manipulationly by giving a feeling of emotional closeness.

In sexual harassment incidents in the field of sports, the victimization of girls and women is very common (Fasting&Brackendridge, 2009; Holmes&Slap, 1998; Romano&DeLuca, 2001; Alaggia&Millington, 2008; Spiegel, 2003; Parent&Bannon, 2012). Sexual harassment and abuse of boys is rarely reported and hardly noticed, rarely discussed, and not studied much. It is thought that sexual abuse against men has not been studied sufficiently due to the discomfort of the society on this issue, the traditional roles shaken by the victimization of men, and homophobia. In addition, myths that sexual abuse of boys is not common, and its consequences are not serious continue to circulate in the field.

Likewise, the IOC 2017 athlete protection directive focuses on the prevention of violence against women and girls in sports. It is stated that the forms of violence experienced in the field of sports are different for men, women, girls and boys. In the report, which was created by examining the results of empirical studies in the field, it was stated that girls are at greater risk of sexual violence, harassment, and exploitation; Whether violence takes place inside or outside of sports, the negative effects of individual violence on female athletes are declared in the same report.

It is seen in the narratives of the athletes who are exposed to peer bullying that what the athletes learn in the field is not only limited to violent behaviors, but they also learn how these behaviors are applied to whom.

Peer bullying appears as 'aggression' in the field. Generally, it is seen that the behavior of winning, being successful, getting in the eye of the teacher or supporting groups, and dominating the opponent, which seems to be for sportive purposes, is reflected on the field in an illegal way. Biting the opponent during the match, slapping, punching, elbowing in a way that has nothing to do with the branch or the game, keeping the opponent stationary in the position where the game is stopped despite the referee's decision, swearing, behaving in a way that will affect the opponent or teammate before the competition, during the training sessions or during the warm-up, talking to the field. reflecting peer bullying.

In non-competitive team environments, even if the age differences between them are small, they are big or small; it is understood that the concepts of senior-junior (former athlete-new athlete) affect individual relationships. Older, physically stronger, senior athletes; it is seen that they create a force field for those who are smaller, weak and inexperienced. Getting their own private work done, confiscating a teammate's jersey and personal belongings, making novice jokes, setting rules that marginalize them in common areas, naming them, being warned not to be better than great athletes in training, being scolded, pushed, hit with an object, kicked, slapped, It has been reported that bullying is done against peers with behaviors such as throwing punches, creating an environment that will enable them to participate in a prohibited behavior.

The fact that the actors who are adults in the field remain silent about bullying, as if this is the necessity of the field and as if it is normal, fosters and magnifies the violence between peers. In fact, violence from adults sometimes occurs by interfering with peer relations. Sanctions that prevent supportive relationships that can develop among peers, exclude social skills and emotional adaptation create a suitable environment for peer bullying. The unequal power relationships developed with coaches, managers and other athletes form another strong basis for peer bullying.

If a general evaluation is to be made; The consensus statement on non-accidental forms of violence presented by Mountjoy and others states that harassment and abuse in a cultural context is discrimination based on power differences among a range of social and personal factors. It is seen that similar findings were obtained in our study. In addition, psychological, physical, sexual abuse and neglect that are not accidental in the cultural context are based on power differences based on gender, sexual orientation, race, ethnicity, ability, belief, age, athletic capacity, athletic longevity, socio-economic financial position, and combinations of these. is reported. The effects of these types of violence on athletes; It has been reported that it has effects such as diseases, injuries, loss of performance, eating disorders, self-harm, low self-esteem, emotionally volatile moods, dropping out of school, possibility of cheating, anxiety, depression, suicide, relationship problems, social exclusion, and marginality. The same study states that harassment and abuse in sports have effects such as loss of reputation, loss of players and fans, decreased number of medals, decreased public trust, asset depreciation, loss of sponsors. (Mountjoy, et.al.,2016)

When we consider all our findings, both quantitative and qualitative, we can talk about the following results:

Interviews with athletes, on the other hand, show that both male and female athletes have experienced violence and, in some cases, (arguments with fellow athletes in different environments other than sports, etc.) they use violence against others.

The relationship between the age of the athletes and the types of violence they have been exposed to has been examined, and the quantitative data of the study show that there is no significant relationship between age and the type of violence they are exposed to. On the other hand, interviews with athletes clearly show that they are exposed to more violence at younger ages. In fact, in the light of qualitative data, it would not be wrong to say that young athletes are exposed to more sexual harassment and physical violence. In older age groups, even if the athletes are very successful in their branches and continue their professional sports life, the findings show that the violence experiences of the athletes continue.

A relationship was determined between exposure to physical violence, tendency to violence and branch variables in the context of sports branch, type of violence and gender. In addition to this triple interaction, the bilateral interaction between the tendency to violence and physical violence was also found to be significant. However, no relationship was found between the psychological, economic, sexual violence and peer bullying and the branch. Apart from physical violence, other types of violence are independent of the branch. It was understood that the gender variable was independent of exposure to types of violence and branch.

the education of the coach, the sports history of the coach and the types of violence that the athletes are exposed to were investigated and it was understood that there is a relationship between the education of the coach and the sports history. It is seen that the physical, psychological, economic, sexual violence and peer bullying are independent of the trainer's education and sports background.

Exposure to physical/psychological violence/peer bullying, perpetrator's gender and perpetrator's status/duty are dependent. In addition, all bilateral interactions are meaningful. Although Logarithmic Linear analysis cannot provide data saturation (the condition that the percentage of eyes with an expected frequency less than 5 is below 20% cannot be met due to the scarcity of women perpetrators)

It is understood that there is a significant relationship between the duty of the perpetrator, how often it is used, and the violence that the athletes are exposed to. Physical/Psychological/Economic/Exposure to sexual violence/Peer bullying, the status/duty of the perpetrator and the frequency of violence are significantly interactive with each other. In addition, all bilateral interactions were found to be significant.

It has been observed that there is a significant relationship between the frequency of exposure to physical violence and their tendency to violence. Research findings show that athletes who are exposed to physical violence tend to violence. This suggests the possibility that athletes with a tendency to violence have the potential to assume the role of perpetrator in future violent events.

Exposure to physical/psychological violence/Peer bullying, gender of the perpetrator and the status/duty of the perpetrator were found to be related.

As a result, the findings of this research; that athletes are exposed to various types of violence, starting from the period when they become a youth athlete, that the types of violence learned in the first sports period are applied against others by imitation in adolescence, youth and adulthood, that violence maintains its existence in the field as a part of the field through intergenerational transmission, violence experienced between individuals. It shows that it continues because protective and preventive policies are not produced against the incidents.

On the other hand, the application and increase of violence within the framework of Akers' concept of 'separating combinations' is reflected in the field as follows: in terms of priority, duration and intensity, if the violent behaviors that individuals encounter in the field of sports are more severe than the behaviors they experience in other fields, the individual is more affected by acquiring these behaviors. From the research findings, it is understood that violence is not limited to the area where it is learned, but also spreads to other social life areas and becomes a part of social life.

Research findings show that athletes experience physical, psychological, economic, political, sexual and peer violence types in their sports lives. While the types of physical, psychological, economic, political, and sexual violence are experienced both with peers and adults, violence between peers occurs as bullying and assault, includes all types of violence, and shows that the types of violence learned at an early age are practiced especially in adolescent and youth periods as they get older. Bullying among peers starts with learning how to be aggressive through imitation, observation and modeling, which Bandura defines simply as the basis of Social Learning Theory. Peer bullying, which causes unequal power relations that develop among peers, manifests itself with the desire to gain status in the field and gain appreciation. Fighting with peer bullying is important in preventing violence, as the types of violence in the field of sports play a role between generations.

Sport basically provides an environment about being strong, providing physical superiority and competing. As a result of these abilities, individuals gain benefits such as being popular in the field, being appreciated, being the desired person, gaining financial benefits, and having social capital. It is understood that the phenomenon of violence is experienced when the desire to be successful, to realize oneself, and to maintain the benefits provided for a long time in life, disrupts the ethical and moral norms in relationships. Generally, the weaker, powerless, or ownerless person becomes the target of the perpetrator. The perpetrator dominates not only the victimized person who is the target of violence, but also the witnesses with the same violence. This violence is camouflaged with the concepts of authority, discipline, and success, causing it to live in the field and creating role models that are repeated between generations.

It was understood that the athletes who were exposed to violence felt helpless in the face of violence, remained silent, could not do anything, and were afraid. Although there are athletes who can sometimes complain by using violence in the same way from time to time, the lack of policy documents that protect athletes in general, the absence of complaints and questioning structures in sports management institutions that will solve the problem of violence in the relationships experienced by athletes in interpersonal relations leave the athletes helpless. The violence that continues to exist in the area lives by feeding off this deprivation.

It is possible that the reaction behaviors of the athletes can be understood as rebellion, rudeness, and disobedience. Because structural equality in the field of sports makes possible the relations between equal forces, while keeping the position of the athletes in a subordinate position against the actors. For this reason, the strengthening of these positions of the athletes is possible with the rules and contracts that protect their rights.

Athletes who were exposed to violence mostly reported that they experienced emotional states such as sadness, fear, embarrassment, loneliness, lack of ownership, powerlessness, helplessness, inability to do anything, anxiety, and anxiety. They were worried that their sports life would be adversely affected and terminated beyond their control, and that if their families were informed about the event, they might experience some problems as well. Athletes wanted to leave the environment after these events, and some stated that they were considering quitting sports. Athletes who experienced sexual harassment reported that they could not develop healthy relationships after this incident, they experienced anxiety, sleep disorders, crying spells, and some of them received psychological support.

The resources and research we have presented show that athletes are at risk of experiencing sexual violence. Moreover, the perpetrators of this violence in the field of sports are usually coaches, other athletes, spectators, etc. It is seen that there are people in the field of sports. The reports of the athletes show that the sexual violence experienced can continue its effects in adulthood even if the individual's sports life ends. Poor mental health, poor quality of life, and problematic relationship experiences are among the reports of adult former athletes. Studies from the past to the present show that sexual harassment and violence continue to exist in the field. Growing young athletes are at similar risks. For this reason, research on sexual harassment in the field of sports and dealing with the phenomenon of violence in a multifaceted way should be supported.

Conclusion

The results obtained from this research, which was conducted to examine the types of violence experienced by athletes in their interpersonal relationships in their sports lives, are given below.

It has been understood that the violence tendency of the athletes who are exposed to violence is high. It is understood that the athletes who have seen and experienced violence in the field from young age groups accept this situation as the norm of the field. This normalization prevents complaints about violence and shows that the learned violence is reflected on other individuals.

It is understood that athletes are generally exposed to physical, psychological, and sexual violence by their trainers, they experience economic and managerial violence types with management staff, and they experience sexual harassment with people older than them.

It has been understood that the athletes exposed to violence reflect their violent tendencies to their peers. It is understood that peer bullying is done to have status and authority in the field with the aim of organizing power relations among peers, power trials, hierarchical positioning.

It is seen that athletes are generally exposed to violence in the sports field during training, in camps, during competitions and in the locker room. It is understood that the athletes who are exposed to violence want to get away from the field and develop strategies such as quitting sports, changing clubs, changing branches.

It has been understood that the athletes who are exposed to violence remain silent because they are afraid of losing their sports life, however, they already believe that there is no complaint procedure for these violent behaviors, and that even if a complaint is made, nothing will be done. It is seen that the athletes learn the violent behaviors they do not have by being exposed to them.

It is understood that trainers use heavy training programs as punishment. It has been understood that poor training, camp, competition periods, and deliberate heavy work cause injuries that require long treatment processes in athletes.

Traces of physical violence make this type of violence more visible. However, athletes reported that they experienced too many psychological components such as sleep disorders, anxiety, anxiety, depression, weight problems, eating disorders, fear, and sadness, and that they continued their sports lives with these.

It has been understood that even if female athletes are exposed to the same type of violence as male athletes, their experiences cause emotions differently from the experiences of men. It is understood that sexual harassment and physical violence in particular leave traces that have lifelong emotional and social effects in the lives of female athletes.

Suggestions

Considering the limitations of this study, which investigates the violence experiences of athletes in interpersonal relationships, the following suggestions are presented:

Future studies will be able to present more findings about the reality of the field when done with a larger sample.

Testing the subject with similar studies by changing the measurement methods and analysis methods will make the interpersonal violence in the field of sports more visible.

Different theoretical frameworks can illuminate the field with a supportive and critical paradigm.

The relevance of the violence to which the athletes are exposed to the violence tendencies can be tested with different scales.

Only a qualitative study can reflect the subjective experiences of more athletes. However, careful selection of research questions, communication skills with individuals during the research, ethical principles of the studies, researcher stance and confidentiality are very important when planning a study on cases with high sensitivity such as violence. It should be among the aims of social phenomenon studies to be transformative and to increase the individual's knowledge of the phenomenon. For this reason, it is one of our suggestions that researchers who will work on the phenomenon of violence and its components in the future should consider these issues.

Sports managers can take measures to prevent interpersonal violence behaviors in sports and prepare violence prevention procedures and policy documents.

Considering that the measurement of success and professional continuity of trainers by earning is considered to act according to the theory of psychological hedonism, it would not be wrong to think that if losing their job is a painful result, they will take high measures to win. Making a choice between winning and losing can lead to the learning of violence tactics. For this reason, it is thought that guaranteeing the coaching profession with contracts and other policy documents and introducing compulsory violence prevention trainings in coaching training will be effective from the learning phase of violence.

It is thought that future studies aiming at describing the perpetrator profile will be supportive in preventing interpersonal violence.One of the most important limitations of the study is that the issue of self-neglect, neglect as a form of violence, and insufficient attention has not been adequately measured.

Investigating the effects of violence in the family and school on the lives of athletes will be a development for future studies.While dealing with the issue of violence, we think that a holistic approach to the field that every perpetrator has been a victim at some point in the past and a holistic perspective that includes not only the victim but also the perpetrator can help us solve the problem of violence. Of course, the safety of athletes is an important issue, but developing integrative policies and practices that prevent agency in order to develop the right way to combat violence will be more effective in preventing interpersonal violence in sports.

Theoretically, protecting and ensuring the safety of athletes is an issue that everyone will be a party to. However, despite this, the violence experienced by the athletes from a young age will continue to exist from generation to generation unless complaints and preventive measures are developed. For this reason, it is one of our suggestions that the training of trainers and managers should be reconsidered, the curriculum should be developed to include preventive training, and people who did not have sufficient education should not be allowed to do these professions.

In particular, the issue of sexual harassment should be handled differently from other types of violence due to the psychological scars it leaves. It is among our suggestions that training should be given to athletes and coaches on this subject, the athletes should be informed about sexual harassment behaviors, they should be informed about how to fight, where and how to complain about this situation.

When the phenomenon of violence in the field is considered within the framework of gender, it shows that there is no difference in victimization between men and women. However, the sexist role stereotypes assigned to men prevent the display of the violence they are exposed to. For this reason, it is thought that it would be beneficial if the phenomenon of violence in gender-based 'masculinity' studies is handled in a holistic and at the same time separate framework.

Conducting and supporting research studies for the prevention of harassment, abuse, and violence in sports by adhering to the reports and agreements made by the United Nations, European Union Commissions, IOC Commissions, accepting the proposals to ensure gender equality and carrying out these studies. It is our recommendation to reduce the practices that spread toxic and toxic masculinities in the field, to prepare training programs that will make the field a participatory and safe area for men, boys, women, and girls, and to offer these trainings at the level of all sports participants.

It is our recommendation to take and implement measures that protect and support athletes at the level of federations to take management measures that will allow athletes to openly report their grievances, and to prevent cultural structures that make the victims ashamed and hide while hiding the perpetrators.

Notes

This study was produced from the doctoral thesis. The language of the thesis is Turkish. It contains qualitative and quantitative data about the types of violence experienced between individuals in sports in Turkey.

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Appendix 1: Thesis Study Ethics Commission Permission.

Tarih: 15/06/2020
Sayı: 35853172-755.02.06-E.00001113495
0001113495

T.C.
HACETTEPE ÜNİVERSİTESİ
Rektörlük

Sayı : 35853172-755.02.06
Konu : Gülay ÖZEN (Etik Komisyon İzni)

SAĞLIK BİLİMLERİ ENSTİTÜSÜ MÜDÜRLÜĞÜNE

Enstitünüz Spor Bilimleri ve Teknolojisi Anabilim Dalı öğretim üyelerinden **Doç. Dr. Aslıhan ÖĞÜN BOYACIOĞLU** sorumluğunda Doktora öğrencisi **Gülay ÖZEN** tarafından yürüttülen **"Sporda Şiddet Kültürünün İncelenmesi"** başlıklı tez çalışması Üniversitemiz Senatosu Etik Komisyonunun **09 Haziran 2020** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi ve gereğini saygılarımla rica ederim.

e-imzalıdır
Prof. Dr. Rahime Meral NOHUTCU
Rektör Yardımcısı

Evrakın elektronik imzalı suretine https://belgedogrulama.hacettepe.edu.tr adresinden ba638bad-b5d0-41c5-a81a-99bddf98e380 kodu ile erişebilirsiniz.
Bu belge 5070 sayılı Elektronik İmza Kanunu'na uygun olarak Güvenli Elektronik İmza ile imzalanmıştır.

Hacettepe Üniversitesi Rektörlük 06100 Sıhhiye-Ankara
Telefon:0 (312) 305 3001-3002 Faks:0 (312) 311 9992 E-posta:yazimd@hacettepe.edu.tr İnternet Adresi: www.hacettepe.edu.tr

Sevda TOPAL

Appendix 2: Volunteer Participation Form. Form .

GÖNÜLLÜ KATILIM FORMU

Sayın katılımcı, Hacettepe Üniversitesi Spor Bilimleri Fakültesinde doktora programı öğrencisiyim. Sporcuların spor yaşamlarında karşılaştıkları şiddet türlerinin tespit edilmesi ve sporda sporcuların maruz kaldıkları şiddetin önlenmesi konusunda önerileri ortaya koymak amacıyla Hacettepe Üniversitesi Sosyoloji bölümü öğretim üyesi Doç.Dr.Aslıhan Öğün BOYACIOĞLU ile bir tez çalışması için araştırma gerçekleştiriyorum. Araştırmadan elde edilen bulgular, sporcuların maruz kaldıkları şiddetin önlenmesi konusunda alınacak önleyici tedbirler ve politikalar geliştirilmesinde kullanılacaktır. Bu araştırma için Hacettepe Üniversitesi Etik Komisyonundan gerekli izinler alınmıştır. Araştırma kapsamında sizinle yaklaşık 30-45 dk sürecek bir görüşme yapacağız. Bu görüşmede, sizin spor yaşamınız boyunca maruz kaldığınız sözlü, fiziksel, psikolojik, ekonomik şiddet deneyimlerinizi öğrenmeye yönelik sorular sorulacaktır. Görüşmede özel sorular (politik görüş, cinsel yönelim, din vb.) sorulmayacaktır. Cevaplamak istemeyeceğiniz, özel olduğunu düşündüğünüz sorular olursa cevap vermeyebilirsiniz. Araştırmaya katılım gönüllülük esasına dayanmaktadır. Araştırmadan istediğiniz zaman çekilebilirsiniz. Bu durum size hiçbir sorumluluk getirmeyecektir. Görüşmede sorulan sorulara vereceğiniz cevaplar, çalışmada yer alan iki araştırmacı dışında kimseyle paylaşılmayacaktır. Araştırma sonuçları eğitim ve bilimsel amaçlar için kullanılacaktır. Araştırmanın tüm süreçlerinde kişisel bilgileriniz ihtimamla korunacaktır. Bu Gönüllü Katılım Formuna adınızı ve soyadınızı yazmanıza gerek yoktur. Görüşme anında konuşulanların not alınması zor olduğu için izin verdiğiniz takdirde ses kayıt cihazı kullanacaktır. Görüşmeler çözümlendikten sonra görüşme metininizi okumanız ve onaylamanız için size verilecektir. Metin üzerinde ekleme, çıkartma ve düzeltme yapabilirsiniz. Bu gönüllü katılım formunu imzalamadan önce veya daha sonra aklınıza gelebilecek olan soruları istediğiniz zaman bize sorabilirsiniz. Telefon numaram ve adresim bu belgede yazıyor. Bu görüşme ya da araştırma bittikten sonra bana ulaşabilir ve araştırma ile ilgili soru sorabilirsiniz. Araştırmaya katılmayı tercih ediyorsanız, lütfen aşağıya imzanızı atınız. İmzaladıktan sonra size bu formun bir kopyasını vereceğim.

<u>**Katılımcının**</u>
Adı, soyadı:
İmzası:
Tarih:

<u>**Araştırmanın yürütücüsü**</u>
Adı Soyadı:
Adres:
Tel:
E-posta:

İmza:
Tarih:

Appendix 3: Originality Screen Output

SPORDA BİREYLER ARASI İLİŞKİLERDE ŞİDDET

ORİJİNALLİK RAPORU

%3	%3	%1	%2
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Appendix 5: Questionnaire Form.

SPOR ALANINDA SPORCULARIN MARUZ KALDIKLARI ŞİDDET ANKETİ

EVET HAYIR KARARSIZIM

KATILIMCI DEMOGRAFİK BİLGİ FORMU ve SPORDA ŞİDDET ANKETİ

Sayın Katılımcı,
Çalışmamızda bizlerle paylaştığınız bilgiler ve kimliğiniz kurumunuz kesinlikle gizli tutulacaktır. Elde edilen veriler Doktora tez çalışmasında kullanılacak olup anketler kimliğinizi belirlecek herhangi bir sayı ve işaret içermemektedir. Çalışmaya gönüllü katılımınız esastır. İstediğiniz zaman çalışmadan çekilebilirsiniz.

1. Yaşınız:............................

2. Cinsiyetiniz: 1.Kadın ( ) 2.Erkek ( )

3. Medeni Haliniz : 1.Hiç Evlenmemiş( ) 2.Nişanlı/Sözlü( ) 3.Evli( ) 4.Boşanmış( ) 5.Eşi Ölmüş ( )

4. Eğitim durumunuz: 1.İlkokul( ) 2.Ortaokul ( ) 3.Lise( ) 4.Üniversite( ) 5.Lisans Üstü( )

5. Yaşadığınız yer : 1.Büyükşehir ( ) 2.Şehir ( ) 3. İlçe ( ) 4.Köy ( )

6. Spor yaşamınızda en uzun süreli bulunduğunuz yerleşim birimini işaretleyiniz
1.Büyükşehir( ) 2.Şehir ( ) 3.İlçe ( ) 4.Köy( )

7. Annenizin Yaşı :..........................

8. Babanızın Yaşı: ....

9. Ailenizin ekonomik gelir durumunu belirtiniz 1.Asgari geçim seviyesinde( ) 2.İyi ( ) 3.Çok İyi( )

10. Ailenizden bağımsız kendinize ait düzenli geliriniz var mı? 1.Evet ( ) 2.Hayır( )

11. Anne ve Babanızın medeni durumunu işaretleyiniz. 1.Halen Birlikte ve Evliler ( ) 2.Halen Evliler ancak ayrı yaşıyorlar ( ) 3.Annem yaşamıyor ( ) 4.Babam yaşamıyor ( ) 5.Boşandılar( )

12.Üvey anne ya da baba ile yaşadınız mı? 1.Evet ( ) 2.Hayır ( )

13. Ebeveynleriniz haricinde başkalarıyla yaşadınız mı? 1.Evet ( ) 2.Hayır ( )

14. Siz dahil kaç kardeşsiniz?................

15.Annenizin mesleği nedir? ....

16.Babanızın mesleği nedir? ....

17. Annenizin eğitim durumunu işaretleyiniz
1.İlkokul( ) 2.Ortaokul ( ) 3.Lise( ) 4.Üniversite( ) 5.Lisans Üstü( )

18. Babanızın eğitim durumunu işaretleyiniz
1.İlkokul( ) 2.Ortaokul ( ) 3.Lise( ) 4.Üniversite( ) 5.Lisans Üstü( )

19. Annenizin spor geçmişi var mı? 1.Evet ( ) Branşını belirtiniz.................................. 2. Hayır ( )

20. Babanızın spor geçmişi var mı? 1.Evet ( ) Branşını belirtiniz.................................. 2. Hayır ( )

21. Lisanslı olarak yapmakta olduğunuz spor branşı: ....

22.Ne kadar süredir lisanslı olarak bu sporu yapıyorsunuz? ....

23. Kaç yaşında spora başladınız?..................

24. Spora nasıl başladığınızı kısaca anlatınız: ________________________________

____

____

25. Oynamakta olduğunuz takım hangi kategoride yer alıyor? 1.Üniversite takımı ( ) 2.Amatör lig takımı( ) 3.Profesyonel lig takımı( ) 4. Bireysel branş ( ) 5.Diğer ( ) Belirtiniz..........................

26. Antrenörünüzün cinsiyeti: 1.Kadın( ) 2.Erkek( )

27. Antrenörünüz eğitim durumu:
1.İlkokul( ) 2.Ortaokul ( ) 3.Lise( ) 4.Üniversite( ) 5.Lisans Üstü( )

28. Antrenörünüz antrenörlük eğitim durumu: 1.Spor bilimleri mezunu( ) 2.Kurstan alınmış antrenörlük ( )

29.Antrenörünüzün kademesi:....................................

30. Antrenörünüzün spor geçmişi: 1.Aynı branşta eski sporcu ( ) 2.Başka branşta eski sporcu( ) 3.Sporcu değil(4.Diğer: ....

Anket Tasarım: Gülay Özen, Aslıhan Öğün Boyacıoğlu (Anketi kullanmak için lütfen izin isteyiniz.)
Hacettepe Üniversitesi Lütfen Diğer Sayfaya Geçiniz.

SPOR ALANINDA SPORCULARIN MARUZ KALDIKLARI ŞİDDET ANKETİ EVET HAYIR KARARSIZI

31. Spora başladığınız ilk antrenör ile mi spor yaşamınızı devam ettiriyorsunuz? 1.Evet ( ) 2.Hayır ( )

32. Spor yaşamınızda kaç kez antrenör, branş ya da kulüp değişikliği yaşadınız? Nedenleriyle birlikte kısaca anlatınız ______________________________

____

____

____

____

33. Anne ve babanız ya da diğer aile büyükleriniz spora başlamanız esnasında nasıl bir tavır sergilediler? Lütfen anlatınız. ______________________________

____

____

34.Üvey anne ya da baba ile yaşıyorsanız onun spor geçmişi var mı? Spora başlamanız esnasında nasıl bir tavır sergiledi. Lütfen anlatınız. (Soru durumunuza uygun değilse lütfen boş bırakınız)

____

____

____

SORU 1. Aşağıda sıralanan davranışlardan hangilerinin şiddet davranışı olduğunu düşünüyorsunuz?	**EVET** ŞİDDETTİR	**HAYIR** ŞİDDET DEĞİLDİR	KARARSIZI M
1. Araç gerecinize zarar verilmesi			
2. Herhangi bir eşyanızın çalınması			
3. Tokat atılması			
4. İteklenmek			
5. Tekmelenmek			
6. Bir cisim fırlatılması			
7. Yumrukla veya bir nesneyle vurulması			
8. Silah veya bunun gibi bir nesneyle zarar verilmesi, saldırılması			
9. Tehdit edilmek			
10.Sağlık hizmetlerinden yararlanmasına engel olmak			
11.Hakaret edilmesi, aşağılayıcı söz söylenmesi			
12.Küçük düşürülmek			
13.Size karşı aşırı kıskançlık gösterilmesi			
14.Size kendinizi yetersiz hissettirecek söz veya davranışta bulunması			
15.Küfür edilmesi			
16.Kendinizi ifade etmenize engel olunması			
17.Hareket özgürlüğünüzün kısıtlanması			
18.Aile üyeleri ve arkadaşlarıyla görüşmenizin engellenmesi			
19.İstediğiniz gibi giyinme özgürlüğünüze engel olunması			
20.Sözleşmesiz spor yaşamının sürdürülmesi			
21.Gelirini kontrol altına almak, vaad edilen ücretin ödenmemesi			
22.Paranıza veya banka kartlarınıza el koyulması			
23.Bir anlaşmazlık durumunda bonservis bedelinin ödenmemesi ve transferin engellenmesi			
24.Borçlanmaya zorlamak			
25.Hiç para verilmemesi veya çok az miktarda para verilmesi			
26.Cinsel içerikli materyaller gösterilmesi			
27.Israrcı flört çıkma tekliflerine maruz kalmak			
28.Cinsel içerikli sözler söylenmesi			
29.Telefon, e-posta, sosyal medya gibi mecralar aracılığıyla rahatsız edilmek			
30.Cinsel ilişkiye zorlanmak			
31.Cinsel yönden aşağılamak			

Anket Tasarım: Gülay Özen, Aslıhan Öğün Boyacıoğlu (Anketi kullanmak için lütfen izin isteyiniz.)
Hacettepe Üniversitesi Lütfen Diğer Sayfaya Geçiniz.

SPOR ALANINDA SPORCULARIN MARUZ KALDIKLARI ŞİDDET ANKETİ

	EVET	HAYIR	KARARSIZIM
32.Özel yaşamı hakkında özel ve ısrarcı sorulara maruz kalmak			
33.Bakışlarla takip edilmek, ıslık vs. gibi istenmeyen davranışlara maruz kalmak			
34.Bedeninizin özel bölümüne rızanız olmadan dokunulması (cinsel içerikli şakalar yapılması)			
35.Bedeniniz görünüşünüz hakkında rahatsız edici yorumlar yapılması			
36.Soyunma odasında rahatsız edici kötü şakalar yapılması			
37.Rahatsız edici lakap, isim takılması			
38.Eşyanızın rızanız dışında elinizden alınması			
39.Acemi olduğunuz için takım arkadaşlarınız tarafından getir-götür işlerinde kullanılmak			
40.Yaşça büyüklerin özel işlerini yapmak			

SORU 2. Bu davranışlardan birine ya da bir kaçına spor yaşamınızda **maruz kaldıysanız hangisine ne sıklıkta maruz kaldınız** aşağıda işaretleyiniz. Bu davranışlardan birine **maruz KALMAMIŞ iseniz SORU 9'a geçerek ankete devam edebilirsiniz.**	**1 KEZ MARUZ KALDIM**	**BİR KAÇ KEZ MARUZ KALDIM**	**SÜREKLİ OLUYOR**
1. Araç gerecinize zarar verilmesi			
2. Herhangi bir eşyanızın çalınması			
3. Tokat atılması			
4. İteklenmek			
5. Tekmelenmek			
6. Bir cisim fırlatılması			
7. Yumrukla veya bir nesneyle vurulması			
8. Silah veya bunun gibi bir nesneyle zarar verilmesi, saldırılması			
9. Tehdit edilmek			
10.Sağlık hizmetlerinden yararlanmasına engel olmak			
11.Hakaret edilmesi, aşağılayıcı söz söylenmesi			
12.Küçük düşürülmek			
13.Size karşı aşırı kıskançlık gösterilmesi			
14.Size kendinizi yetersiz hissettirecek söz veya davranışta bulunması			
15.Küfür edilmesi			
16.Kendinizi ifade etmenize engel olunması			
17.Hareket özgürlüğünüzün kısıtlanması			
18.Aile üyeleri ve arkadaşlarıyla görüşmenizin engellenmesi			
19.İstediğiniz gibi giyinme özgürlüğünüze engel olunması			
20.Sözleşmesiz spor yaşamının sürdürülmesi			
21.Gelirini kontrol altına almak, vaad edilen ücretin ödenmemesi			
22.Paranıza veya banka kartlarınıza el koyulması			
23.Bir anlaşmazlık durumunda bonservis bedelinin ödenmemesi ve transferin engellenmesi			
24.Borçlanmaya zorlamak			
25.Hiç para verilmemesi veya çok az miktarda para verilmesi			
26.Cinsel içerikli materyaller gösterilmesi			
27.Israrcı flört çıkma tekliflerine maruz kalmak			
28.Cinsel içerikli sözler söylenmesi			
29.Telefon, e-posta, sosyal medya gibi mecralar aracılığıyla rahatsız edilmek			
30.Cinsel ilişkiye zorlanmak			
31.Cinsel yönden aşağılamak			
32.Özel yaşamı hakkında özel ve ısrarcı sorulara maruz kalmak			
33.Bakışlarla takip edilmek, ıslık vs. gibi istenmeyen davranışlara maruz kalmak			
34.Bedeninizin özel bölümüne rızanız olmadan dokunulması (cinsel içerikli şakalar yapılması)			
35.Bedeniniz görünüşünüz hakkında rahatsız edici yorumlar yapılması			
36.Soyunma odasında rahatsız edici kötü şakalar yapılması			
37.Rahatsız edici lakap, isim takılması			
38.Eşyanızın rızanız dışında elinizden alınması			
39.Acemi olduğunuz için takım arkadaşlarınız tarafından getir-götür işlerinde kullanılmak			
40.Yaşça büyük sporcuların özel işlerini yapmak			

SORU 3. Şiddeti uygulayan kişinin /kişilerin cinsiyetini belirtiniz?

Kadın ☐ Erkek ☐ Hem kadınlar hem erkekler tarafından uygulanan şiddete maruz kaldım ☐

Anket Tasarım: Gülay Özen, Aslıhan Öğün Boyacıoğlu (Anketi kullanmak için lütfen izin isteyiniz.)
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SPOR ALANINDA SPORCULARIN MARUZ KALDIKLARI ŞİDDET ANKETİ EVET HAYIR KARARSIZIM

SORU 4.Şiddet Davranışını Uygulayan Kişi/kişiler kimlerdi? Birden fazla şık işaretleyebilirsiniz. Yandaki kutucuklara X ile işaretleme yapabilirsiniz.
1. Antrenör ☐
2. Yönetici ☐
3. Herhangi bir sporcu ☐
4. İdari personel (kulüp, federasyon, il müdürlüğü personeli vb.) ☐
5. Masör ☐
6. Hakem ☐
7. Seyirci ☐
8. Spor alanında tanımadığınız bir kişi ☐
9. Spor alanında resmi iş dışında çalışan kişiler (kantin görevlisi, seyyar satıcı, tesis görevlisi vb.) ☐
10. Spor alanına herhangi bir daimi işe sahip olmayıp arada bir gelen bir kişi (sporcu yakınları, spor malzemesi satanlar-tanıtanlar, antrenman izleyenler vb..) ☐
11. Diğer ☐ (lütfen açıklayın)

SORU 5. Size şiddet uygulayan kişi ile ne kadar süre çalıştınız? ....

SORU 6. Şiddet Davranışına Nerede ve Ne Sıklıkla Maruz Kaldınız?	1 KEZ MARUZ KALDIM	BİR KAÇ KEZ MARUZ KALDIM	SÜREKLİ OLUYOR
1. Spor Sahasında – alanında			
2. Soyunma Odasında			
3. Masaj Odasında			
4. Deplasmanda, (yolculuk anı veya ulaşılan yerde)			
5. Yarışmalarda			
6. Kamplarda			
7. Otel Odasında			
8. Antrenörün / Yöneticinin Odasında			
9. Antrenörün / Yöneticinin özel aracında			
10. Sporcu arkadaşlarımla vakit geçirdiğimiz ortamlar (cafe- sinema vb.)			
11. Okulda beden eğitimi ve spor derslerinde			
12. İdari işlemlerin yapıldığı büro ortamı (kulüp, federasyon bürosu, spor il müdürlüğü vb.)			
13. Diğer (lütfen açıklayın)			

SORU 7. Spor yaşamınızda şiddete uğramış iseniz aşağıdaki davranışlardan hangisini tepki olarak gösterdiniz? Birden fazla şık işaretleyebilirsiniz. Yandaki kutucuklara X ile işaretleme yapabilirsiniz.
1. Yok saydım (sessiz ve tepkisiz kaldım) ☐
2. Yapmamasını söyledim ☐
3. Fiziksel olarak tepki gösterdim (kendimi korumaya çalıştım) ☐
4. Korkudan bağırdım ☐
5. Bende aynı biçimde şiddet uyguladım ☐
6. Çevredekilerden yardım istedim ☐
7. Kulübümü/ branşımı değiştirdim ☐
8. Önemsemedim ☐
9. Resmi şikayette bulundum ☐ (Nereye lütfen belirtiniz...)
10. Aileme, bir yakınıma söyledim ☐
11. Diğer ☐ (lütfen açıklayın)

Anket Tasarım: Gülay Özen, Aslıhan Öğün Boyacıoğlu (Anketi kullanmak için lütfen izin isteyiniz.)
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SPOR ALANINDA SPORCULARIN MARUZ KALDIKLARI ŞİDDET ANKETİ EVET HAYIR KARARSIZIM

SORU 8. Resmi şikayette bulunmadıysanız, aşağıdaki seçeneklerden nedenini belirtiniz. (Birden çok seçeneği işaretleyebilirsiniz.)
1. Spor hayatımla ilgili geleceğimi etkilemesinden korktum☐
2. Takımdan uzaklaştırılmaktan korktum☐
3. Herhangi bir şey yapılacağına inanmıyordum☐
4. Başkalarının duymasından korktum☐
5. Utandım☐
6. Önemsiz bulunacağını düşündüm☐
7. Uzatmak istemedim☐
8. Bu davranışın şiddet olduğundan emin olamadım☐
9. Nereye başvurabileceğimi bilmiyordum☐
10. Alıştım çok oluyor ☐
11. Diğer ☐ (lütfen açıklayın)

SORU 9. Spor yaşamınızda hoşlanmadığınız branşınızda hoşlanmadığınız ancak normal sayılan rahatsız edici uygulamalar, sözler, davranışlar var mı? Bunlar neler ve bu davranışlara ne gibi tepkiler veriyorsunuz lütfen yazınız. ____________________

SORU 10. Sizce sporda sporcuların maruz kaldıkları şiddetin nedeni nedir? Lütfen kısaca açıklayınız?

SORU 11. Spor yaşamında yaşanan şiddet sportif performansı nasıl etkilemektedir? Sizin böyle bir deneyiminiz oldu mu? Lütfen düşüncelerinizi ya da tecrübenizi yazınız.

Lütfen diğer sayfaya geçiniz.

Anket Tasarım: Gülay Özen, Aslıhan Öğün Boyacıoğlu (Anketi kullanmak için lütfen izin isteyiniz.)
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Appendix 6: Permission to Use the Violence Tendency Scale.

SPOR ALANINDA SPORCULARIN MARUZ KALDIKLARI ŞİDDET ANKETİ

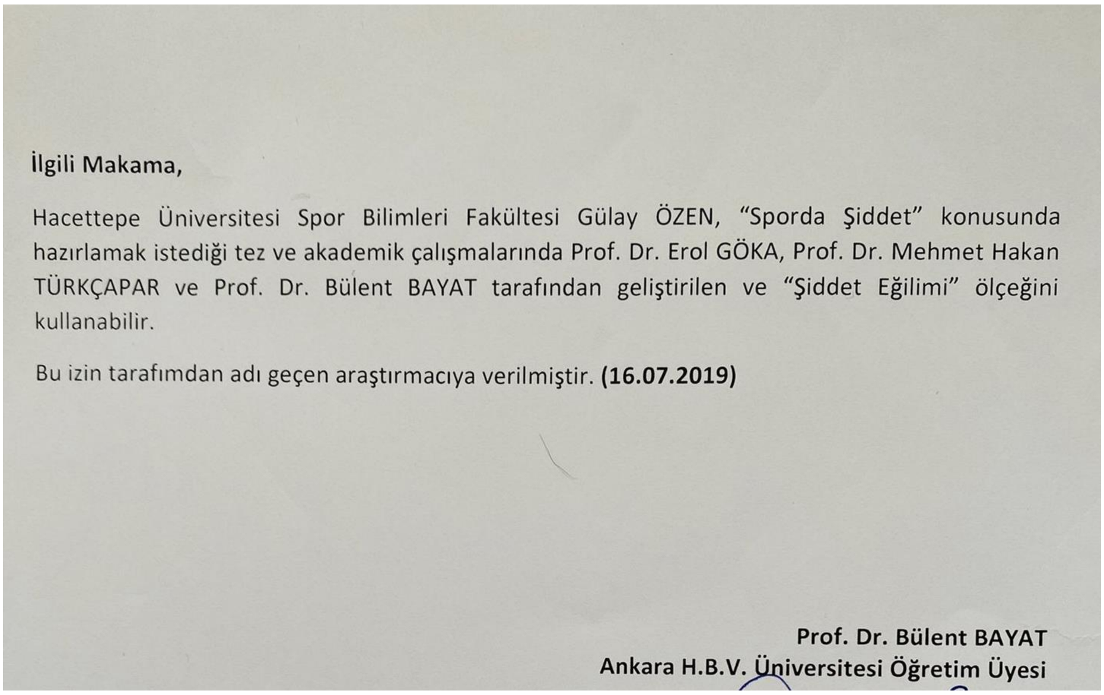
EVET HAYIR KARARSIZIM

	Aşağıda bir insanın yaşamındaki çeşitli tepkilerini ve düşüncelerini ifade eden cümleler yer almaktadır. Her tepkinin sizin düşüncenize uygun olup olmadığını belirtiniz.	Hiç Uygun Değil	Biraz uygun	Kararsızım	Uygun	Çok Uygun
1.	Hoşuma gitmeyen bir olayla karşılaştığımda hemen sinirlenirim					
2.	Doğru olduğuna inandığım konularda eleştirilmek beni sinirlendirir					
3.	Rahatsız olduğum durumlar karşısında sinirlendiğimde kendimi kontrol edemiyorum					
4.	Duygusal ya da fiziksel olarak rahatsız edildiğimde fiziksel olarak karşılık verme isteği duyarım					
5.	Sinirli olduğumda bir şeyleri kırma isteği duyarım					
6.	Arkadaşlarım annem babam vb. insanlarla çok sık tartışmaya girerim.					
7.	Hak etmiş olanlara layık oldukları ceza verilmelidir					
8.	Eğer beğenmediğim bir şey olursa en yakınımla bile tartışırım					
9.	Bence hayvanların av maksadı ile vurulmasında sakınca yoktur					
10.	Diğerlerinin saldırılarına karşı güçlü bir arkadaş grubu mutlaka olmalıdır					
11.	Eğer saldırıya uğramışsam aradan geçen zamana bakmaksızın aynı şekilde karşılık veririm					
12.	İnsan çevreden gelen tehditlere daima hazır olmalıdır					
13.	Bu dünyada en önemli şey diğerlerinden güçlü olmaktır					
14.	Sık sık kavga ederim					
15.	Bazı insanlara karşı zor kullanılabileceğine inanırım					
16.	Bazı hallerde insanlara karşı zor kullanılabileceğine inanırım					
17.	Kavgaları seyretmek beni rahatsız etmez					
18.	İnsanların benden korkması hoşuma gider					
19.	Bazen başkalarına zarar verme isteği duyarım					
20.	Sokakta başıboş dolaşan hayvanlar ortadan kaldırılmalıdır					

Çalışmamıza katıldığınız için teşekkür ederiz.

Anket Tasarım: Gülay Özen, Aslıhan Öğün Boyacıoğlu (Anketi kullanmak için lütfen izin isteyiniz.)
Hacettepe Üniversitesi Lütfen Diğer Sayfaya Geçiniz.

Appendix 7: Semi- Structured Individual Interview Questionnaire.


İlgili Makama,

Hacettepe Üniversitesi Spor Bilimleri Fakültesi Gülay ÖZEN, "Sporda Şiddet" konusunda hazırlamak istediği tez ve akademik çalışmalarında Prof. Dr. Erol GÖKA, Prof. Dr. Mehmet Hakan TÜRKÇAPAR ve Prof. Dr. Bülent BAYAT tarafından geliştirilen ve "Şiddet Eğilimi" ölçeğini kullanabilir.

Bu izin tarafımdan adı geçen araştırmacıya verilmiştir. **(16.07.2019)**

Prof. Dr. Bülent BAYAT
Ankara H.B.V. Üniversitesi Öğretim Üyesi

Elite Female Athletes' Experiences of Sexual Harassment

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Abstract: This study aims to present the sexual harassment experiences of elite female athletes in sport. Sexual harassment in sports refers to behaviors that leave psychological effects that cause athletes to end their sports lives early, are upsetting, develop against the consent of the people, turn into pressure and threat by the harasser, and progress from simple to severe. In this study, 3 high-level female athletes who played sports in the national team in their own branch participated. Qualitative research method was used in the study. This study is a case / case analysis study. Athletes were invited to the study. Voluntary participation form was used. A voice recorder was used with the consent of the participants. Interviews were transcribed. Descriptive analysis was applied to these transcripts. It was tried to understand by whom, where the sexual harassment behaviors took place and how they affected the athletes. It was understood that one of the athletes filed a complaint after the end of his sports life and one of them had to end his sports life. In this framework, the aim and the main question of the research is: to understand how athletes' experiences of sexual harassment affect their sport life and their lives after they quit sport.

Keywords: Sexual harassment in sports, Elite female athletes, Violence in sports.

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Introduction

Sexual harassment is considered sexualised verbal, non-verbal or physical behaviour. (Marks,et.al.,2011)

Brackenridge (1997) similarly defined sexual harassment as ‘unwanted attention on the basis of sex’ and sexual abuse as ‘groomed or coerced collaboration in sexual and/or genital acts where the victim has been entrapped by the perpetrator’ (Marks,et.al., 201; Brackenridge,1997)

Fasting (2005) defines sexual harassment behaviors, derogatory or derogatory jokes and sexual comments, whistles, persistent or condescending glances, sexual behaviors, unsolicited sexual suggestions about one's body, clothing or privacy, unsolicited phone calls or sexually explicit letters, posting unsolicited sexually explicit images or material, teasing or sexist jokes about women in general, unwanted repeated touching of a sexual nature: pinching, attempted kissing, unwanted body contact, coercion, rape or rape, persistent offers of dating, offer of intercourse It is explained as saying or making one feel that if the offer is accepted, he will gain some advantages in business, school, sports life, or if the offer is rejected, it will be said or felt that there will be disadvantageous consequences.

Fasting et al. studied (2000) showed that 51% of elite female athletes in Norway were sexually harassed, while a comparative study by Fasting et al. in the Czech Republic and Norway reported that 79% and 54% of female athletes indicates sexual harassment. Sexual harassment is closely related to power relations between individuals.

In a study conducted by Gündüz, Sunay and Koz in 2008, in which 356 female athletes participated, 56.2% of female athletes declared that they had been sexually harassed. In the same study, the most exposed sexual harassment behaviors; persistent dating offers, unsolicited jokes, questions, and sexually explicit remarks, as well as spam and phone calls. Research findings show that 40% of the athletes are harassed by the audience, 33% by their teammates and 24.8% by the coach. In addition, 4% of the athletes were exposed to sexual harassment continuously, 43% several times, and 12% once; They stated that sexual harassment behaviors usually occur after matches and training sessions, before and during the competition, and they react by ignoring the harassment and warning them not to do so.

The sexual harassment research conducted in Turkey by Özen et.al. (2018) investigated the sexual harassment experiences of male and female athletes. 194 female and 187 male athletes participated in the research. The research shows that the first behaviors that female athletes define as sexual harassment behavior are asking questions about sexual life (76%), sexist jokes about their bodies (66%), compliments or comments (71%). As for male athletes; They stated that they perceived showing sexually explicit materials (70%), repeated unsolicited dating offers (51%), and obscene looks (72%) as sexual harassment behaviors. While 27% of male athletes stated that they were exposed to sexual harassment in the locker rooms, 26.3% of female athletes stated that they were exposed to sexual harassment in sports fields. While 24.2% of female athletes stated that they reacted to sexual harassment by warning, 24% stated that they did not react, 27% of male athletes stated that they perceived sexual harassment as a joke and ignored it, and 11.2% showed a physical reaction. The findings of the study reveal that male and female athletes generally have sexual harassment experiences in Turkey.

Studies show that sexual harassment and abuse occur in all sports and in areas where power relations are experienced at all levels and negatively affect the physical and psychological health of athletes in a way that harms performance.

In order to prevent sexual harassment and abuse in sports and to protect athletes, international organizations, the United Nations Children's Fund International Olympic Committee (IOC, 2007) took action and in October 2006, the International Olympic Committee Medical Commission held a conference on 'Sexual Harassment and Abuse in Sports' (IOC, 2017; Fitzgerald, 2010; Fasting, 2015). *Leading sports psychologists, sociologists and psychiatrists attended the conference . Participants expressed their opinions to prevent sexual harassment and abuse in sport and to produce guidelines for early intervention. In the same study, the scientific evidence* *presented on the frequency, risk and consequences from research on sexual harassment and abuse in sport is as follows: 'Sexual harassment and abuse includes human rights violations. Sexual harassment and abuse occurs within the organizational culture that facilitates such opportunities. It can also consist of systematic and repeated, but not necessarily sexual, humiliating behavior. Sexual harassment and abuse can occur in all sports and at all levels; more common in elite sports; those with power and authority with the athlete are seen as primary agents; it has been determined that peer athletes also take part in these acts; men are more often perpetrators than women; sexually abused and abused athletes are often silenced; Protection of the perpetrator of abuse and abuse is particularly associated with age and maturity. The most important thing is the lack of evidence. Environments where risk situations are experienced in research; locker room, playground, long trips, coach's house or car, places where social events are held, especially places where alcohol is consumed. Studies have reported that sexual harassment seriously affects the physical and psychological health of athletes. Sexual harassment can impair performance and become a reason to quit the sport. Clinical data has revealed that there are some serious health consequences such as psychosomatic diseases, anxiety , depression, substance abuse, self-harm and suicide. Passive attitude/non-intervention, denial and/or silence of people in powerful positions in sports, sexual harassment and abuse also increase psychological harm'* (Fitzgerald, 2010).

Sexual harassment behaviors in sports include: sexually explicit jokes, sexually explicit compliments, irritating addresses, persistent stalking, whistling, slurring, sexually suggestive glances, involuntary kissing, hugging, persistent questions about one's private life, sexual harassment from one gender to another. Being disturbed by sexist words expressing that he is superior or weak, sexually explicit messages or materials, persistent invitations despite being rejected, persistent dating offers, notification that he will receive special treatment and some benefits if the sexually explicit offer is complied with, or that he will lose his life if the sexual offer is not complied with. / being told that he will pay the price that his sports life will suffer some harm, being forced to have sexual intercourse (physically) (Fitzgerald, 2010; IOC, 2007; Özen,2023)

The findings of the studies show that sexual harassment behaviors are experienced by both male and female athletes in the field of sports. In these cases, it is understood that the people who are at the top in terms of status, and the athletes in the subordinate position are the people who are exposed to it. On the other hand, it is understood that there is sexual harassment between athletes and other actors. In countries like Turkey, where the subject is less researched, sexual harassment in the field of sports should be made visible. The main purpose of the study is to make the sports field safe for the protection of male and female athletes. Raising awareness and drawing attention to sexual harassment is the main goal. In this context, the main aims of this research are: 1- How did female athletes experience sexual harassment incidents? 2- How did these incidents affect their sports and social lives? 3- Are preventive measures taken in sports institutions? Searching for answers to their questions.

The concept of entertainment, which comes to mind first when it comes to sports, can prevent undesirable behaviors if it gets ahead of judgments about competition, power relations and winning. The emergence of sexual harassment, which sneaks up on individuals' power relations and hierarchy-based contacts, will only be possible by shaming the perpetrators, not the abused. As we can see in the findings of this study, athletes who are exposed to sexual harassment are afraid of being blamed by the society. Many athletes are unable to speak even though they are exposed to sexual harassment because they are afraid of being blamed as if they are the person who encourages and attracts this type of behavior and therefore creates the appropriate environment. These feelings of fear and manipulation cause the perpetrators to have the courage to act freely and take their behavior to the next level.

Method

Qualitative research techniques were used in this study. Qualitative research has the feature of highlighting the subjective experiences of individuals. In addition, the study is transformative as it makes people think while dealing with the events experienced about the subject. In this study, the sexual harassment/assault experiences of three elite female athletes in their sports lives will be examined.

Research Design

In this study, we tried to understand the sexual harassment experiences of elite female athletes in their sports lives. 'Case Study' was used as a research design to interpret the effects of the sexual harassment incident, the reactions given, what happened afterwards, and who committed the harassment.

Case research requires investigating a situation in real life. Case study is a type of research design that is similar to the nature of narrative research and is related to the detailed description of the situation within its context and environment (Creswell, 2013). In a case study, the participant can be an individual or even a child. Case study is to draw the boundaries of the research about where the case is and what the phenomenon is. It may seem that establishing the boundaries of research about what a phenomenon is is a rather limited and simple process. However, it can be seen that the boundaries of case studies can become unpredictable or increasingly unmanageable. Because case research is a study of moves between the general and the specific. (Baden S. M.,2013)

Stories about their sports life were requested from individuals. In the interviews, it was seen that the three athletes participating in this study had serious sexual harassment experiences. For this reason, it was thought that it would be useful to clearly examine the experiences of these three female athletes in a separate study. During the interview, they were informed that a voice recorder would be used and permission was obtained. Individual interviews were conducted with the athletes. Volunteer participation form and semi-structured individual interview form were used. In general, the violence experiences of the athletes were investigated. However, it was understood that the athletes had experiences of psychological and sexual violence accompanying physical violence.

Since there are very few studies on sexual harassment in the field of sports in Turkey, this study highlighting individual experiences was conducted in order to contribute to the field and to make the sports field safer for women. Feminist theory constitutes the epistemological framework of the study. In this study, a transformative paradigm was used, considering its impact on individuals and society.

Transformative research paradigm; It is a set of assumptions and methods used in research. The assumptions underlying participatory ethical stances that oppose oppressive social structures are common. It is a community introductory process designed to build trust and make strategies and goals transparent. It aims to disseminate the findings in a way that encourages the use of the results to promote social justice and human rights. (Creswell, 2016)

This study is a narrative research since it is preferred for individuals to tell stories about a situation in their life. The 'narrative' technique was preferred because of its suitability for the epistemological framework and transformative paradigm. Research data presents us with numerical and concrete facts. But we want to know: How far can a person go and what dare? What did his courage make him do? What happened in the lives of individuals in the same area afterwards? Only the personal experiences of individuals could provide us with the answers to these questions. For this reason, it was appropriate to collect the stories of individuals about their sexual harassment experiences in this study.

Narrative studies are a study design in which the researcher examines the lives of individuals and requests stories from the individual or individuals about their own lives. It is understood that many definitions have been made about the narrative technique and the technique continues to develop with the studies done. It is argued that the generalizability of the data presented by small research groups presented by qualitative research is a scientific problem. However, it may not always be possible to obtain the details revealed in individual experiences by another method. People's stories can offer a unique variety of information.

In narrative research, storytelling usually makes two contributions; changing institutions that silence the laity and playing a role in social change by exposing injustice. (Denzin&Lincoln, 2018)

Narrative technique; deals with the stories individuals tell and the experiences they have lived, and may focus on the story(s) of a single participant or the stories of several participants. The purpose of the narrative is to enable individuals to make their voices heard (Baden S.M., 2013). In narrative research, stories from individuals (from documents and group interviews) are collected about people's lived and told experiences. These stories present some aspects of a life story told to the researcher (Creswell, 2013).

Participants

This study was carried out with the participation of three high-level female athletes who competed in national teams in their branches and participated in important competitions such as the Olympic, European

Championship and World Cup. In order to hide the identities of the participants, P1, P2, P3 codes were used instead of their names. In order to protect the identities of the athletes, information about their branches was not given, the place, date, competition and third party information were hidden. It is possible to summarize the demographic information of the participants as follows:

Name	Age	Statu			Sports History	Branches
P1	32	Married	graduate from university	National athlete	23 years	requiring contact
P2	47	Divorced	graduate from university	National athlete	25 years	requiring contact
P3	37	Single	graduate from university	National athlete	22 years	requiring contact

Athletes who were found to have experienced sexual harassment in interviews about their experiences of violence were preferred because it was understood that they could provide intense data even if they were few in number. Participants stated that they started sports at a very young age. They stated that they grew up in families with poor economic conditions and were brought up in a conservative, oppressive social structure. For this reason, they said that they were doing sports in a city far from their families. They define themselves as successful athletes in the national team. They stated that they had great success in important competitions.

Analysis of Data

The three female athletes were contacted many times. In two of the interviews, stories were discussed and recorded. The voice recordings were transferred to documents and turned into text. The texts were examined using the blocking technique and read several times for the researcher. In order to ensure an objective investigative stance, what was told in the stories was discussed with the athletes again.

Each case, each story discussed in the study was special and unique. In the first step of the analysis, the details of each were discussed in detail. The stories were analyzed with the descriptive analysis technique from a holistic perspective through inductive analysis and creative synthesis. Context sensitivity was taken into account during the analysis process.

Validity

Efforts were made to describe what was said accurately. Direct quotation and external audit (receiving help from external experts to evaluate the quality of the research) methods were used as a validity method.

For interpretation validity, participant feedback was received regarding how accurately the meanings attributed to the participants were represented. (Christensen, 2014)

Credibility/Reliability

Strategies used for credibility (reliability) in this research; is data diversification. To protect the identity of the participants, a code was used instead of a name. The positions of the participants in their sports lives, the fact that they no longer have any connection with the actors of the events they told in the original stories, and the fact that the flow and chronological order in the stories are parallel to the person's sports life have been accepted as evidence about the reality of the data obtained and the events in the stories. In addition, the experiences of two athletes who had different experiences with the same actor confirm each other, even though they have no knowledge of the events.

Results

This research sought answers to the following questions: 1- How did female athletes experience sexual harassment incidents? 2- How did these incidents affect their sports and social lives? 3- Are preventive measures taken in sports institutions? Searching for answers to their questions.

The interviews with the participants were transcribed. The events were tried to be conveyed in simple language. Confusing expressions were not included in the narratives. The subject was tried to be addressed objectively with the distanced stance of the researcher's self-reflection. It was desired to preserve the simplicity and originality of the data. For this reason, descriptive analysis technique was applied to the stories. The common points in the participants' narratives were combined under headings. At this stage, it was deemed appropriate to present the findings under the following six headings: How did sexual harasement begin?, Peer networks/ You'll never walk alone, Why didn't they complain?, Other actors new harassement, How does exposure to sexual harassement affect life, Contarry to popular belief, what happens when a complaint is made?

How did sexual harassment begin?

He stated that he is now a 32-year-old married woman with 2 children and works as an athlete trainer. She explained that she had participated in international competitions in her branch in the past, had various successes, and loved sports. However, she added that she would never let her children study the branch. He describes the period when he started sports as follows: *'I started my sports life with various misfortunes. First I was with my family. My father's business went badly. My father went bankrupt. My mother and father had to move to another city. I had just started this sport and I was successful. When my coach said he would help, they left me there with my coach and his family and went to another city. I didn't have a family with me at first, he approached like a father, his wife was like that, even I stayed with them. His wife was also a teacher at my school. We used to go out together in the morning. It was during my stay with them, but I saw it as a father*.' She explains that her first sexual harassment contacts started with kissing and she was 12-13 years old at that time:

‘*It started like this, the coach had such a kissing style. But you can't say that he kisses everyone like that and kisses his sister-in-law like that, so he is molesting us. But then we were in the national team camp in Izmir, we touch and there is a different way of touching, I said: I said I understand what you are doing, then I was 12-13 years old, he went out into the corridor and started shouting 'what do you mean or something', the thief suppresses the host. After that, I never approached again, I always stayed away. He tried to get close to me and started saying why don't you come close to me, give me some warmth*.’ (P1)

She expresses that she cannot understand what is happening due to the emotionality of childhood and loneliness: ‘*I didn't understand what he was doing because at first I was sitting next to him on the bus on the way to the road. We are ahead. But he was so brave that the driver was with us. He was putting his finger in my mouth, I didn't understand, I was so ignorant, I was such a child that I couldn't understand, I didn't know. I really didn't understand, and I didn't until all the girls said it.*’ (P1)

Another athlete describes the process of sexual harassment that started with persistent offers to go out as follows:

‘*You'll be the second person I can talk to about this. The other person is my mother. (She looked at the ground thoughtfully, reached into her bag and took out her cigarette) 'At that time, I was living alone in Ankara's Bahçelievler district. I was in the national team. I was successful. I was popular. I was young and beautiful. It was a period when I was successful and remarkable. Maybe I was like all young girls in their 20s. I was receiving offers not only from my own branch, but also from athletes in other branches. I had fans who said they loved me. There was an athlete in another branch. He was constantly asking me out on dates. I didn't want to have a relationship with him. He was older than me. He lived irregularly. He had bad habits. So even if these didn't happen, I didn't want it. I've never been interested in him*.’ (P2)

She (P1) explains why she did not file a complaint and why she allowed the harassment to continue:

'Our relationship was still good even when I started college. I would defend my coach to the death. Because he taught us this. He gave us training like this: 'If I say go there, you won't ask why, if I say jump from there, you won't ask why because I never want anything bad for you, you will jump from there. He brainwashed us in such a way that if someone said something to the coach, even if he was the president of the federation, I would jump on him. He was the best coach in the world, so I accepted it.'

She (P1) explains where and how the first harassment occurred:

‘*He always kissed everyone on the corner of their mouth, right there (pointing to where their lips meet). He was kissing me like a vacuum, I was very uncomfortable, I always stayed away. I don't like kissing either, but at that age you don't understand. He had a room in the gym and he was constantly invited there. She was giving a massage. He was touching and squeezing some parts of my body. He was saying that you have accumulated fat* *around you, you need to run like this, you need to train like this. Once he closed the door of the room. He sat on his lap and tried to kiss me on the lips. I think that sexual education is essential at a very young age in Turkey and that our children must be taught about sexuality. Sexuality is so taboo that it is impossible for you to understand what it is like at that age in Turkey. The coach treats you like a father. The sports community trusts him so much that they won't believe me even if I tell him. Everyone loves it so much. You can't tell anyone. If you tell anyone, all hell will break loose.*'(P1)

'There was such a situation with my coach that I (she is still playing with her hair and wearing her headphones) there are 3 people from the sports community who know this, there was 1 person who witnessed that night, unfortunately you are the fourth person (she keeps playing with her hair but cannot tie it up, she does not have a buckle anyway.) because I haven't told you for a long time, it's difficult for me to tell now. He came to my room and wanted to enter my room. I was underage, so I was a child. Coach called me. Normally I stay alone. But that night a friend came to me. In dead-end camps at night, the girls stay in each other's rooms, so there was one person with me, I took him with me, the coach called me and said, are you available?I was scared! The coach knows I'm alone, I said I'm available. He said he will come to your room soon. But I said it's time to go to bed. He said open the door when I arrived. I said ok sir what is the topic sir. He said we will talk when I come. I told my friend who was staying next to me that he had to leave the room, but it is not normal for him to come to the coach's room at this hour. I have to send my friend out of the room because she is staying in another room. I don't want her to be angry with him. I said disturb me every 5 minutes. The coach came into the room. He's trying to talk to me. He turned off the lights in the room. He looked for music on television. He said let's dance with you. "You smell so good," he said, and started to hug me. It's not normal for you to be here, can you leave the room?" I said. I said I wanted him to stop. He said, 'If you make a sound, I will force you into the room and say that you called me.' I died there, I'm gone, I mean my child, I'm scared. I didn't raise my voice, I'm praying, God, please my friend, please come, I'm praying that he won't forget, anyway, my friend came and knocked on the door. The girls had an argument today, I said they will come and we will discuss that issue. I tell various lies. Anyway, she left and that's how I got through that night (She play with her hair, pretend to tie it up and she's still very uncomfortable because I can't tie it up) '(P3)

It is understood that sexual harassment cases generally occur in camps, hotel rooms, during travel, in the vehicle, in the coach's room, and in places and times related to training. The stories show that athletes are subjected to sexual harassment, especially at a young age. It appears that the perpetrators harm children's sense of privacy, forcing them to normalize abuse. Physical contact with private parts, being forced to be naked in public with various excuses, the actions being carried out to all athletes in the same age group, causing children to say 'this is how it is.' It creates the thought that it has to be like this. Thus, the child becomes more vulnerable to sexual abuse. Moreover, the perpetrators, who use the concepts of fearing, fearing and respecting the coach as the sub-mechanism of harassment, develop the culture of obedience and submission in children and place it in the field, and also play a role in its transmission between generations. This prevents the perpetrator from being identified. The thought that the coach wants me to be good, that the coach thinks about me ensures the perpetrator's action diversity and safety. All these narratives show that the perpetrators actually planned the act in great detail when committing sexual harassment. A real crime committed against the souls of small bodies that were spiritually murdered: sexual harassment in sports thus becomes a constructed process. At this point, what everyone will agree on is that perpetrators of sexual harassment should never be forgiven.

Peer networks / You'll Never Walk Alone!

She thinks that as she grew up, she moved away from the coach and forgot these bad experiences. It closes the topic. But it has an uncomfortable feeling. She is aware that what her coach did was ugly and a crime. She doesn't want the coach to get away with it. She wants to complain but is afraid. Why did you wait all this time? She is afraid of being blamed for not complaining about it before. She is afraid that she will not be believed and her name will be tarnished when she tells this situation. She worries that her family will find out what happened. She doesn't want them to be upset. Because they are the ones who left her with that trainer in childhood. While she is feeling these, one day a development occurs. The harassment disclosure process begins as follows:

'I was actually away from him and the case was closed for me. Nobody knew about each other. In 2018, I started working abroad as a coach. '...' (City and country name). One day, an athlete friend of mine called me and asked, 'Should we have coffee tonight?' said. I said OK. We talked. He started telling me what the coach was doing. There's a rule at the gym, if you don't come to practice, you pay a fine. The coach wrote his bank account number and hung it on the walls. But it's not over yet, there are worse things to come. "Coach is harassing me," he said. "He calls me to his room, touches my breasts, kisses me on the lips," she said. He said, "There are still others, younger ones, girls around the age of 12, who cannot tell their families, so he harasses them too." He even said that one of them quit the sport. They were all children who had problems with their families. Then I found those little girls. I talked with them. The coach was calling them to his room. He was locking the door, touching her genitals and saying you can touch mine too. He's gone that far. (P1)

We understand that the process of sexual harassment to which this athlete was subjected systematically increased in intensity and spread over a long period of time. The athlete becomes aware of what is happening when his university life begins. She has to live with it. What happened next, finding all the athletes who were subjected to harassment, filing a complaint, and applying to the court together explains this as follows: '*No athlete, no child should experience anything like this again.*'

I found all the girls who were abused. I learned that he proposed a relationship to one of them. He called another little girl to his room and locked the door. she told the female coaches what had happened. Women coaches say this incident should not be heard. The girls took the voice recordings. The coach's wife also coaches. They're not worried about what happened to the girl, they're worried that his wife will hear about it. They say he shouldn't hear about this issue.

'I formed a group. When the girl told me that evening in Berlin, I found everyone, everyone, but I formed such a big group and then we decided what to do. First of all, I think we made a mistake, we went to the police, I think we should go to the prosecutor's office first. The police took all the statements the same, almost didn't bother.

Then they immediately took him from the house. Even he was enough for him to live such a thing, and then he didn't stay in custody for long. They left him. Of course, we had a lawyer, but he was a lawyer who was hired without paying and assigned to us from there. He wasn't interested at all, I gave him all the documents, he wasn't interested at all.' (P1)

They state that they somehow shared their sexual harassment experiences with their peers. We may think that they do this to find consolation, to take refuge in someone, to be protected. However, this sharing between peers leaves similar scars on athletes who are not victims of sexual harassment. They express their unwillingness to meet with the coach and the bad experience as follows:

I told my friend. I said something like this happened to me too. I don't want to stay here in the camp, these are not things I would do. Can you imagine? (P3)

Why didn't they complain?

It is understood that being exposed to sexual harassment in childhood, not knowing what sexual harassment is, feeling alone and powerless, and doing the same behaviors to others bring about normalization. Thus, it has been determined that barriers have been created that prevent complaining and talking about harassment.

'Our coach was doing the same thing to everyone. That's why we didn't understand. It was normal because he did it to everyone. For example, he took off everything we were wearing and weighed us naked. So you think it is. He was touching us everywhere. I had a friend. He was taking her to the trainer's room and touching her breasts. We didn't expect this. Therefore, we all experienced the same things at that time. None of us said anything.'

In the following parts of the interview, he explains why he did not complain about the coach and how he was threatened by the coach:

'*He always threatened me like this: I will end your sports life. No club in Turkey will take you. He wouldn't have said that right away when it happened. That's how we put it in your mind. I knew that if I complained about my coach, my sports life would be over.*'

He explains that the criminal is protected by individuals with patriarchal social codes, and that even a little girl who says she has been harassed, a judgment is made about her:

'Everyone asks why didn't you tell me before? Is it easy to risk everything and say this? If a person with a conservative structure in such a patriarchal society reveals his identity, this is the greatest evidence. It is bravely saying that I was sexually harassed and attacked. The only thing I do in my life is sports. I was good at school. But I wanted to advance my career in sports. You can't say that. It's impossible to say. They won't

believe it! The coach still free and says 'they slandered me'. He acts as if we are guilty. Because the case is still not concluded.'

The influence of the coach on the athlete is so great that the athlete cannot even own his own success. It is noticed that the athletes experience an oppressive environment where the efforts of their talents are rendered invisible in their successes. She is afraid to complain about the coach because she finds it too strong.

'Even if I knew my rights, I wouldn't complain about him.Because he was so strong. His strength was that he was a very good coach. The first Olympic rank, the first European rank, the first world rank, all the first medals came from his athletes. Since then, no one has achieved or surpassed these achievements. But when I came here later, I learned that this is not coaching. (She specified a country and city name.)'

We understand that athletes' biggest reservations have to do with the sports community they are a part of. What happens if the harassment incident becomes known? How do they treat me? It seems that the questions that may come, the rumors and the judgments that will arise, frighten the athletes and prevent them from reporting the abuse:

'I was a young woman and I was weak. The pressure from the environment, even thinking about what people might say, was very stressful Despite this bad event, I tried to live by holding on to my success in sports, the only thing I had. I continued my sports life in the national team and club'(P2)

The main common theme identified in the stories of all three athletes is that it is very difficult to report sexual harassment. They state that they are afraid of this situation and the society's culture of blaming the victim when the perpetrator is disclosed. They think that this situation will prevent them from continuing their sports life. It seems that they fear the responsibility of honor that patriarchal societies impose on women and the stereotypes that blame women.

It's like rape, I'm little, I can't tell my mother, I can't tell my father, I can't tell anyone. How can you complain when you can't tell anyone? This is something you can't tell anyone. How will you complain? You are a child, where are you complaining? Today, at this age, I still think: if I talk, they will blame me. They tell me: Why have you been silent until now? Unfortunately, there is nothing that can be done about this in our society. I can't talk, I can't say.(P3)

Other actors new harassment

Athletes reported that after recovering from a sexual harassment incident, they experienced new harassment from the same or other individuals:

Apart from the trainer, I experienced something else. This was someone different. I was in university at that *time. I was in the national team squad. We were going to an international competition. He was a board member in the federation. We were in the same section of the plane. He sat next to me. He was drinking alcohol. First he offered me alcohol. I refused. He started chatting with me. After a while he proposed to me for a relationship. "Let's be together," he said. I just got up and sat somewhere else. (P1)*

After sexual assault and its bad results, she says that while she is trying to direct her life with sports with what she thinks she can do best, this time her life has changed with the proposal of a relationship from her trainer:

*After that attack, I continued my sports career in the national team and club, and later became team captain. we were staying at a hotel in another city in a national team camp. My coach was showing interest in me, but I thought it was about sports. One night he came to my room with a cup of coffee in his hand. I didn't open the door. The next day he made me an offer. He offered me a relationship. That is, a sexual union. He said if you want to continue being the captain of the national team, you will be with me.I've been through bad things already. The coach was older than me and married. Threaten me. That day, I left my uniform on the door of the coach's room and left the camp. I also quit the sport. (*P2)

We find in the following story that in a camp program managed by more than one coach, a coach proposed a relationship and openly forced the athlete into sexual intercourse:

'We are in Ankara, I am the team captain there again, we will go abroad for a match. The girls said, "We don't have a coach, can you get permission from the other coach?" I told them I didn't want to go to the coach. I don't want to see that coach. They said if you are the team captain you have to do this. (Actually, no athlete wants to go to that coach.) I said okay, I'll take it. I said, "Would you let the Aries girls go out?" He said, "Are you going to go out with them?" I said I wouldn't go out. He said, 'Okay, let them go out, come to my room. There are some documents that need to be given to the coach. He said, "I will give them to you, you can give those documents to the coach." I went to the coach's room. I entered the room (covering her face with her hand, looking up). The coach was lying naked on the bed. He said come to me. How can I go? The coach said to me, 'I am like this because of you, my groin hurts because of you. He said more similar things. Afterwards, there was another person who knew the incident (her voice was shaking, she was crying but holding herself back).'(P3)

How Does Exposure to Sexual Harassment Affect Life?

Victims describe the effects of sexual harassment and how it affected their lives as follows:

'*Some of our cases were rejected because their complaints were time-barred. There were 5 people left in the case, they sent them for psychological testing. The people they sent turned out to be psychologically damaged. It affects your relationship a lot. My husband was a trainer. I always had this question in my mind: 'I wonder if something like this could happen? Will something like this happen? I received psychological treatment regarding this issue and my treatment regarding this issue still continues*'(P1)

Even though everything has been talked about, they share their pain and emotional collapse as if nothing had been said:

'Thank you, I hope my explanations will be useful to someone. So they can talk sooner. But I think this education should be given to children about sports, and it should be explained to them that your coaches cannot do this to you. they should tell their families directly. I couldn't get out of there. It takes a long time to become a healthy individual afterwards. You look healthy on the outside, but unfortunately you are not healthy on the inside. You're the 3rd person I've told this to. I told it for the first time in court, then I told it to the psychologist, then I told it to you, I never mentioned anything like this to anyone. I hope it helped.' (P1)

Although not complaining eliminates all social reactions that may occur at that moment, it creates a deep regret for the athlete in the future. Therefore, athletes need to know that sexual harassment and assault is a serious crime for the offender. Slight or severe sexual harassment should be reported to the necessary authorities:

'It seemed as if the only way out of this bad situation was to get rid of the psychology I was experiencing. At the time I thought this was the right solution. A few years later I married someone from another profession. However, because I told my wife about this incident, I had serious problems in my marriage. I wanted to have a child, it was very difficult. It was said that the coach who caused me to quit sports had an affair with another athlete. If I had complained about him when he offered me a relationship, maybe I could have continued sports. Maybe I wouldn't quit. I didn't complain.That attack and the coach's relationship proposal were just two events that I experienced at two different times and changed my entire life. It affected my decisions and my future.

That coach separated from his wife and married a young athlete. Its popularity has increased. Nothing happened to him. The other aggressor went on with her life, she. If I had complained, everything could have been very different.' (P2)

Contrary to popular belief, what happens when a complaint is made?

At the airport, I immediately called the president of the federation. I told what had happened. I called someone else, who knew him intimately. They said such a thing cannot happen. They supported me. They did not leave me alone. I experienced this incident in 2006. At that time, they removed him from the community. Nobody talked to him. Then he came and apologized to me. He gave me chocolate. He apologized to me for something like that at the airport.

It is understood that the experience gained from not being able to resist the bad experiences in childhood gives the power to protect oneself. Complaints and subsequent administrative support strengthen the athlete. After this complaint, we see that when the athlete reports harassment, she experiences that the process is not as negative as she thought.

Athletes who report harassment learn that there are harassment complaints filed against the coach by other people. The coach blames the victim athletes during the court process. The coach said they slandered me to get money. The questions asked during the court process are very cruel. She states that since the complaining athletes have insufficient financial means, the participant athlete pays all the legal fees herself.

'After we complained, I thought: I guess this guy can't do anything to sick adults. Always little kids. He thinks the child won't understand at that age. Moreover, none of these children have a father. He found such children that they cannot say anything to anyone because they need him.'

It is understood that the most important issue for the complaint is to be supported, the support of loved ones and family is important.

'My husband was very supportive. I felt very strong. Everything is very difficult in Turkey, I convinced those girls to talk. They didn't want to say it either, because the families didn't want to get involved in such a thing later on, but thanks to the mothers, they really supported their daughters and went to court themselves. One of the girls testified with the support of a psychologist. He was wearing torn jeans that day. The psychologist said, 'If you walk around with so many torn trousers, you will be harassed again.'

There are those who support the coach during this difficult process. They are both victimized and put up with a great struggle. She describes an unpleasant event they experienced at that time and how they continued their struggle with determination:

'The coach's wife sees one of the girls who complained at a competition. Did my husband kiss you? He says something like he did well. We complained again. A restraining order has been made.'

Although it was a long and psychologically jarring process, she describes her feelings as she complained and finally proved her case:

'They brought false witnesses to the court as witnesses. Little kids. Prosecutors laughed. They said memorized things. But we were right, we did not slander, he was found guilty and we were cleared. 4 prosecutors approved his sentence and one even found it low. He asked for it to be increased.

I'm so glad I did something like this. I'm honored. I'm proud. I have a child too. If I couldn't easily send him to the gym, I would never be comfortable. If I hadn't complained, I would never have recovered. After these things came out, I felt more comfortable.

During this case, I learned that there were others too. The athletes before us. They are older than me. They are all married and all mothers. They came too and talked. They all testified. But it's timed out'

Another common finding of the research; The economic situation of the families of three female athletes is below the minimum level. Doing sports means earning money from sports for female athletes. Lacking economic capital makes athletes weak. Because they were successful in sports, families left their children under the protection of the coach and the club management. Female athletes who have to live with other adults in places far from their families are considered 'unowned'. It is understood that this state of neglect of the athletes creates a strong 'vulnerability of the athlete' opinion for the perpetrators, that the athletes are open to attack. Unfortunately, as can be seen in many studies, the perpetrators in these stories are men. We understand that what is more saddening is that the perpetrators are the coaches of the female athletes.

Discussion

Research conducted by Jurakic (2022) in Croatia in December 2019 with 501 participants; reports that 25% of the 501 athletes surveyed reported experiencing some form of sexual harassment from a coach at least once before the age of 18. The same research findings show that young men and women who were sexually abused by sports coaches at a young age report higher levels of depression, anxiety, and stress in the age group. Short-term and long-term negative effects report higher levels of depression and emotional distress.

Parent et.al. (2016) reported that their study with Quebec students reported that the entire sample of students between the ages of 14-17 was exposed to sexual harassment. The same study reports a prevalence of sexual abuse of 14.6% in girls and 3.9% in boys. In their compilation in the same study, Parent et.al reported the following research results: Research on sexual harassment in sports against athletes under the age of 18 gives us the following striking results: Kirby and Greaves (1997) reported that 1.9% of 266 adult male and female Canadian elite athletes were sexually abused in the sports environment before the age of 16. In Denmark, Toftegaard Nielsen (2001) concluded that 2% of male and female PE students were sexually abused by a coach before the age of 18. In Great Britain, Alexander et al. (2011) questioned 6,060 athletes aged between 18 and 22 and reported that 3% of them had been sexually abused before the age of 18. Leahy et al. (2002), in their study among 370 adult male and female Australian athletes, stated that the prevalence of sexual abuse experienced by a member of the sports team before the age of 18 was 9.7%.

The limited studies conducted in Turkey and the results they reported are as follows: In a study conducted in Turkey by Gündüz, Sunay and Koz (124) in 2008, 56.2% of 356 female athletes who were popular female athletes declared that they had been sexually harassed. The same study found that the most frequently exposed sexual harassment is; Unsolicited messages and phone calls with persistent flash offers, unwanted jokes, questions and sexually explicit comments were emerging. The research shows that 40% of the athletes were harassed by spectators, 33% by their teammates, and 24.8% by their coaches. Additionally, 4% of the athletes stated that they had been subjected to sexual harassment constantly, 43% several times, and 12% once; They stated that acts of sexual harassment usually occurred after matches and training, before and during the competition, and that they reacted by warning them not to neglect or engage in harassment. Özen et al. (2018)

investigated male and female athletes' experiences of sexual harassment. 194 female and 187 male athletes participated in the research. The research shows that the first behaviors that female athletes define as sexual harassment behavior are asking questions about sexual life (76%), sexist jokes about their bodies (66%), and compliments or comments (71%). As for male athletes; They stated that they perceived showing sexually explicit material (70%), repeated unwanted flirtation offers (51%), and suggestive looks (72%) as sexual harassment behavior. The data of both studies reported that athletes in Turkey were subjected to sexual harassment.

Fasting et.al. (2007) stated as a consequence, the prevalence of sexual harassment in sport in the different studies varies considerably. In the same study, men were generally the perpetrators; Similar to our study, it has been argued that cultural feminist epistemology offers the appropriate framework to empower and support victims.

This study was conducted to address the knowledge gap regarding personal emotional and behavioral reactions to sexual harassment experiences; Through the athletes' own narratives, it clearly explains how sexual harassment occurs and reveals that it affects life even years after the harassment through cognitive, behavioral and emotional symptoms.

In the mixed method research conducted by Özen (2023) with the participation of 550 athletes over the age of 18, 45.5% of the athletes participated in the sport once or several times in their sports life; 10.9% reported that they were constantly exposed to sexual harassment. In addition, research findings show that athletes exposed to violence have a high tendency to violence and that the types of violence experienced within the social learning in the sports environment are first applied to younger people and generally to their peers and continue in the field. It is understood that cases of sexual harassment between peers are seen in rituals such as team acceptance rituals carried out among peers, and thus the learned harassment is normalized by practice and settled in the field.

As in the sexual harassment reports of junior athletes presented in these studies, three elite female athletes who participated in our study stated that they were exposed to sexual harassment behaviors in their sports lives at a young age. All three of them stated that they did not dare to complain about sexual harassment while they were playing sports. They stated that they thought they could not convince anyone and that they were afraid of being blamed. This qualitative study clearly presents female athletes' experiences of sexual harassment. In this context, our study is in line with the data reported in the quantitative studies we present in the literature and constitutes solid evidence.

Conclusion

The solution suggestions we can offer in line with the findings of this study are presented below:

It is our suggestion that programs that prevent sexual harassment and protect athletes should be added to coach training.

It is our suggestion that sanctions that prevent the practice of coaching should be added to the agreement texts and protocols drawn up with coaches and other sports actors in case of sexual harassment.

It is our recommendation that athletes be provided with informative tools about protecting their bodies in environments they can access.

Our suggestion is to establish complaint authorities that athletes can easily access.

Our recommendation is to establish investigation bodies that protect the parties and keep the files confidential. Our recommendation is to create structures that monitor athlete performance in order to prevent damages and losses that may occur after complaints.

Our recommendation is to create emergency precaution procedures to facilitate transfer and provide psychological support.

Investigating how the issue is discussed in peer networks when any case of sexual harassment is reported; It is our recommendation that athletes be trained on how peer behavior should be.

Our recommendation is to ensure that all individuals who come into contact with the perpetrator when reporting sexual harassment receive psychological support.

Recommendations

We see that sports organizations and scientific research are working to prevent sexual harassment in sports. Yes, sexual harassment should never happen. There shouldn't be any in the area. An athlete should happily improve his athletic performance in a safe environment. A coach should make plans on how to improve his teaching abilities. Unfortunately, as many successful and good actors exist in the field, there are also actors who do not hesitate to commit such a crime. In order to protect children, it is deemed necessary to provide training on protecting individual boundaries and privacy values to all actors in the field of sports. However, another measure that is as important as education is to strengthen the weak voice of harassment victims. The stronger the victims' voices become, the more encouraged they become to report harassment, the more likely the perpetrators will be forced to stop their actions.

In a sexual harassment incident, the transfer of the fear of exposure from the victimized party to the perpetrator will strengthen the belief in social justice. It is imperative for all societies to reach awareness and awareness that protects people who report being victimized by sexual harassment. This is only possible by increasing administrative measures, providing trainers with ethical behavior training and determining boundaries.

We have to add ethical and moral principles to training programs and contracts. We have to rebuild the concept of normal together. Only in this way will it be possible to protect athletes.

Notes

This study was produced from the doctoral thesis. The language of the thesis is Turkish. It was difficult to compile the stories. Female athletes had a hard time explaining these events. They were not forced to explain anything. They shared their stories according to their own wishes. They made me feel like they were reliving that moment. It was not easy for them to explain. Even though, as a researcher, I had to take an objective stance, I felt deep sadness in the face of the narratives. It is a very heavy emotional state to feel the situation in which little and defenseless girls are targeted. While listening to the stories, I felt how big a trauma sexual harassment could be. It is impossible not to admire the enthusiasm and desire of those strong women to hold on to life. Thank you once again for participating in the study.

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Teaching English as A Foreign Language During the Pandemic, Evaluated by Student Teachers

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Abstract: In Slovakia, education was utterly different during the three school years of the COVID-19 pandemic. While primary and secondary schools were managed by the Ministry of Education, Science and Sport of the Slovak Republic, regulated by the Public Health Authority of the Slovak Republic, universities commonly responded/reflected to the number of infected students, following the governement's regulations. As distance teaching and learning was not a new format for them, they responded to a new situation quite quickly, being prepared for using modern technologies effectively. This study explores the views of student teachers who observed English classes taught online in four different schools during their practical teaching in the academic year 2021-2022. Based on closed-ended and open-ended questions, the questionnaires focused on seeking information on English teachers' preferences in delivering their online classes as effectively as possible. To make research more valid, it was essential to take into account the experience of student teachers with online teaching and learning while attending academic online courses at Trnava University. Based on the achieved information, our study reveals the discrepancy between language teachers' claims and student teachers' experiences gained during their observations.

Keywords: The pandemic, Digital technology, Observations, Teaching English.

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Introduction

Over the past decade, the attitude of language teachers towards digital technology has significantly changed. Despite the prior experience when the use of laptops and mobile phones was considered distracting, the philosophy of language teachers has gradually changed after they acknowledged that digital technology enables students to download the materials they need, consult dictionaries and grammar-reference books, or search for sources necessary for task completion. This way of language learning is in line with the post-method approaches, which emphasise the concepts of an action-oriented approach, learner autonomy, authenticity, contextualisation, etc. (Richards, 2006; Piccardo & North, 2019).

In the 1990s, computer-assisted language learning (CALL) started to be used due to its benefits, such as supporting interactivity and creativity (Sokolik, 2014). Practical classroom techniques focused on the pedagogical issues of CALL were presented in methodologically-oriented books (Chapelle, 2005), and the computers were used in face-to-face classrooms, online teaching or online interaction. However, providing learners with detailed feedback on their previous learning or their mistakes (Grgurović & Chapelle, 2007) made computers an inseparable part of language learning. The practice of computer-mediated communication employing computers and mobile telephone devices has become commonplace due to the functionalities that are currently available. This great advantage was reflected during the pandemic situation as online teaching of English had already been practised prior to Covid-19, and teaching English online cannot be considered a new phenomenon (Erarslan, 2021). However, online teaching is different from using the internet in the language classroom as both learners and teachers can be overwhelmed by technical difficulties, and then this kind of teaching is not likely to bring about the desired results (Warschauer & Whittaker, 2012).

In general, the emergence of COVID-19 in March 2020 found the world unprepared, and its rapid spread forced the countries to close their borders to protect their inhabitants from being infected. Nevertheless, the countries started to be locked down one by one, which impacted all aspects of social life, including education. Schools began to be closed, and this new situation has shifted the entire learning system to distance learning. The length of this closure was varied in particular countries due to the local intensity of COVID-19 reflected in governments' decisions.

Education in Slovakia during the Pandemic

In Slovakia, language education was utterly different during the three school years of the COVID-19 pandemic. While in the first year (2019-2020), all the schools were closed entirely since March 2020, and all the external examinations were cancelled, in the second educational year (2020/2021), all the secondary schools were closed from the beginning of October and primary schools from the end of October 2020 until March 2021. These regulations resulted from the decisions made by the team of epidemiologists to make the virus spread slower. The transition from face-to-face teaching to a distant form of education was done without any specific preparation, and the implications will become visible over time. The worsening situation in the number of infected people in the autumn of 2021 caused face-to-face education at universities to be quickly replaced by online classes and other forms of distance learning. However, the situation at primary and secondary schools was regulated by the COVID automat system. The closure of schools, or better to say, mainly single classrooms, was based on the data of the infected pupils or students of the school.

The pandemic found Slovak primary and secondary schools unprepared for new ways of teaching. The problems started with insufficient numbers of computers in classrooms, and teachers mainly were not equipped with laptops. The first weeks of the pandemic in 2020 were organised by individual approaches of teachers who had to stay at home and decide what to do to provide learners with materials and continue teaching. In general, schools were ready to use the EduPage system, installed mainly for schedule purposes but enabling teachers to share their materials with learners, distribute homework or use the system for e-learning. In less-developed economic areas, teachers delivered materials in person, and after a short period, they had to collect the students' assignments. However, this model became insufficient due to many factors, and many pupils and students remained uneducated or not systematically educated. This caused the minister of education to cancel all external ways of measuring learners' knowledge of the mother tongue and mathematics in primary schools Testing 5 and Testing 9, which are based on two levels of ISCED and the results of which were considered very important for further education.

Being astonished by the new situation, English teachers stagnated for some time as they were used to teaching from very well-designed British coursebooks, complemented by various supplementary materials, DVDs and videos. The 2020 spring was mainly taught from home by sending materials via EduPage or conducting irregular online classes if teachers wished to do so. It was challenging for many teachers as they had never used online teaching at these levels of education. Learners were without online teaching most of the summer term, which resulted in the minister's decision to cumulate previously achieved results, and the final marks on learners' reports were calculated as the mean of previously achieved marks on the final reports (Ministry of Education, Science and Sport, 2020). The same key was used in the school-leaving examinations, and students expected to complete their secondary education did not sit external tests and internal oral examinations.

Since the pandemic occurred again in the autumn of 2020, the minister of education urged teachers to use online teaching and the Microsoft Teams platform. However, being supported to start using Microsoft Teams, teachers could still use any platform (zoom, Gmail) they were familiar with. Many workshops were organised for teachers to make them become knowledgeable and more skilful with modern technologies. Although education significantly changed in comparison with the previous year, the school-leaving examinations were cancelled again, and students were admitted to universities without being able to submit any external certification (Ministry of Education, Science and Sport, 2021).

Redesigned Approaches to Teaching and Assessment

After these two years, the third pandemic year was organised differently. The schools were not closed, and teachers were expected to deliver their classes either face-to-face or online if the class was officially recognised to learn at home due to the number of infected students or the quarantine principles (https://gov.sk/covid-automat-na-slovensku). It was quite difficult for teachers as they had to change teaching techniques several times a day. Later, hybrid education was officially recommended, and teachers had to accept this new situation very quickly. This teachers' effort was officially recognised by the minister of education, who sustained the pressure of the final-year students who protested in front of the ministry, requesting not to be externally tested. After several modifications related to testing time prolongation, the students were externally tested, including a school-leaving examination in English on 17 March 2022.

The presented reasons for not being externally tested were numerous, such as not being properly taught in the years 2020 and 2021, not being forced to practise the language, and so on (Plus JEDEN DEŇ, 2022; PETÍCIE, 2022). To be objective, it is necessary to mention that all the English tests, having been administered in the previous 16 years, are available on the website of the National Institute for Certified Educational Measurements with answer keys, topics for testing written performances, audio scripts in case learners would like to test themselves either at home or at school.

One of their requests was to use dictionaries while writing their essays. There is little evidence about the efficiency of using dictionaries while being tested in English. Still, some researchers suggest that students could have less time to develop and express their ideas in the target language (Weigle, 2002). Once a dictionary is available, students start thinking in their mother tongues and spend a lot of time searching for more complex language in the dictionaries. In addition, the marking criteria used in the country are based on measuring learners' abilities to use appropriate language regarding grammatical patterns and a range of vocabulary, as well as the appropriateness of their choice. On the other hand, prolongation was given twice: fifteen minutes for the external test to measure learners' abilities to comprehend both as listeners and readers and use language in contexts and fifteen minutes to test their written skills (NÚCEM, 2022).

After the administration of the tests, the reactions of the students and their teachers were primarily adverse. However, the perception of the external examinations is commonly negative as test-takers and their teachers focus mainly on what they could not do rather than what they have done. Then, they start speculating what else could have been accepted as correct. The first days are demanding for the assessors and the team responsible for what should and should not be accepted, consulting the items with native speakers. The officially approved answer key is then made public.

As regards secondary-school students' complaints, it is relevant to find out what was happening in the country last year and how these procedures might have influenced language teaching and learners' preparation for their final examinations. On the other hand, it is necessary to mention that schools were not sufficiently equipped with modern technologies, which can be considered as one of the main constraints of quality distance teaching. Language teachers were not provided with computers or laptops, and whatever they did was done at the expense of their family budgets.

Method

The aim of the study was to identify the effectiveness of technology in teaching English during the pandemic. Based on the researcher's negative experience while observing primary school teachers of English in the 2020-2021 academic year, the idea of getting data from other school contexts rose. In the school year, as mentioned above, most teachers used the EduPage to share their materials with students, providing them with detailed feedback. The extent of feedback was based on teachers' availability as language teachers commonly have many classes per week, more than other subject teachers. Traditional teaching influenced online teaching, and the comments of English teachers that language classes can be taught online without any problems were considered inadequate after observing learners' insufficient engagement in the learning process. They spent all 45 minutes filling in the gaps in three grammar and vocabulary-focused exercises.

Modern language teaching is not only linguistically oriented, but other competences need to be developed, such as sociolinguistic, pragmatic, strategic and intercultural. To save time for learners to be engaged in tasks of real language production or interaction, the provision of correct answers can be done more efficiently, for example, by displaying an answer key for several minutes during which the learner can self-correct their assignments or exercises, and then spend more time for justifying some of the answers. Language education is currently based on involving learners in their language learning and acquisition as they are expected to practise the natural use of a target language, using it for real-life purposes outside the classrooms. Microsoft Teams offer practising language in smaller groups, using the function of break-out rooms with the teacher's support, as they can enter any group and monitor the process by providing feedback. Thus, the system supports conversation classes, and language can be taught effectively.

Observing English Classes in Pre-service Teacher Training

The 2021-2022 school year was organised under new conditions. The minister of education followed the pandemic situation in particular regions, and some classes were online while other classes were taught face-to-face. This situation was demanding for teachers as they were expected to teach both forms, being present in the classrooms and ready to teach online from their offices. Student teachers were sent to schools and followed the regulations the regional health care offices recommended. Their supervisors directed them on which classes could be observed face-to-face or online.

To make data more valid, it is essential to specify the respondents and their previous experiences with online education. Trnava University teachers were systematically trained, enabling them to broaden their experiences with online education, which positively affected their readiness to shift from face-to-face to online teaching. Since the first decade of the 21st century, many universities have introduced blended learning, in which technology is used to supplement classroom teaching. Trnava University was engaged in the project called *Developing a Virtual University – The Development and Innovation of Study Programmes Using Modern Forms of Education* (2010-2014), which enabled university teachers to design their courses for the students who cannot attend regular courses due to their professional duties or long distances (Bérešová, 2014). The positive impact of blended learning was evident not only in the increase of students' achievements but also in the decrease in worsening the weighted study means of students achieved in their bachelor's programmes and master's programmes (Bérešová, Pokorný, Peterková & Hic, 2015).

The modernisation of teaching at Trnava University continued in 2018 when Moodle as a platform for online learning was introduced, and university teachers were trained on how to design online courses, add assignments, and keep an eye on their students' progress. This experience appeared sound when the coronavirus pandemic began in 2020, and the university was able to provide education without any significant breaks. However, teaching with Moodle did not turn out to be significantly effective. Therefore, when the second pandemic wave started in the autumn of 2020, the university immediately trained its pedagogues to use Microsoft Teams and continued delivering lectures and seminars without interruption.

As a multiplatform operational system, Microsoft Teams allows for textual communication, video calls, data storage, etc. Thus, most Slovak universities immediately changed their teaching procedures, and therefore, the winter semester of the academic year (2020-2021) and one academic year (2021-2022) were sufficiently ensured, and university students were not deprived of regular lectures and seminars. However, several problems should be mentioned, such as students' self-discipline, less intensive cooperation, insufficient learning from each other, and the validity and reliability of their examinations.

Data collection

The questionnaires related to collecting data about language education were sent to student-teachers who experienced online teaching at university and were knowledgeable about how languages can be taught through modern technologies. The number of students was 46 and they were distributed to four schools (3 secondary and 1 primary), in which one English teacher supervised 3-4 students. The first questionnaire (Appendix A) was aimed at university students' attitudes towards online teaching as, from October 2020, all the academic courses were delivered only online, using Moodle and Microsoft Teams, till March 2022. This regulation was based on the fact that university students usually have to travel across the whole country to the university premises, so saving their health and providing them with regular academic courses was essential. The second (Appendix B) was intended to investigate the student teachers' experience of teaching English at primary and secondary schools while observing their supervisors' classes.

Results

As mentioned above, student teachers were administered two questionnaires that enabled them to perceive online education from two perspectives. One referred to their personal experience of being lectured and conducted during their seminars online. Based on the supervisors' claims that there are no significant differences between in-person teaching and online teaching, student teachers were expected to judge the quality of online teaching while observing English classes in four different types of schools.

An Analysis of Student Teachers' Attitudes towards Distance Learning

The questionnaires were administered to 46 student teachers, out of whom 33 were observing online teaching, which was in line with the study's aim. The accepted questionnaires reflected the teaching procedures at each school in which student teachers were officially allocated. As far as a questionnaire related to university online education experience is concerned, the overall feeling of distance learning was judged as excellent by only three university students. Nevertheless, student teachers were provided with more than only one device for learning online. In contrast, most students (58%) labelled online learning as average. 24% of student teachers found this way of learning better than average, while 18% disliked it. Student teachers were inconsistent in choosing the ranges given to the time spent each day on distance education. This inconsistency resulted from the fact that some students were English major students while more students majored in English in combination with other academic disciplines. However, another reason was likely to be their style of learning. Item 5 referred to the effectiveness of remote learning, which was judged as moderately effective by 52% and slightly effective by 30% of student teachers. Only one university student considered it highly effective. None of the prospective teachers evaluated distance learning as not at all effective.

The university students openly admitted stress as the university was closed all of a sudden, and they were not prepared for online learning either mentally or technically. Technical problems also made students work under pressure, mostly since it was winter, which can be harsh in some areas of Slovakia, and students had poor internet connection or electricity. Another problem was that all the family members sometimes had to work or study from home. Therefore, the collection of electrical appliances, lighting and electronics exceeded the wiring to power all the gadgets. The most stressful factor for some of them was the examination period, as each time, they were scared of losing their connection and being unable to pass the examination.

The university is situated in southwest Slovakia and hosts students from all over the country. A large number of students used to commute. Still, since the university opened its new dormitory, besides students living far from the university, some students preferred to stay in the dormitory to avoid morning rush hours while travelling in fully occupied trains with working commuters. Therefore, when they had to return home as a result of the dormitory closure, they started to live with their families and got the feeling of 'too many people in one place', as one of them called it.

Another negative aspect observed by university students was that university teachers gave them more assignments than they had been given in face-to-face education. They commented that teachers had thought that 'being at home means having lots of free time'. However, they admitted that they had enjoyed their time at home and considered it comfortable. They did not have to take care of themselves and had more time for doing the activities they could not do while travelling or going to school every day. 42% of students did not consider the courses stressful, mainly lectures, and emphasised that they had been able to take notes using their laptops or computers. Only three students out of this group mentioned seminars as a stressful experience on the grounds that they had to be available and alert all the time.

There was a significant move regarding oral examinations in the 2021-2022 academic year compared to the first year of distance learning. The summer term of 2020-2021 was based on teachers' approaches to online education. More university teachers exploited Moodle, presenting lectures and tasks, and at the end of the course they evaluated students' term work. Others examined them orally but online. On the other hand, the 2021-2022 academic year started in the form of contact classes and gradually transferred into online teaching; however, this time university teachers had to use Microsoft Teams for both lecturing and conducting seminars. The form of examinations was based on the choice of students who were offered two options. Students' knowledge was either measured face-to-face or online, but both possibilities required spoken forms. Even though most students complained about being examined online due to their limited preparation time after drawing a question, they all chose this way of the examination. Nonetheless, many of them wrote in their questionnaires that they had missed time for being prepared to answer their drawn questions, which is typical for face-to-face examinations, and students commonly have about 15 minutes (at least) to write down some notes (ideas) that can navigate them in their oral performances.

Focusing on male students' answers, one of them did not consider distance learning stressful. In contrast, two others admitted that it had been stressful due to some technical problems, the internet connection and concentration spans. One of them was utterly negative, emphasising that his kind of learning is not suitable for him, defining it as 'very tiresome, boring and a waste of time' since his preferred style of learning is being active in a face-to-face class, cooperating with the others and being counselled by teachers.

An Analysis of Student Teachers' Attitudes towards Online Teaching

The questionnaires provided to student teachers who were making observations during their practical training became the ground for using numerical data. Student teachers are expected to observe the classes and take notes in line with the framework in which they need to focus on time management, using different techniques, learners' involvement in activities, classroom management, etc. Each year, the students are distributed according to the number of teachers who would like to supervise student teachers. The university used to have contracts with many schools situated in the city. Still, the pandemic caused some schools not to agree with university students being present in their classrooms due to the increasing number of infected pupils. However, one of the fundamental reasons for rejections was the unpreparedness of teachers to use different forms of teaching alongside contact classes. Since practical teaching is a prerequisite for completing the ELT course, it was impossible to wait for the minister's decision to open the schools for contact teaching. As mentioned above, the schools were closed for half a year, which resulted in cancelling the school-leaving examinations, and the marks on learners' reports were the means of the achieved results. The university students were expected to meet all the requirements to be able to complete their semesters.

In the 2021-2022 academic year university students started attending schools at the beginning of the school year. This time primary and secondary schools were not completely closed. Still, the regional health care office decided to close only those classes with high numbers of infected. This process was based on the system for monitoring the pandemic development and receiving anti-pandemic restrictions depending on the intensity of COVID-19 transmission. University students majoring in English or English in combination with other academic disciplines were distributed into four schools: a primary school, a secondary technical school, a secondary grammar school and a bilingual school. Therefore, the following analysis is based on the questionnaires related to particular schools.

Table 1. Student teacher distribution by school type

Primary school	Secondary technical	Secondary grammar	Bilingual school
5	7	14	7
15.15%	21.21%	42.42%	21.21%

Primary schools in Trnava are a common type of school in which English is taught three times a week from Year 3. These schools also provide lower secondary education (Year 5-Year 9). Still, the best students commonly continue their lower secondary education at the *8-year gymnasium*, part of the secondary grammar school, in which university students experience their practicum. Therefore, they can observe teaching young learners there as well. However, due to the entrance examination, the quality of education here is different from the one provided in primary schools. Technical schools in Slovakia prepare students for their professional careers or university studies. Before 1998, students from these schools were expected to study at technical universities. The current situation is different and reflects students' choices, and they can thus choose any university. The supervising technical school is specific. The admitted students are obliged to sit language placement tests, which distribute them into two groups: those whose preferences are to sit for a B1 final examination and those who intend to apply for a B2 final examination in English. All the students studying at secondary grammar schools are supposed to sit a B2 external test, while those attending a bilingual school are obliged to take a C1 test. The bilingual school in Trnava is a private school, and students are taught English and other subjects in English primarily by native speakers. In this school, student teachers could observe language and other subject classes in English conducted by three native speakers and one non-native-speaking teacher.

Observations of English Classes at the Primary School

Prospective teachers commented on online classes both positively and negatively. The most positive aspects of online teaching were that distance learning enables teachers to use different tasks using electronic devices and different ways of presenting new material such as PowerPoint and videos. However, effective English classes are commonly based on learners' engagement in tasks, working in groups or pairs, which is technically possible but was not used by teachers as their preference was to discuss topics with all the participating pupils due to low numbers of those being connected and taking an active part in English classes. The student teachers concluded that face-to-face teaching is less demanding and more creative and enables teachers to monitor better learners' work and their active participation in task completion.

Observations of English Classes at the Secondary Technical School

Four English teachers were supervising their groups consisting of three student teachers. Since the majority of technical school students are male, the observing university students were mainly negative about online teaching. They could experience that the boys were not actively participating in classes and were doing something else, having their cameras and microphones switched off. Therefore, teachers asked questions and answered their questions to disrupt students' quiet. One of the respondents emphasised the situation, using words such as 'teacher's communication was punctuated with uncomfortable silences'. Nevertheless, prospective students positively evaluated various forms of used materials. They emphasised that they had been able to experience better preparation for classes regarding the choice of materials or time management.

Observations of English Classes at the Secondary Grammar School

The most significant number of respondents was represented by student teachers who attended classes at secondary grammar school. They were supervised by three highly experienced Slovak teachers of English. However, a new situation was sometimes negatively reflected in the university students' comments about technical problems caused by teachers' insufficient familiarity with modern technologies. On the other hand, prospective teachers could experience working in break-out rooms but could witness that this teaching was not always effective. Once the teacher left the break-out room, students started speaking Slovak instead of practising their English or stopped working together, discussing their family matters. Some students considered filling-gap exercises boring because it was mostly a teacher working while students were passively waiting for the correct answers. It was impossible to check whether participating students were taking notes or working with a teacher.

Observations of English Classes at the Bilingual School

Although eleven students participated in practical teaching at this private school, only seven submitted questionnaires. Three students observed a Slovak teacher of English, while the rest participated in the classes conducted by native speakers. This Slovak teacher spoke very fast and did not allow students not to work, asking them questions systematically and in balance. Native speakers were evaluated as technically skilful. However, once students did not want to participate, they became silent or apologised for poor internet connections, and their teachers did not insist on their responses. In common, bilingual school students use modern technologies in their face-to-face classes, for example, different applications on their mobiles while looking up words in a dictionary app or using their tablets to seek appropriate information for discussion, etc. Native teachers used materials available on the internet to make students' learning more attractive and exciting. Visualisation made learning more accessible, and teachers prepared PowerPoint presentations full of visuals as inputs for discussion.

Discussion and Recommendations for Pedagogical Implications While Teaching Online

The observations at four different schools were analysed and discussed with student teachers. In each description of teaching practices at a particular school, the most typical aspects – based on the most frequent comments of the students participating there – were mentioned. After an intensive discussion, some recommendations for language teachers can be concluded. They can be classified into three areas:

A) Teacher-oriented:
- Teachers should prepare as many visual materials as possible to make students attracted to the subject matter.
- Teachers should ask their students to have their cameras switched on as being exposed to learners' reactions can provide helpful feedback.
- Teachers should not use traditional teaching, such as reading aloud, translating, and doing exercises one by one.
- Teachers should enable all the students to contribute to discussions.

B) Learner-oriented:
- Learners should know that online teaching is only another way of learning, and not being involved in the process is the same as not learning in a face-to-face class.
- Learners should also be encouraged to use modern technologies in their face-to-face classes to become more knowledgeable and skilful.

C) Government-oriented:
- Intensive in-service teacher training will make teachers more self-confident in using modern technologies.
- Helping schools equip their classes with up-to-date appliances will make language teaching more effective.
- Helping families in need be equipped with laptops or computers (at least older ones) can be done through donations or when big companies replace older devices with new ones.

Although language teachers tried to continue teaching communicatively, they did not employ many possibilities that allowed teachers to be more creative. Attractive forms of language education enable teachers to involve learners in their learning processes. The most challenging seems to be hybrid learning, which can also be very attractive for younger learners and adolescents. The webinar *How to Hybrid: A guide to setting up a pain-free hybrid class* by Harry Waters, held on 15th March 2022 , became an inspiration for English teachers teaching in Slovakia and the Czech Republic on how not to make learners learn a target language but how to make them want to learn it.

Conclusion

Languages play an essential role in any educational context due to their necessity in cognitive and social human development. Their teaching is crucial as languages are necessary for effective communication, and becoming aware of cultures leads to sensitivity to and respect for each other. The European community is proud of using many languages in their member countries (multilingual societies) or by one individual (plurilingual repertoire). Learning languages has implications for individuals and communities, supporting the concept of learning through languages.

In Slovakia, pre-service teacher training has a long tradition. University education has been divided into courses presenting and practising a subject matter (the English language and the literature of English-speaking countries) and subjects related to the teaching profession. While the former are core courses in the bachelor's programmes, master's programmes entail the latter. However, basic pedagogical theory and class observations are part of the bachelor's degree programme. Language teachers are expected to be professionally trained in language and teaching. Practical teaching (practicum) as part of the ELT course is intended to encourage prospective teachers to reflect on the didactic knowledge and skills necessary to teach languages, monitor their progress and record their teaching experiences during their teacher education.

One topic in the course syllabus aims to identify and evaluate coursebooks and other materials appropriate for the learners' age, interests and language level. The ability to design learning materials and select and use ICT materials and activities are part of the ELT course (Theory and Practice of ELT). Language teachers are used to guide their learners to use the internet for information retrieval, which aligns with communicative practice and the concept of authenticity. Richards (2006) argues that authentic sources are the basis for classroom learning alongside activities that mirror the real world. However, this new situation with the pandemic aroused a need to develop the ability to critically assess ICT learning platforms and help learners choose the ones that are most appropriate for their language learning and acquisition. Due to the restrictions in the country, language teachers were expected to facilitate various learning environments such as discussion fora, web pages, etc. Based on the student teachers' questionnaires, these environments were not recognisable while observing their supervisors' teaching.

Nevertheless, student teachers highly evaluated a practicum, which enabled them to get insight into the professional responsibilities of language teachers. On the other hand, they recognised that online teaching limited their supervisors' use of various teaching techniques and strategies. For this reason, the learners' needs were not met as many learners did not participate actively, either misusing the situation or not being given enough space for their involvement. Teachers need to be aware of the complexities which can arise in Internet usage and be trained to prevent themselves from being overwhelmed by technical difficulties. On the other hand, they need to be mindful of the main goals of language education, even though online learning is not suitable for all students.

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Appendix A. A University Online Education Experience Questionnaire

Gender: male female

1 How did you feel overall about distance education?

Poor Below Average Average Good Excellent

2 Did you have access to a device for learning online?

Yes Yes, but it doesn't work well No, I share with others

3 What device did you use for distance learning?

Laptop Desktop Tablet Smartphone

4 How much time did you spend each day on an average on distance education?

1-3 hours 3-5 hours 5-7 hours 7-10 hours 10+ hours

5 How effective has remote learning been for you?

Not at all Slightly Moderately Very Extremely

6 How helpful was Trnava University in offering you the resources to learn from home?

Not at all Slightly Moderately Very Extremely

7 How stressful was distance learning for you during the COVID-19 pandemic?

....

8 How effectively could you manage time while learning remotely? (Consider 5 being extremely well and 1 being not at all)

Free-time activities Academic schedule

9 Did you enjoy learning remotely?

Yes, absolutely No, there are quite a few challenges

Yes, but I would like to change a few things No, not at all

10 How helpful were your teachers while studying online?

Not at all Slightly Moderately Very Extremely

Appendix B. An Observation Online Education Experience Questionnaire

The student teacher's school of practical teaching:

a) the secondary-grammar school
b) the bilingual school
c) the secondary school
d) the primary school

The observed teacher of English:

a) a native-speaking English teacher
b) a non-native-speaking English teacher

The observed classes

a) face-to-face classes (FF)
b) Microsoft Teams classes (MS)
c) hybrid classes (HC)
d) EduPage classes (EC)
e) Other forms – describe

………

………

Which classes do you consider the most effective? Why?

………

………

ONLINE CLASSES

The pros of the observed classes

………

………

The cons of the observed classes

………

………

Your own observing experience with online class(es)

Good Practice

……..

……..

Bad Practice

………..

………..

………..

SME Business Sustainability Model: Efforts to Reduce the Critical Dilemma of Creative SMEs

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Abstract: The creative industry, especially fashion, will continue to grow along with the development of the industry and fashion itself. Creative industry opportunities, especially fashion, provide opportunities and space for creative companies to create and produce creative and innovative products in accordance with the demands of changing times from time to time. This study examines and analyzes the relationship pattern of environmental uncertainty, open system thinking, Green IT adoption, and sustainable SME performance. Study is conducted on creative SMEs in Central Java and West Java Provinces. The target sample is 300 SMEs which based on the data recapitulation, the respondents who fill out completely and deserve to be analyzed are 275 SMEs. Statistical technique uses Partial Least Square. The results conclude that: (1) environmental uncertainty has significant negative impact on business sustainability, (2) open system thinking has negative impact on environmental uncertainty; (3) open system thinking has significant positive impact on business sustainability, (4) Green IT adoption has significant positive impact on business sustainability. Long-term survival of the SME can be achieved when the SME succeeds in having positive results on economic, environmental, and social performance.

Keywords: environmental uncertainty, open system thinking, Green IT adoption, business sustainability (business performance, environment, social).

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Introduction

The current post-pandemic era of Covid-19 still requires creative SMEs to struggle in improving sustainable business performance, even though they are faced with various obstacles. They will certainly be faced with problems such as environmental uncertainty that is difficult to predict, the hustle and bustle of the information system they receive, and green digital demands from consumers and society. The impact of Corona Virus Disease 2019 (COVID-19) pandemic has very strong influence on economic, social, and environmental life (Muafi, et al., 2022; Goodell, 2020; Nicola et al., 2020). This is also felt by creative SMEs in Indonesia, especially in Central Java and West Java. After being hit by the impact of the Covid-19 pandemic, slowly but surely, creative industry SMEs are returning to organize themselves to restore their business conditions. As it is known that these two provinces are the provinces that have the greatest potential for creative SMEs in Indonesia. The toughest challenge at the moment is that creative SMEs in Indonesia must be able to survive in very tight business competition so that they can achieve high performance towards world class. Studies in various countries prove that there is significant influence of environmental uncertainty on improving company performance (Kotha & Nair, 1995; Elbanna & Alhwarai, 2012). On the other hand, in Indonesia, Darya (2012) find that environmental uncertainty has no significant influence on company performance. Likewise, Kelvin et al. (2022) explain that market uncertainty has negative influence on organizational creativity in the creative industries in Pekanbaru. The higher the uncertainty faced by the market, the lower the creativity of the organization.

This study focuses on the creative industry sub-sector which provides the largest export contribution to Indonesia's Gross Domestic Product (GDP), namely fashion. The results of several studies prove that environmental uncertainty have significant influence on a country's organizational performance and economic growth (Jabnoun et al., 2003; Eker & Eker, 2019; Costa & Teare, 2000). The current digital era requires SMEs to have a system thinking that is open to new things (Jones & Brazzel, 2006; Checkland & Scholes, 1999; 1990), since it can have an impact on reducing the environmental uncertainties they face (Kralj, 2009). On the other hand, SMEs are still constrained in adopting green IT because it has been proven that the green IT adoption in Indonesia, especially in Java, among SMEs is still very low (Muafi et al., 2022; Kusuma et al., 2020a; 2020b). This study aims to produce a causality model of environmental uncertainty, **open system thinking**, and green IT adoption in enhancing business sustainability (business, environmental, and social performance). This is also fill the research gap that can provide theoretical and managerial contributions in alleviating the critical dilemma of post-Covid-19 business continuity in creative SMEs in Indonesia.

Literature Review

Environmental Uncertainty and Business Sustainability

Currently, SMEs are still faced with a very high uncertainty factor. The Covid-19 pandemic has caused many SMEs to run out of business, although some are still able to survive or even have an ever-increasing performance. Environmental uncertainty has been widely studied and has resulted in findings that environmental uncertainty can influence organizational performance directly and indirectly with positive and negative results (Kelvin et al., 2022; Eker & Eker, 2019; Bastian & Muchlish, 2012; Jusoh , 2010; Jabnoun et al., 2003; Costa & Teare, 2000). Geographical conditions and limited capital make SMEs increasingly faced with limited information they receive (Cantú et al., 2021; Muafi et al., 2022). This limited information makes the company faced with uncertain environmental conditions (Kessler, 2013). Increase in modern technology makes it difficult for SMEs to make predictions regarding people's lifestyles so that if it is not properly anticipated, it would weaken the companies competitiveness (Liu & Gao, 2022; Elbanna & Alhwarai, 2012). Problems will arise when there are events that are difficult to predict so that they tend to undermine the planning that has been done before (Duncan, 1972; Elbanna & Alhwarai, 2012).

In general, managers usually do not have sufficient information regarding the environmental changes they are facing (Daft et al., 1988; Muafi & Kusumawati, 2020; Duncan, 1972; Daft & Weick, 1984). Gordon & Narayanan (1984) find that managers who are faced with a high level of environmental uncertainty tend to seek more accurate external information, both financial and non-financial information. Most organizational changes are driven by changes in the external environment (Jones & Brazzel, 2006; Jones, 1995).
H1. Environmental uncertainty has significant negative influence on business sustainability

Open System Thinking, Environmental Uncertainty, and Business Sustainability

Open systems thinking makes change easier because organizations have an overall picture of a dynamic environment and have internal structure flexibility (Skarzˇauskiene, 2010). There are many things happen unexpectedly that leadership doesn't have enough information to make good decisions. Decision making should be given to people who have accurate information needed to make good decisions (Jones & Brazzel, 2006; Trilestari, 2004; Checkland & Scholes, 1999; 1990). Skarzˇauskiene (2010) also prove when managers have an effective and open thinking system, it would be able to improve organizational performance. In addition, Lezak & Thibodeau (2016) state that open system thinking can help companies make complex decision-making related to environmental uncertainties, especially in ecological behavior. Kralj (2009) proves that system thinking is also a reference when companies want to succeed in establishing a sustainable business and being able to manage green trends. Management can implement process innovation in organizational systems so that it can generate significant savings in the amount of business resources and can manage uncertainty. Open System Thinking make significant contribution in minimizing environmental uncertainty. Open systems thinking and environmental uncertainty have a very high relationship. When having open systems thinking, SMEs can provide an increasingly comprehensive picture of the organizational environment. The more SMEs have an open system of thinking, the less environmental uncertainty they face (Skarzˇauskiene, 2010):

H2. Open System Thinking has negative influence on environmental uncertainty
H3. Open System Thinking has significant positive influence on business sustainability

Green IT Adoption and Business Sustainability

Some empirical studies prove that green IT adoption on SMEs in Java is very low (Muafi et al., 2022; Kusuma et al., 2020a; 2020b; Mariani & Imam 2012). Green IT or known as Green Computing is useful for minimizing negative influences on the environment so that the company's business operations can be effective and efficient. This can be done by reducing carbon emissions and reducing global warming as well as pollution to the environment (Catyanadika, 2017; Muafi et al., 2022; Tenhunen, 2011). Adoption of green IT emphasizes the adoption of companies in environmental friendly IT. IT implementation includes the strategies and policies used by companies to reduce the environmental impact of systems and the use of IT to drive organizational success. There are two important points used in the framework of IT adoption, namely economic considerations and pro-environment orientation (Loeser et al., 2017; Muafi et al., 2022; Tenhunen, 2011). SMEs that use green IT will certainly be able to improve their performance in a sustainable manner. They can save production costs and other costs including participating in preserving the environment so that in the long run they will be able to increase their competitive advantage (Fan et al., 2022; Gholami et al., 2016).

H4. Green IT adoption has significant positive influence on business sustainability

Research methods

The study will be conducted in Central Java and West Java Provinces since these two provinces provide the largest export contribution to Indonesia's Gross Domestic Product (GDP), especially in fashion. The population and the respondents are all SME fashion owners/managers in Central Java and West Java. Central Java Province is represented by Klaten, while West Java is represented by Ciwaringin (Cirebon). These potential clusters will be used as samples because they are areas with great potential in growing creative economy-based industries. The target sample in this study is 300 respondents. This sample target meets the criteria for survey research using the Structural Equation Modeling (SEM) model, namely a minimum of 100 respondents [Hair et al., 2017]. The sample selection criteria are; (1) SMEs which have been operating for at least the last 3 years, (2) SMEs which have a minimum sales turnover of IDR 3 million. The sampling technique uses proportional area random sampling with two stages. The first stage is taking samples proportionally in each area according to the specified target sample. The second stage is using purposive sampling technique. The research type is survey with primary data through questionnaires and interviews with several key respondents, local government, and the community. While secondary data obtained from various publication sources. The scaling technique used is a Likert scale, with a score of 1 (very strongly disagree) to 7 (very strongly agree) which applies to the variables of environmental uncertainty, open systems thinking, and Green IT adoption. While, the score for business sustainability starts from a score of 1 (very not high) to 7 (very high) compared to the performance of similar competing companies. Statistical analysis technique using Partial Least Square. The results of the recapitulation showed that 275 SMEs full answered the questionnaire. The results of testing the entire questionnaire are valid and reliable.

Results

Respondent Characteristics

The majority of respondents are women (94%), SME managers (46%), High School Education (75%) and SME which have been operating for 4 years (77%)

Hypothesis test

Inner Model Analysis

In the first stage of inner model analysis, it is necessary to know the value of the coefficient of determination which shows the influence magnitude of exogenous variables on endogenous. The results of testing the determination coefficient shows that the environmental uncertainty variable has R^2 value of 0.40 which indicates that the variable is influenced by endogenous variables in the study of 40%. The business performance variable has an R^2 value of 0.42 which indicates that this variable is influenced by endogenous variables in the study of 42%. Figure 1 and Table 1 show the output of the inner model analysis which broadly tests the research hypothesis.

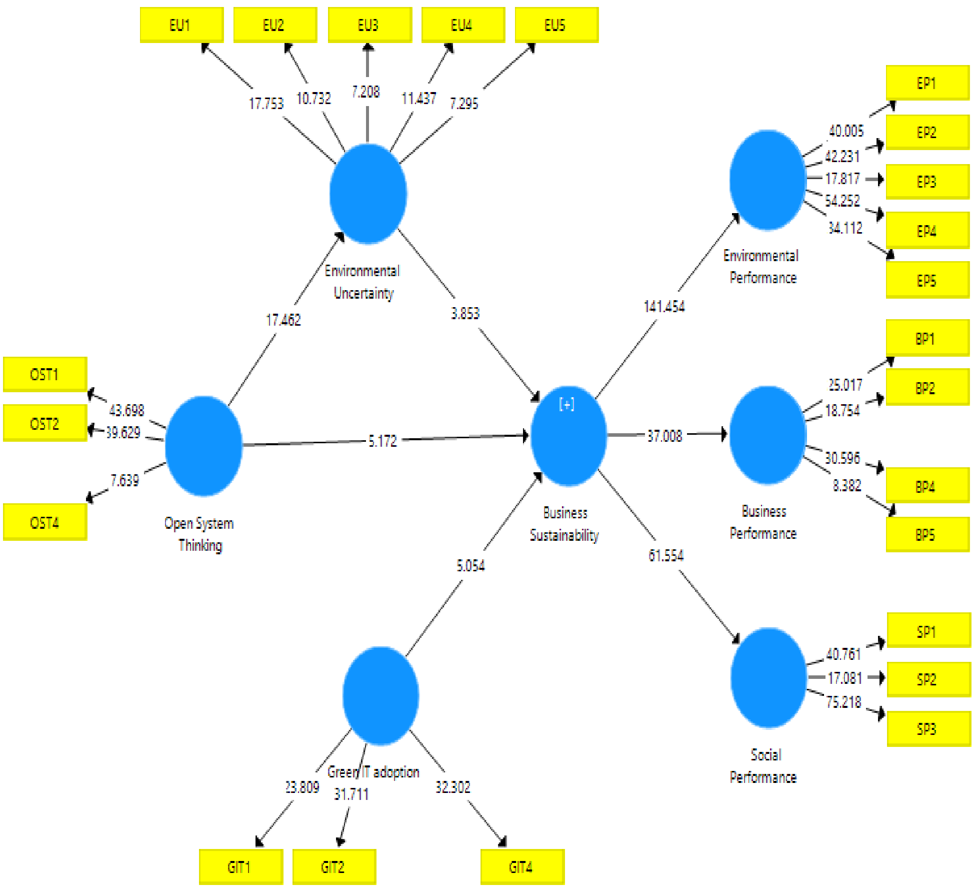

Figure 1 Path Diagram

Creative SME Business Sustainability Model

Table 1. Path Coefficients

Hypothesis	Original Sample	T Statistics	P Values	Note
Environmental Uncertainty -> Business Sustainability	-0.20	3.85	0.00*	H1 accepted
Open System Thinking -> Environmental Uncertainty	-0.63	17.46	0.00*	H2 accepted
Open System Thinking -> Business Sustainability	0.26	5.17	0.00*	H3 accepted
Green IT adoption -> Business Sustainability	0.28	5.05	0.00*	H4 accepted

Note: * sign.0.05

Discussion

The results prove that environmental uncertainty has significant negative influence on business sustainability (**the first hypothesis is proven**). This result do not support the theory and studies from Jabnoun et al. (2003; Eker & Eker, 2019; Costa & Teare, 2000; Bastian & Muchlish, 2012; Jusoh, 2010). This is possible since creative SMEs currently have a very high and complex level of competition. The Covid-19 pandemic has drastically changed people's behavior and lifestyle in conducting business transactions. Massive adaptation makes SMEs faced with very difficult situations and conditions in order to survive in the long term. According to Clara (2020), the biggest challenges for creative SMEs today are:

(1) very complex global market demands in terms of product and service quality,

(2) difficulties in obtaining market information so that SMEs have difficulty knowing the potential market for their products, especially in the market exports which require very high cost consequences with difficult certification requirements,

(3) competition in supply chain management starting from obtaining raw materials to digital-based marketing.

Some of the efforts that can be made by SMEs include; (1) becoming a member of an association that is useful for building social capital and business networks at local, regional, national, and international levels that are useful for developing and marketing products/services on a global scale, (2) studying and identifying consumer behavior that is currently digital-based , (3) building strong branding on a national and global scale. It should be recognized that when SMEs cannot anticipate and conduct a careful and precise analysis of the business environment, it would reduce the competitiveness of companies (Liu & Gao, 2022; Elbanna & Alhwarai, 2012). Gordon & Narayanan (1984) recommend that managers must seek accurate information, both financial and non-financial information, so they tend to be motivated to improve their performance on an ongoing basis.

The results also prove that the open system thinking has negative influence on environmental uncertainty (**the**

second hypothesis is proven). SMEs that have an open system must have dynamic thinking in anticipating changes that occur both inside and outside the organization. SMEs must have flexibility in anticipating these changes and must be able to have accurate information so they can make quick, agile, and appropriate decisions (Skarzˇauskiene, 2010; Jones & Brazzel, 2006) so that they can have an influence on company performance in a sustainable manner (Lezak & Thibodeau, 2016) . It turns out that having open system thinking can make a significant contribution in minimizing environmental uncertainty. Companies who have open system thinking can provide an increasingly comprehensive picture of the organizational environment. The more SMEs have an open system of thinking, the less environmental uncertainty they face (Lezak & Thibodeau, 2016, Skarzˇauskiene, 2010; Jones & Brazzel, 2006). This also proves that **the second hypothesis is accepted.**

The results also prove that Green IT adoption has significant positive influence on business sustainability (**the third hypothesis is proven**). The issue of digitalization is a strategic issue faced by creative SMEs (Muafi et al., 2022; Kusuma et al., 2020a; 2020b; Mariani & Imam 2012). When SMEs have a green commitment, they would be able to implement green IT easily. Warjiyono (2020) recommends SME to conduct some activities such as; green use, green disposal, green design, and green manufacturing. Creative SMEs who have a pro-environmental orientation will be efficient and have an influence on economic performance (Loeser et al., 2017; Muafi et al., 2022; Tenhunen, 2011).

Currently, the issue of environmental management is a strategic and interesting issue for improving company performance in a sustainable manner and increasing green competitive advantage (Porter & Van der Linde, 1995; Hart, 1995). The sustainability of the SME can be achieved when the SME succeeds in having positive results on business sustainability (economic, environmental, and social performance) (Muafi & Kusumawati, 2020; Thomas & Kumar, 2016; Shahzad et al., 2016; Wood, 2010; Brammer et al., 2006; Mahoney & Roberts, 2004; Jones, 1995).

Limitations and future research

1. This study only represented by two provinces where Indonesia has many provinces and each province has creative SMEs spread across various regions. It is feared that the generalizations cannot represent the population. In the future, the population coverage must be expanded where each province must be represented.
2. The characteristics of SMEs need to be considered for inclusion in the research model because each province has varied and unique characteristics.
3. It is necessary to differentiate and classify SMEs that have already adopted digital IT so that the results can later be used to develop strategies and policies that are right on target so that they can be implemented more according to the situation and conditions of creative SMEs in Indonesia.
4. Consider other variables such as; digital skills, digital entrepreneurship, digital leadership, and other digital aspects that can be integrated with research models.

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How is the Past Education Process of Adolescent Experienced and the Expectation Formation through Religious Beliefs?

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Abstract: Indonesia is a democratic country where the majority of the population is Muslim. This constitution guarantees freedom of worship for all Indonesian people, according to their religion or belief. It was also stated that the state is based on faith in "Belief in the One and Only God" (former of the first precepts of Pancasila, the philosophy of the Indonesian state). This paper is the result of a mini-research to identify phenomena that occur in adolescents related to religious beliefs in everyday life. This belief is manifested through expectations and the learning process they experience. This study involved 268 students, 46 people (17.2%) were scholarship recipients from BAZNAS (zakat institution). The data shows that not all constructs (four statements) refer to religious beliefs, so they must be removed for further research. The results of the study showed a high level of religious belief, the routine of carrying out rituals of worship, so that belief as a source of life decisions can influence a person's learning process while studying. On the other hand, a person's faith in his religion can also affect the extent of a teenager's optimism in achieving his life goals.

Keywords: religious beliefs, education process, adolescent

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Introduction

Religion regulates humans' relationship with God and governs how we live with fellow humans, including our relationship with nature. Based on belief in God, religion is a way of life humans must take to realize the goodness of life in this world and the afterlife. Every person's understanding of religion can be classified into the needs and goals of life to reach the eternal realm. Some people consider religious rules to be an obligation that must be carried out and not be abandoned. So, spiritual practice is not based on love for the Creator but rather on the formality of Islamic status. Although religious practices vary by culture, political boundaries, local communities, and individuals, some forms of religion are influential, even essential, in many people's lives worldwide. Religion is necessary for development because it delivers a means of socialization in spots such as honorable behavior and offers emotional support to individuals from the cradle to the grave (Stolz et al., 2013). In Indonesia, religion is a citizen's human right, including religious teachings. *Religion* is an individual human right that cannot be interfered with by anyone, including the state (Sari, 2019). Religious awareness in adolescents plays a critical role in their moral development because the moral values from religion are stable and constant; religious awareness underlies visible behavior and colors attitudes, thoughts, and desires (Oktonika, 2020).

A child's faith in God at an early age is not a belief born of thought but an emotional attitude closely related to the soul's need for love and protection. Therefore, when introducing God to children, it is best to highlight his qualities that are full of love and mercy rather than highlighting God's qualities that punish, torture, or torment hell (Yusra & Tabroni, 2022). The perceived religious awareness contains an understandings of God, faith, attitudes, and religious behavior accompanied by sincere appreciation, organized in a mental personality system, which is a form of closeness to something higher than everything: God. Apart from that, adolescence is a time of achieving identity, and the main story of adolescence is between identity and role confusion. If not appropriately directed, they are vulnerable to the negative influence of heretical groups, sects, and other dangerous ideological currents (Oktonika, 2020).

Adolescents' religious beliefs in their formation are attached to their parents' beliefs through the influence of how far their parents are conservatism in holding these beliefs. Trajectories of change will be more pronounced as adolescents mature, partly because of their increased capacity to think and question and partly because of their excellent opportunities to share opinions, impressions, and experiences with others (Ozorak, 1989). Many students in Indonesia face challenging situations due to weighty life pressures. This condition leads to internal problems, which, if they do not receive good social support, will harm teenagers' mental health, such as feelings of hopelessness and even suicide attempts (Zuhdiyah et al., 2023).

Adolescence is a period of preservation or change from childhood to adulthood. There will be numerous things they can comprehend from someone who is roughly them. If teenagers receive good parenting or social relationships, they can survive various mental pressures. As adolescence progresses, the role of parents is crucial in providing children's growth and development following what is expected. Because parents are the first education for their children in the family environment, a family can also be called the first education for children because of everything parents or family do, and their children will see and practice it. Therefore, the role of parents and family is significant to increase children's understanding of religion during adolescence. In this regard, this research aims to determine parental parenting patterns in teenagers' religious understanding. The research methods used are qualitative descriptive research and participatory action research. This research is a community study of Muslim families with teenage children aged 10 to 20 years. Data was collected by holding religious activities at mosques through the Ar-Ramah Mosque Youth Association (Yusra & Tabroni, 2022). In other words, a religious community is a social structure that has prominent norms and social pressures to follow these norms and act conventionally (Hardy & Walker, 2012).

Individuals with religious beliefs tend to empower themselves in line with their religion's principles, enabling them to fulfill their needs while maintaining the integrity of their religion. Religion also delivers a moral foundation that encourages compassion and concern for others, fulfilling the need for prosocial behavior. Religious individuals often find solace and strength by sacrificing their obligations to a higher authority. They view God as a source of hope and approval for facing life's challenges and handling stress (Zuhdiyah et al., 2023). Therefore, people's trust in religion is based on its ability to fulfill basic human desires. By worshiping God, individuals seek security and protection. Second, it is admitted that fate is an aspect of life that cannot be denied. From birth, individuals have a destiny that God has determined. Third, religion leads individuals in how to behave. Personal behavior plays an essential role in determining their karma. Lastly, there are punishments associated with breaking religious rules, including the belief in the existence of hell, which is believed to be faced by those who violate religious principles (Zuhdiyah et al., 2023).

Self-efficacy is the belief in one's capability to plan and perform actions to attain a specific outcome (Bandura, 1997**)**. Self-efficacy reveals students' educational achievement across academic zones and statuses. Despite there being considerable proof to support the direct effects of self-efficacy beliefs on educational accomplishment, analyses that have explored the motivational mechanism that mediates self-efficacy–achievement relationship are insufficient and are crucial to understanding how and why self-efficacy affects students' academic achievement and will permit instructional actions and agendas to improve academic achievement to be designed (Doménech-Betoret et al., 2017). *Self-efficacy* is an essential part of leading the learning process. Self-efficacy refers to the student's beliefs and attitudes toward their capabilities to achieve academic success, their confidence in their capacity to achieve academic assignments, and gaining successful learning (Hayat et al., 2020). Hill et al. (2022) gave the study results on students who reported a relatively high level of self-efficacy overall. Students who reported various experiences rated themselves as having an average confidence level of 75%. Self-efficacy thoughts show the individuals' excellent performance through increasing commitment, endeavor, and perseverance. Students with high levels of self-efficacy attribute their failures to lower attempts rather than lower ability. In discrepancy, those with low self-efficacy attribute their failures to low abilities. Thus, self-efficacy will influence the choice of tasks and endurance while doing them. Conversely, students with low self-efficacy are more likely to fear doing their tasks, avoiding, postponing, and giving them up soon.

Learning process refers to students' improvement through complex comprehension, reasoning skills, and knowledge at school, then evaluated by educators knowing the skills (Goldman, 2012). This progression includes brain development that shows significant progress in building skills for recording and processing basic information, which will underlie improvement in more complex types of higher-order cognition. Learning as a process means that through method, effort, focus, and practice, we can get a lot better at gaining expertise. It is essential to reflect on the vital role of religious education in adolescent cognitive health. School-based mental health schooling and publicity strategies can maximize the advantages of religious education with an emphasis on implementing effective religious education to provide a positive influence on adolescent mental health.

Adolescence is a stage of human development proposed by Erik Erikson as a transition period from childhood to adulthood. An integral component of this stage of development is identity development, where individuals develop the proficiency to think about abstract concepts and the capacity to consider the consequences of their decisions (Hardy & Walker, 2012). Therefore, this research aims to examine the role of religious beliefs as an independent relationship to self-efficacy and the learning process that teenagers have experienced in the several years of their education. In exploring the hypothesis, we tested whether religious commitment or interaction would interact in predicting self-efficiency and influencing a person's learning process. This is because religious involvement is a different aspect of religiosity, where religious commitment is more internally oriented, and religious involvement is more externally oriented and tries to be associated with a person's self-efficacy and the external learning process.

Method

This research generally describes research participants, design, procedures, measuring tools, and data analysis, starting with developing basic theory and the results of previous related research. Researchers also prepared valid and reliable research measuring tools - the research procedure uses good measuring instruments for each variable in the form of an online questionnaire distributed to students who participate in the study using convenience sampling. Once the data was collected, the researcher conducted descriptive analysis and hypothesis testing. The sample included 268 adolescents aged 15–20 years, consisting of 118 male and 150 female students; 45 respondents (16.8%) claimed to have received scholarships, while 223 students at the expense of their parents. Study used questionnaire as a tool consist of 10 statements of religious beliefs that adopted of The Santa Clara Strength of Religious Faith Questionnaire (SCSORFQ) (Plante & Boccaccini, 1997). Then the learning process variable has 7 statements items (Goldman, 2012) and 4 statements of Bandura (1997). The questionnaire used is in the form of a g-form (Google Form) to reach more respondents using scores that have been determined using a Likert scale. The weights used for each question are: 1 = Strongly Disagree (STS); 2 = Disagree (TS); 3 = Neutral(N); 4 = Agree(S); 5 = Strongly Agree (SS).

Results

Figure below explain that as 268 respondents taken using a questionnaire; the most dominant data of 150 female, (56%) out of 118 male respondents (44%) and majority stated themselves that 223 self-funded students (83.2%) than 45 scholarship students (16.8%)..

Description	Total	Percentage (%)
Male	118	44
Female	150	56
	268	100
Scholarship Students	45	16.8
Self-funded students	223	83.2
	268	100

Figure 1. Respondent description based on gender and student condition

Please embed tables and figures in appropriate areas within the document and center them horizontally. Tables and figures should not exceed the given page margins. Provide captions (maximum length: 6 to 8 words) for each table or figure. Centre the caption above the table and below the figure. Please reference the table or figure in the text (see Figure 1). Please do not use vertical lines in tables. For figures, GIF and JPEG (JPG) are the preferred formats.

Variable	Questions items	Outer Loadings
Religious beliefs	K1	0.760
	K10	0.765
	K3	0.820
	K4	0.879
	K6	0.858
	K7	0.792
Self-efficacy	SE1	0.838
	SE2	0.823
	SE3	0.876
	SE4	0.872
Learning Process	LP1	0.790
	LP2	0.880
	LP3	0.864
	LP4	0.889
	LP5	0.878
	LP6	0.825
	LP7	0.846

Figure 2. Validity Test: Variables and Outer Loadings

	Cronbach's alpha	Composite reliability (rho_a)	Composite Reliability (rho_c)	Average variance extracted (AVE)
Learning Process	0.938	0.940	0.949	0.729
Self Efficacy	0.875	0.879	0.914	0.727
Religious belief	0.888	0.906	0.912	0.731

Figure 3. Variables and Outer Loadings

The research conducted a reliability test using the Alpha-Cronbach method to test reliability. Based on figure 3, the Cronbach's Alpha value for all research variables is more significant than 0.6, indicating that all variables are reliable. Therefore, this research instrument deserves further research.

The figure above shows that the model fit meets the requirements of using partial least squares. Where the minimum SRMR value has exceeded <0.01, the model is considered suitable. Moreover, the NFI value is close to almost 1, which shows that the model built is better in this study.

Model fit		
Fit summary		
	Saturated model	Estimated model
SRMR	0.065	0.065
d_ULS	0.977	0.977
d_G	0.451	0.451
Chi-square	673.393	673.393
NFI	0.845	0.845

Figure 4. Model Fit

Discussion and Conclusion

Based on the results shown in Figure 5, the three hypotheses that appeared previously showed a significant influence on each of them. That the influence of self-efficacy on the learning process, religious beliefs on the learning process, and religious beliefs on self-efficacy. Each effect tested has a p-value of 0.000 and has a t statistics value with a value range of 4,282 to 10,290.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Self-Efficacy -> Learning Process	0.630	0.621	0.061	10.290	0.000
Religious Beliefs -> Learning Process	0.281	0.290	0.066	4.282	0.000
Religious Beliefs -> Self-Efficacy	0.675	0.676	0.051	13.202	0.000

Figure 5. Hypotheses Test Result

This shows significant progress in the study of religiosity. Identifying the multidimensional nature of religiosity and utilizing these dimensions in its measurement is critical in future research. This allows researchers to understand the multilevel importance of religiosity in influencing adolescent self-efficacy behavior and identify broader impacts, thus strengthening the idea that religiosity is very important to consider in forming teenage self-efficacy, as demonstrated by their learning process (Pickering & Vazsonyi, 2010).

Like many observed studies, this study uses a convenient sample and lacks random sampling and representativeness. Thus, the findings may need to be more generalizable to the adolescent population. In addition, the data for the current investigation are limited to one particular religion and one country where most of the population is Muslim. So that in the future, respondents can be expanded, for example, with a diverse population of other religions (Christians, Hindus, Buddhists), as well as with several respondents who have equal representation. Also, the fact that the literature regarding how deep religious beliefs can be seen in daily activities, including the learning process, is still very minimal and perhaps is still far from. This movement will lead into right direction in addressing our need for more details about youth religion by analyzing and collecting the available, although in some manners insufficient, survey data to provide a big portrait of youth religiosity.

This study is geographically limited to Indonesia; its scope is still in a small city that only relates to one religion. Studies related to religious beliefs on self-efficacy and the learning process still need to be completed. Previous research has discussed more about religious beliefs that have an impact on adolescent behavior and especially their influence on sexual behavior. In the results of this study, it was found that several statements of religious beliefs that were manifested through worship behavior were found to be invalid in this study. Instead, they were beliefs that were internal but not expressed ritually.

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The Impact of Sustainability Communication and Sustainability Reports on Corporate Reputation

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Abstract: In today's business world, companies are evaluated not only by their financial successes but also by their sustainability performances. Transparent communication and reporting of sustainability-related information play a crucial role in establishing and maintaining corporate reputation. This study examines how sustainability communication and reports can influence corporate reputation. Sustainability communication is a communication strategy used by companies to convey and explain their sustainability efforts to stakeholders by arranging reports. By clearly conveying their sustainability goals, achievements, and commitments to stakeholders, companies emphasize their dedication to sustainability. Sustainability reporting offers several fundamental benefits in the eyes of a company's target audience: Transparency and Trust: Companies demonstrate transparency through sustainability communication and reports, leading to increased stakeholder trust. Trust is a fundamental component of corporate reputation. Competitive Advantage: Companies that effectively convey their sustainability efforts can gain a competitive advantage over their rivals. A reputation focused on sustainability can influence customer preferences. Investor Interest: Investors tend to consider sustainability performance when making investment decisions. A strong sustainability report can attract investor interest and positively impact a company's financial performance. Employee Commitment: Building a strong sustainability culture within the company can increase employee commitment. A company that employees take pride in can strengthen its employer brand. Sustainability communication and sustainability reports are critical tools for strengthening corporate reputation. Focusing on sustainability communication and reporting is essential for companies to fulfill their environmental and social responsibilities and sustain long-term business success. Within the scope of this study, we will measure the added value that scientifically selected sustainability reports provide to the organizations that publish them, develop conclusions and discussions based on this assessment.

Keywords: sustainability, culture, transparency, competitive advantage, investor interest, employee commitment

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Introduction

In today's business world, companies are evaluated not only by their financial successes but also by their sustainability performances. Therefore, transparent communication and reporting of sustainability-related information play a crucial role in establishing and maintaining corporate reputation. This study examines how sustainability communication and reports can influence corporate reputation.

Sustainability communication is a communication strategy used by companies to convey and explain their sustainability efforts to stakeholders. By clearly conveying their sustainability goals, achievements, and commitments to stakeholders, companies emphasize their dedication to sustainability. This communication impacts various stakeholders such as consumers, investors, business partners, and society.

Sustainability reports are official documents comprehensively documenting a company's sustainability performance and presenting this information to stakeholders. These reports are used to measure and manage environmental, social, and economic impacts. Sustainability reports are of critical importance in transparently showcasing a company's sustainability efforts.

Sustainability reporting offers several fundamental benefits in the eyes of a company's target audience:

Tra*nsparency and Trust:* Companies demonstrate transparency through sustainability communication and reports, leading to increased stakeholder trust. Trust is a fundamental component of corporate reputation.

Competitive Advantage: Companies that effectively convey their sustainability efforts can gain a competitive advantage over their rivals. A reputation focused on sustainability can influence customer preferences.

Investor Interest: Investors tend to consider sustainability performance when making investment decisions. A strong sustainability report can attract investor interest and positively impact a company's financial performance.

Employee Commitment: Building a strong sustainability culture within the company can increase employee commitment. A company that employees take pride in can strengthen its employer brand.

Sustainability communication and sustainability reports are critical tools for strengthening corporate reputation. Factors such as transparency, trust, competitive advantage, investor interest, and employee commitment demonstrate that a reputation centered around sustainability can significantly contribute to a company's success. Therefore, focusing on sustainability communication and reporting is essential for companies to fulfill their environmental and social responsibilities and sustain long-term business success.

Within the scope of this study, we will measure the added value that scientifically selected sustainability reports provide to the organizations that publish them, and develop conclusions and discussions based on this assessment.

Corporate sustainability has become an increasingly pivotal concern in today's business landscape. Companies are no longer solely focused on profit maximization but are also committed to meeting their environmental, social, and economic responsibilities. As a result of sustainability efforts, the sharing of information related to sustainability plays a significant role. This article delves into the influence of sustainability communication and sustainability reports on corporate reputation.

Sustainability Communication

Sustainability communication pertains to how companies convey their sustainability efforts. This communication can target both internal and external stakeholders. Sustainability communication is a communication strategy used to support sustainability efforts and raise awareness among the society, consumers, investors, and other relevant stakeholders about this issue. The importance of sustainability communication can be explained for several reasons:

Public Awareness and Education: Sustainability communication helps people acquire more information about sustainability issues and become more sensitive to these matters. It encourages individuals to become better informed about environmental concerns, social responsibility, and sustainable products.

Target Audience Consciousness: Consumers are increasingly seeking information about sustainable products and services and are inclined to make more conscious decisions in this regard. Companies can make themselves more appealing to consumers by highlighting their sustainability efforts through communication.

Corporate Reputation: Sustainability can have an impact on a company's reputation. By clearly communicating their sustainability practices, companies can build a positive business reputation, which attracts and encourages loyalty from customers, investors, and other stakeholders.

Business Opportunities: Sustainability communication can open up new business opportunities for companies. Sustainability efforts can support innovation and growth areas, such as the development of green technologies and the growth of green markets.

Investor Interest: Effective communication regarding sustainability can capture the attention of investors. Sustainability performance can influence investment decisions, and providing transparency and information about sustainability can offer investors more clarity.

Compliance with Relevant Regulations: Sustainability communication is essential for complying with various regulations and standards. Companies should disclose their compliance with these standards and provide assurance and information to stakeholders.

Sustainability communication is a communication strategy employed to support sustainability initiatives and increase awareness among the general public, consumers, investors, and other pertinent stakeholders regarding this matter.

The impacts of sustainability communication on corporate reputation:

a. Reputation Building: Sustainability communication fosters a positive image for a company. When a company transparently and effectively communicates its sustainability initiatives, it builds trust and credibility among stakeholders. This, in turn, enhances its reputation as a responsible and ethical organization.

b. Stakeholder Engagement: Effective sustainability communication engages stakeholders, including employees, customers, investors, and the wider community. By involving these groups in the sustainability journey, a company can garner support, loyalty, and goodwill. This engagement contributes positively to its reputation.

c. Differentiation: In a competitive marketplace, sustainability communication can serve as a means of differentiation. A company that successfully conveys its commitment to sustainability sets itself apart, potentially attracting customers and investors who prioritize ethical and environmentally responsible businesses.

The Role of Sustainability Reports

Sustainability reporting is an official document prepared with the aim of documenting an organization's or company's sustainability performance and practices and conveying this information to its stakeholders. These reports may encompass an organization's social, environmental, and economic impacts, sustainability goals, policies, practices, and achievements. Sustainability reports are typically prepared in accordance with sustainability reporting standards.

Sustainability reports are comprehensive documents that detail a company's sustainability performance, goals, and strategies. These reports are often published annually and follow established reporting frameworks. The impacts of sustainability reports on corporate reputation include:

a. Transparency: Sustainability reports provide a transparent view of a company's sustainability initiatives. This transparency builds trust among stakeholders by demonstrating the company's willingness to be held accountable for its actions, which positively affects its reputation. Sustainability reports transparently present an organization's sustainability performance and practices, allowing stakeholders to track the organization's commitments and activities.

b. Stakeholder Communication: Reports provide information on sustainability to all of an organization's stakeholders, including employees, customers, investors, the public, civil society organizations, suppliers, and more. This extends the organization's performance and goals to a broader audience.

c. Accountability: Sustainability reports hold companies accountable for their sustainability goals and progress. The act of setting specific targets and openly reporting on achievements or shortcomings showcases a commitment to continuous improvement and responsible business practices, reinforcing a positive reputation.

d. Risk Mitigation: By reporting on environmental and social risks, companies can mitigate potential issues. Addressing these concerns proactively in sustainability reports shows stakeholders that the company is responsible and proactive, reducing the risk of reputation damage.

e. Assessment and Improvement Opportunities: Sustainability reports assist organizations in evaluating and improving their sustainability goals. This can lead to the adoption of better practices.

f. Decision-Making Tools: Organizations can utilize sustainability reports to shape their strategic and operational decisions. These reports can help organizations mitigate risks and evaluate opportunities.

g. Compliance with Sustainability Standards: Many organizations prepare sustainability reports in compliance with internationally accepted sustainability reporting standards (e.g., GRI - Global Reporting Initiative). This enhances the comparability and reliability of the reports.

Sustainability reporting is a tool for organizations to document their sustainability commitments and activities, providing transparency and accountability. It helps organizations contribute to a more sustainable future and gain the trust of their stakeholders.

Sustainability reporting offers several fundamental benefits in the eyes of a company's target audience:

Transparency and Trust: Companies demonstrate transparency through sustainability communication and reports, leading to increased stakeholder trust. Trust is a fundamental component of corporate reputation.

Competitive Advantage: Companies that effectively convey their sustainability efforts can gain a competitive advantage over their rivals. A reputation focused on sustainability can influence customer preferences.

Investor Interest: Investors tend to consider sustainability performance when making investment decisions. A strong sustainability report can attract investor interest and positively impact a company's financial performance.

Employee Commitment: Building a strong sustainability culture within the company can increase employee commitment. A company that employees take pride in can strengthen its employer brand.

Sustainability communication and sustainability reports are critical tools for strengthening corporate reputation. Factors such as transparency, trust, competitive advantage, investor interest, and employee commitment demonstrate that a reputation centered around sustainability can significantly contribute to a company's success. Therefore, focusing on sustainability communication and reporting is essential for companies to fulfill their environmental and social responsibilities and sustain long-term business success. Sustainability reports enable organizations to provide information on sustainability to all relevant stakeholders (customers, investors, employees, suppliers, civil society organizations, the public, media, etc.). This enhances the organization's societal impact by conveying its sustainability goals and practices to a wider audience.

Sustainable reports:

Perception of Corporate Social Responsibility: Sustainability reporting can create a positive perception by documenting an organization's social responsibility efforts and sharing them with stakeholders. By emphasizing its commitments and contributions related to sustainability, the organization creates an impression that it fulfills its social responsibilities.

Corporate Reputation and Competitive Advantage: Sustainability reports can boost an organization's business reputation by highlighting its sustainability practices. This can make the organization more appealing than its competitors, leading to a competitive advantage.

Investor and Financial Community Interest: Sustainability reports can increase investor interest in an organization's long-term sustainability and risks. They can also emphasize the relationship between the organization's financial performance and sustainability efforts.

Sustainability communication and sustainability reports are powerful tools that can significantly impact a company's corporate reputation. When utilized effectively, they can enhance a company's image, foster stakeholder engagement, and differentiate it in a competitive market. Moreover, these practices promote transparency, accountability, and risk mitigation, further strengthening a company's reputation as a responsible and ethical corporate citizen. In a world increasingly focused on sustainability, companies that prioritize effective communication and reporting in this area are more likely to reap the benefits of a positive and enduring corporate reputation.

Conclusion

In conclusion, sustainable reports can have a profound impact on corporate reputation by enhancing transparency, building trust, differentiating the company, engaging stakeholders, managing risks, attracting investors, ensuring compliance, and promoting innovation. However, the actual influence on reputation will depend on the quality and authenticity of the report, as well as the organization's actions and performance in the realm of sustainability. It's important for companies to not just report on sustainability but also to genuinely embrace sustainable practices in their core operations and strategy to build a strong and lasting positive reputation. Sustainable reports often showcase a company's commitment to innovation and adapting to changing market dynamics. This can lead to a competitive advantage and bolster its reputation as an industry leader. Sustainability reports often highlight a company's efforts to manage environmental and social risks. This can mitigate potential reputational damage from issues such as environmental violations or labor disputes.

Dropout of Lebanese High School Students: Causes, Consequences and Prevention Strategies

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Abstract: Every year around 1.2 million students drop out of school in the US. According to a UNICEF report enrollment in educational institutions in Lebanon dropped from 60% in 2020-2021 to 43% in 2021-2022. The National Dropout Prevention Center (NDPC) at Clemson University has identified an extensive set of risk factors organized into four domains: Individual factors, family factors, school factors, and community factors. This research investigates the causes, consequences of high school students' dropout rates in Lebanon, and the prevention methods implemented. The study aims to identify the primary push, pull and fall out factors contributing to this concerning phenomenon. A questionnaire administered to students, interviews with principals, and focus groups with parents and NGO representatives are used to gather comprehensive data on the multifaceted aspects encompassing individual, social, economic, and educational barriers. The rising concerns surrounding high school dropout rates in Lebanon, which have been steadily increasing over the past decade, provide the impetus for this study. By exploring the underlying causes, this research seeks to contribute to a better understanding of the dropout rates among high school students in Lebanon and provide insights for targeted interventions and policies to address this critical issue.

Keywords: Dropout, High school students, pull factors, push factors, fall out factors

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Introduction

Background of the study

Education serves as the cornerstone of personal development, social mobility, and national progress, making the issue of dropout a matter of paramount importance. The path to a brighter future begins in the classrooms of our schools, where young minds are nurtured, dreams are conceived, and the foundations for success are laid. However, for a significant number of students in Lebanon, this path is interrupted prematurely, often before the completion of their high school education. According to UNICEF report: enrollment in educational institutions in Lebanon dropped from 60% in 2020-2021 to 43% in 2021-2022 (Anadolu Agency website, 2022). Dropping out of school is a conclusion of a long process that started much before the day that a student actually stops attending school. According to a recent United Nations report, the education of at least 1.2 million students in Lebanon has been interrupted in 2020, leading to increased dropout rates (ERP, 2021). Lebanon has encountered since 2019 a number of social, economic, and political difficulties, and these issues have had an impact on the country's educational system. Lebanon is currently witnessing a series of strikes in various sectors, reflecting the severe level of needs in the country. The socio-economic crisis has pushed three-quarters of the population into poverty, with frequent power cuts and a worsening cash crisis deteriorating living conditions for millions of people (Save the Children, 2023). The Lebanese crisis since 2019 is increasingly forcing young people to drop out of learning and engage in work to help and support their families. Dropping out of school poses serious challenges not only at the individual level but also at the social and community level (Christle et al., 2007).

Literature Review

Numerous indicators have been identified across the literature to predict which students will dropout of school, including student background (e.g., socioeconomic status), family context (e.g., level of parent education, family stressors, parental involvement in schooling), early school experiences (e.g., reading level, academic achievement), and engagement behaviors (e.g., attendance, participation) (Barclay & Doll, 2001; Carter, 2010; Christenson et al., 2008; Reschly & Christenson, 2006; Reschly et al., 2010). The act of dropping out is influenced by an array of factors related to the individual students, their educational performance, behaviors, attitudes, and backgrounds; and to the family, school, and community settings in which the student lives (National Research Council, Committee on Increasing High School Students' Engagement and Motivation to Learn, 2004). According to many researches there is a statistically significant effect of academic achievement on the likelihood of dropping out or graduating from high school; student engagement is one of the most important behavioral precursors to dropping out; Peers may influence students' social and academic behaviors, and attitudes toward school (Rumberger & Lim, 2008). Moreover, several national and international studies emphasize the socio-economic status of the family as the main reason for school disengagement (Rumberger & Thomas, 2000). The study of Crouch (2018) highlighted other factors leading to school dropout including: finding a high paying job with full-time hours; negative relationships with teachers and/or administrators; attendance issues; and discipline issues.

Moreover, Snyders (2013) reported that the number of school dropouts is shockingly high in developing countries due to many reasons: family background, lack of parental education, socio-economic status, substance abuse, teenage pregnancy, and poverty. Ergün and Demir (2017) emphasized two main factors leading to adolescence dropout: family factors like economic pressures, family's educational experience and sexism; and school factors like school discipline practices, behavioral problems, and peer influence. On the other hand Rouse (2019) identified four central influences that serve as both pull and push factors in the decision to drop out: disinterest/disengagement, teacher connection, a sense of hopelessness, and an end to any desire to succeed in school.

According to the report published by the Issam Fares Institute for Public Policy and International Affairs (IFI) at the American University of Beirut (AUB), Lebanese secondary students always face many obstacles and challenges that limited their educational opportunities: economic and financial problems; social life difficulties, which include family problems and community norms; bullying from their teachers; irrelevance of the curriculum; teachers' skills, attitudes, and their lack of mentorship (Issam Faris Institute for Public Policy and International Affairs, 2021).

High school students' dropout can have significant impacts at both the individual and societal levels (Carter, 2010). Dropping out of school is a serious problem, not only for the individual, the school system, and the community, but also for society (Gausel & Bourguignon, 2020). Without a high school diploma, individuals often face limited career options, they may be restricted to low-wage and unskilled jobs, which can lead to financial instability and reduced economic mobility (Carter, 2010). In their late teens and early 20s, young high school dropouts struggle with a variety of job market issues, compared to their educated peers they frequently face high unemployment rates (Sum et al., 2009). High school dropout carries significant economic costs for society, including reduced tax revenue, increased reliance on social services, and higher healthcare expenses. Unmarried mothers without high school diplomas lived in poverty or close to it, and were dependent on government assistance (Sum et al., 2009). High dropout rates contribute to social inequality by limiting opportunities for upward mobility, perpetuating disparities in income, education, and overall well-being. Every effort must be taken to stop the phenomena of school dropouts since no nation can afford to have a large portion of its population lacking an adequate education and unable to find decent employment (Snyders. 2013).

On the other hand, effective dropout prevention and intervention programs may spare students who are at a risk of dropping out from suffering the negative effects of leaving school without a diploma (Carter, 2010). According to the National Dropout Prevention Center there are many effective strategies that can prevent students' dropout: safe learning environment, individualized instruction, active learning, school community collaboration, family engagement, after school / out of school opportunities, and mentoring (NDPC, 2023). Moreover, When conceiving and developing dropout prevention and intervention techniques, the construct of student engagement has become a promising heuristic (Reschly & Christenson, 2006). Students' engagement serves as a link between environmental contexts (such as schools, families, and communities) and outcomes (such as academic achievement) by acting as a mediator between context and environment. Additionally, by defining predictive variables (such as push and pull factors) and alternative conceptualizations of risk (such as functional risk), which are inherent within the construct, engagement may help accurately identify students who are actually at risk (Carter, 2010).

The Statistics done by CRDP during the academic year of 2021-2022 shows a decrease in the number of students enrolled in secondary classes compared to the academic year of 2020-2021 (CRDP, 2021; CRDP, 2022). This might indicate dropout of school due the harsh economic situation in Lebanon. Moreover, the studies of Shaaban (2023) and Shehayeb (2023) showed massive learning loss in biology and mathematics among Lebanese secondary students during the period between 2019 and 2022, due to the economic crisis and teachers' strikes. According to CRDP (2022) the Ministry of Education should establish a recovery plan otherwise the number of dropouts will increase.

Theoretical and Conceptual Framework

The framework of push, pull, and falling out factors, as set forth by Jordan, Lara, and McPartland (1994) and Watt and Roessingh (1994) was implemented in this study, according to Doll et al. (2013), dropout factors can be classified into three categories: push, pull, and fall out factors. Push factors are school-related experiences that cause students to feel alienated and unwelcome, or that make it difficult for them to succeed. Push factors include: Academic failure, bullying, discipline issues, lack of support from teachers or administrators, feeling unsafe or unwelcomed at school, school violence, and lack of engagement in the curriculum. while, factors, such as financial worries, out-of-school employment, family obligations, such as caring for younger siblings or working to support the family, or even family changes, such as early marriage, pull students away from school. Students are the main agent in the pull out factor, they are drawn away from school by attractions or distractions (Rouse, 2019).

On the other hand, fallout-related factors highlight a process in school dropout when the student progressively develops behaviors or desires related to academic disengagement, but without being coerced out of school (by push out factors) or enticed out by needs or wants (by pull factors). These can include: Sudden health issues; mental health problems, such as depression or anxiety; substance abuse, chronic health conditions, and unexpected pregnancy (Doll et al., 2013). Figure 1 below illustrates our conceptual framework:

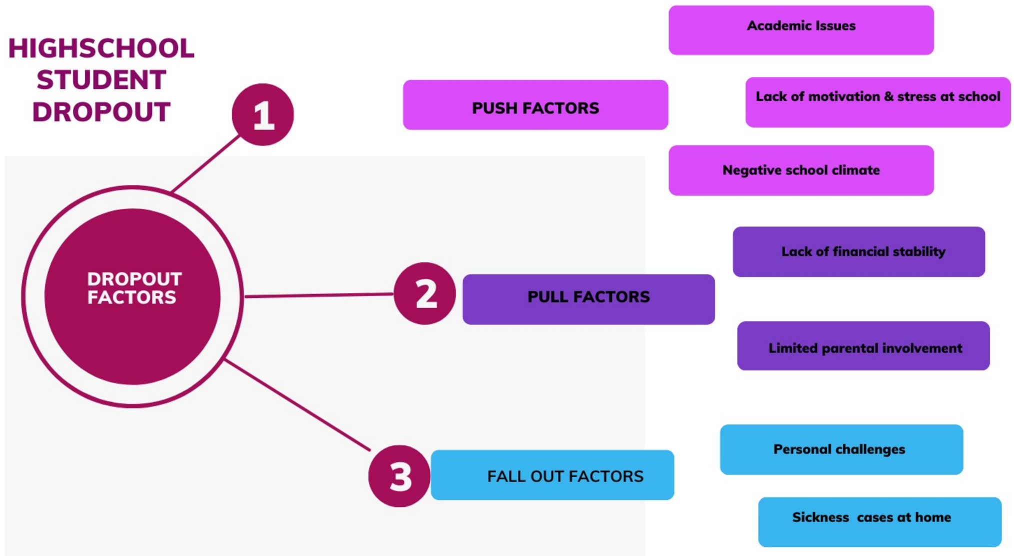

Figure 1. Conceptual Framework

However, it is important to note that push, pull, and fall out factors often interact with each other. For example, a student who is struggling academically may be more likely to be bullied by other students. This can lead to the student feeling unsafe and unwelcome at school, which can make it more difficult for them to succeed. As a result, the student may become disengaged from school and eventually drop out.

Schools can play a role in preventing students from dropping out by addressing both push and pull factors. For example, schools can provide academic support to students who are struggling, create a positive school climate, and build relationships with students and their families. Schools can also work with community organizations to provide students with opportunities for economic and social support.

Purpose of the study

This study aims to delve deep into the multifaceted issue of Lebanese students' dropout, shedding light on the underlying factors that drive them to disengage from the educational journey. Beyond this, it explores the far-reaching consequences of dropout, not only for the individuals involved but also for the broader Lebanese society. Finally, we will navigate through the maze of prevention strategies and interventions that educators, policymakers, and communities are employing to keep students in school and ensure they achieve their full potential. The study will answer the following research questions:

1- What are the underlying factors leading Lebanese students to dropout from high school? How do public and private schools compare?

2- How do parents and school principals explain and evaluate the reasons for school dropout?

3- What are the strategies proposed and implemented by schools and NGOs to prevent students' dropout?

Significance of the study

Lebanon, like many other countries, struggles with the complex issue of early school dropout. This study is crucial because it explores the multifaceted factors influencing the phenomenon of dropping out within the unique socio-cultural context of Lebanon. This study aims to shed light on important insights by thoroughly investigating the causes, direct effects, and potential remedies of high school dropout in Lebanon.

In addition to providing a deeper awareness of the difficulties Lebanese students face, it also prepares the way for wise policy choices, focused interventions, and the creation of an environment conducive to learning so each student can reach their full potential. To our knowledge there is no research about secondary students' dropout in Lebanon, except statistical bulletin by CRDP (Center for Educational Research and Development). Addressing high school dropouts in Lebanon is not merely an educational concern; it is a fundamental step towards a more equitable and prosperous future for the nation and its youth.

Method

Research design

The purpose of this study is to investigate the causes of Lebanese high school students' dropout, its effects, and the efficacy of preventative measures. It utilizes a mixed-methods research design, incorporating both quantitative data from student questionnaires and qualitative data from interviews with school principals and focus groups with parents and NGO representatives. The combination of these approaches will provide a comprehensive understanding of the dropout phenomenon.

Sample of the Study

The study investigated the factors underlying the increase in the number of Lebanese high school dropouts from the perspective of students, parents, school principles and NGO representatives. Moreover, prevention methods were discussed with principals and experts. 402 students from both public and private Lebanese high schools in different regions answered a google form questionnaire; 10 school principals from various Lebanese regions were interviewed; 5 parents of dropouts and 2 NGO representatives participated in the study.

Data collection tools

Several tools were utilized for triangulation purposes. The quantitative data was collected using a questionnaire administered to high school students from various Lebanese regions, and the qualitative data was collected from interviews with school principals and focus groups with parents and NGO representatives.

Questionnaire

The students' questionnaire was constructed by a collaborative work among the two researchers, and was validated by two other educators who are experts in the field. For reliability purposes, the questionnaire was piloted on 10 students, and Cronbach alpha was calculated. The questionnaire is composed mainly of closed ended questions and three open ended questions. The items of the questionnaire are classified into three constructs:Pull factors, push factors and fall out factors based on the theoretical framework. It is composed of the following parts:

1- Demographic information: Gender; age; grade level; region; type of school; marital status of the parents.
2- Pull factors: Education level of parents; economic status; financial stability; parents' involvement in students' education; need to work to support the family; family related issues that prevent attending school; insignificance of education to fulfill future goals.
3- Push factors: Academic performance; academic challenges; peer pressure; social life in school; involvement in extracurricular activities; support of teachers; stress and anxiety towards school; negative attitude towards

school.

4- Fall out factors: can be inferred from the open ended items of the questionnaire related to reasons for school absences; personal challenges or responsibilities that might affect ability to attend school; comments related to school experience, concerns, and suggestions related to school or the risk of dropping out.

Quantitative data from the questionnaire was analyzed using SPSS statistical software. Descriptive statistics like frequencies and percentages were used to summarize the data, and inferential statistics, such as chi-square tests and regression analysis, were employed to identify significant factors associated with student dropout.

Interviews

In-depth semi-structured interviews were conducted with school principals from various Lebanese regions to explore their perspectives on the factors contributing to dropout, the consequences, and the prevention methods they proposed or have implemented. The principals were asked about the dropout rates at their schools; the primary reasons for dropout; strategies for identifying students at a high risk of dropping out and support services for these students; alternative pathways for students who already dropped out; school climate and engagement; and community partnership.

Focus groups

Two focus groups were performed in the study to investigate the factors that lead to students' dropout and its consequences on the individual and social level from the perspective of parents and experts. The first with a group of five parents of dropouts. The second with two representatives of NGO organizations that help students who dropped out or students at a high risk of dropping out.

Ethical Issues

The participants were informed that their responses will be used for the purpose of research only and their names will be anonymous. The purpose of research was explained by the researchers to the principals and NGO representatives and their informed consent was taken.

Results and Discussion

Factors Leading to Dropout from the Students' Perspective

To answer the first question of research related to the factors leading to students' dropout, statistical analysis of the questionnaire was performed. The questionnaire items were classified according to three constructs: push, pull, and fallout factors. Figure 2 shows the most important pull factors based on students' answers.

The results show that financial stability and other family related issues are the most important factors distracting students from school and pulling them away. Elderly students are obliged to work to support their families or stay at home and take care of their younger siblings for their parents to work. In addition, the parents' background and their involvement in their childrens' education might lead to drop out.

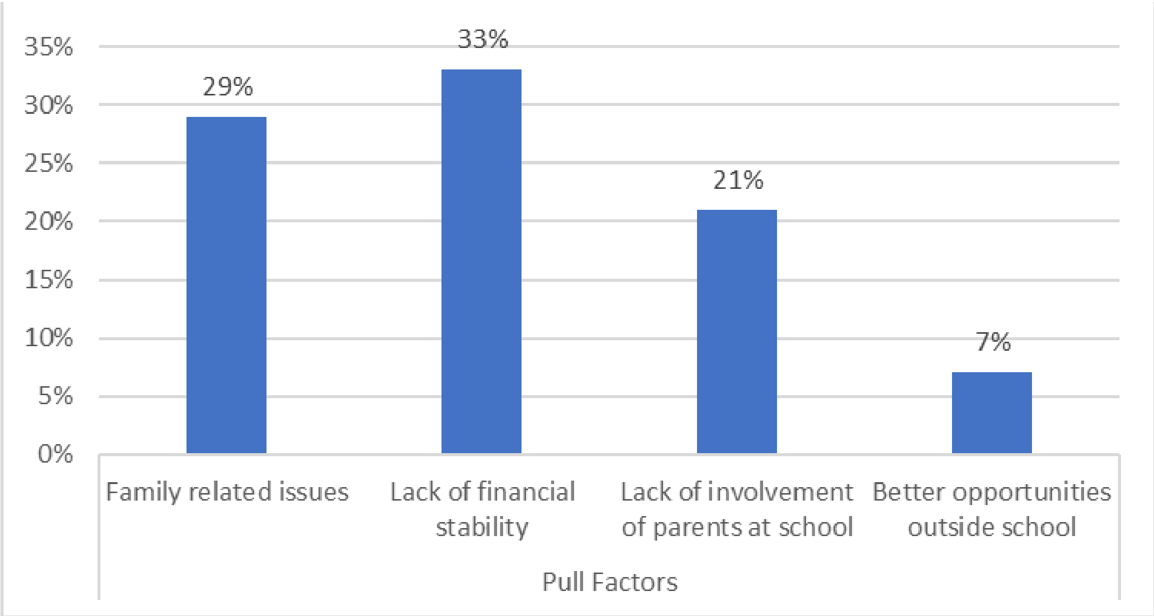

Figure 2. Percentages of some Pull Factors

Figure 3 reveals some of the important push factors related to school. The results show that 68 % face problems with specific subjects or assignments, 65 % of participants are anxious about school, only 19 % feel a sense of belonging at school and 12% have an active social life at school. These factors are risk factors that might push students out of school.

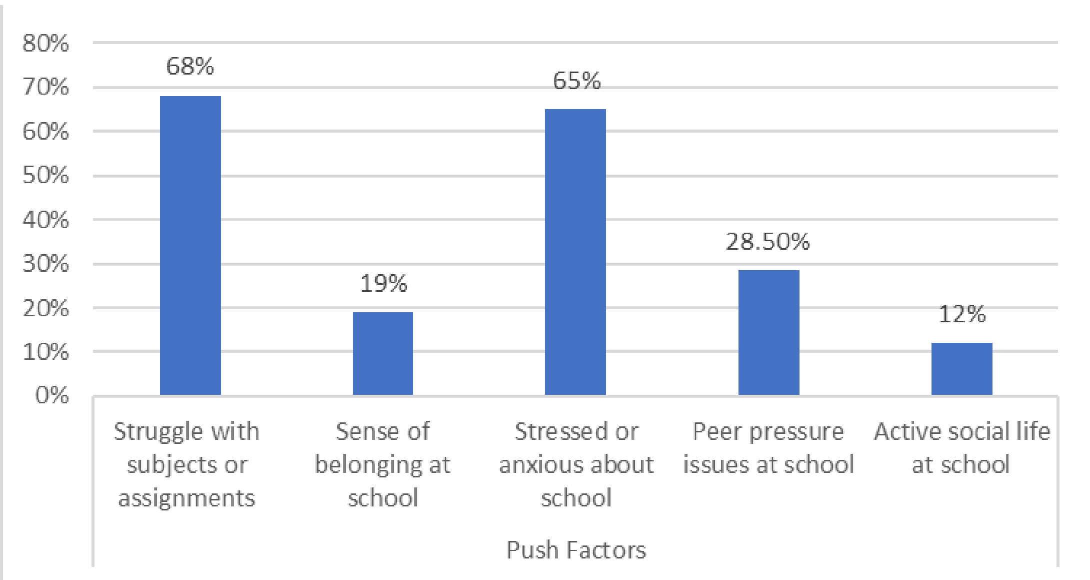

Figure 3. Percentages of some Push Factors

On the other hand, the analysis of the open-ended questions revealed that: sickness; family issues; personal problems; transportation problems; teachers strikes; and financial problems are the main reasons behind their frequent absence from school. Family responsibility and their need to work in order to support their families; relocation; economic status; and death of family members, were highlighted by students as personal challenges or responsibilities outside of school that affect their ability to attend or focus on school. The factors related to Fall out construct were quantified and the highest percentages were for the personal challenges that faces students, and sickness or health issues of students themselves or of members of their families, as presented in Figure 4 below.

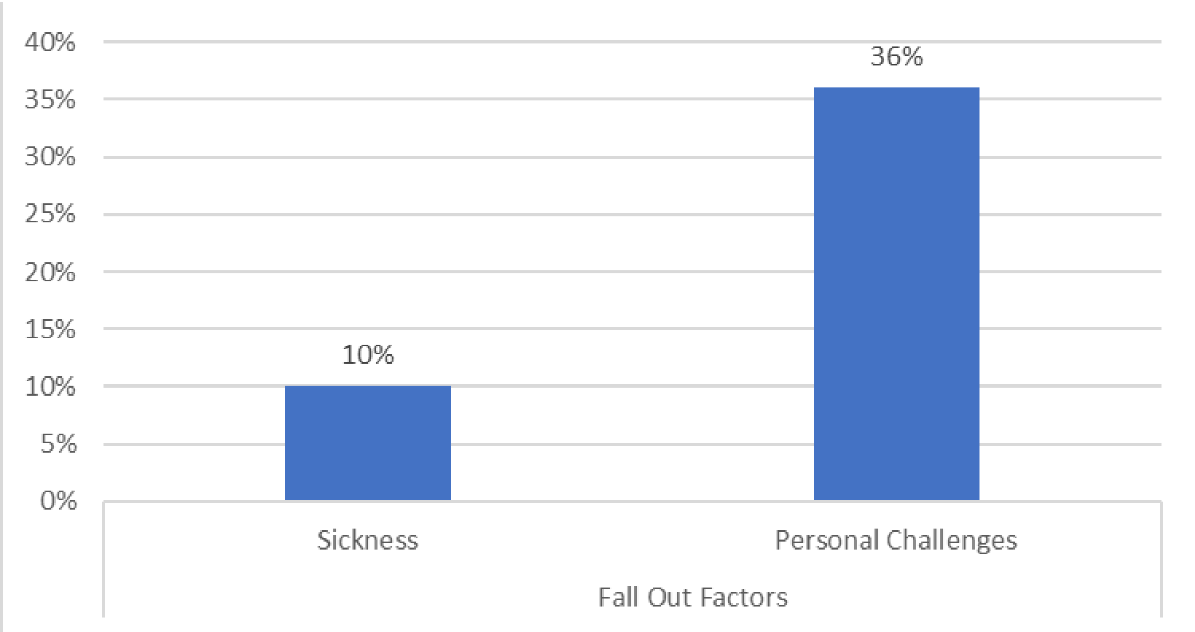

Figure 4. Percentages of some Fall out Factors

Lebanon has a dual education system, public and private. Public education in Lebanon attracts lower middle-class and disadvantaged social groups, whereas private education attracts middle-class and upper middle-class groups. However, there are notable quality differences between the two systems (Frayha, 2009). Based on the Lebanese context secondary students are enrolled in both public and private schools. According to the statistical bulletin 68.66 % of students were enrolled in private schools during the academic year 2021-2022 (CRDP, 2022). Table 1 below compares between private and public schools based on push and pull factors and p value calculated to infer if the differences are statistically significant.

The results show that students are experiencing peer pressure at public school more than in private school with p value = 0.011 < 0.05 which is significantly different. However, surprisingly 62 % of public school students feel a sense of belonging compared to 12 % in private schools. On the other hand, related to the pull factors, the results show that students in public schools are facing economic and financial problems, need to work to support their families, and have family issues that affect their regular attendance to school more than students in private schools with significant differences with p values < 0.05.

Table 1. Comparison between Public and Private Schools with respect to push and pull factors

		Type of school	Percentage	Significance
Push	Do you feel stressed at school?	Private	14%	0.161
		Public	53%	
	Are you experiencing peer pressure at school?	Private	4%	0.011*
		Public	25%	
	Do you feel a sense of belonging at school?	Private	18%	0.083
		Public	62%	
Pull	Are there family-related issues that affect your ability to attend school regularly or complete your homework?	Private	0.4%	0.007*
		Public	25.4%	
	Do you need to work to support your family?	Private	10.4%	0.000*
		Public	56.7%	
	Are you facing economic problems?	Private	16%	0.02*
		Public	62%	

Principals', Parents', and NGO representatives' Perspectives of Reasons behind Dropout

To answer the second question of research semi-structured interviews were performed with 10 school principals from all Lebanese regions and from both public and private schools; and focus groups with 5 parents of dropouts and two NGO representatives.

The main reasons cited by parents: financial and economic problems, low family income; school system and inadequate teaching strategies; weak academic performance; disengagment and negative attitude towards school; work to support their families; discrimination and bad treatment for students; and early marriage. This agrees with the Issam Faris Institution report which stated that Lebanese secondary students face many obstacles and challenges that stood in their way of education, like financial problems, family problems and community norms, and teachers' skills and attitudes (Issam Faris Institute for Public Policy and International Affairs, 2021).

All the interviewed parents emphasized on the financial problems they are facing due to the Lebanese economic crisis since 2019 which lead to: the increase of prices for goods and services and specifically in the fuel prices; the decline of the Lebanese pound against the dollar. This leads older students to drop out of school and work to support the family. According to Save the Children (2023) The Lebanese economic crisis has pushed three-quarters of the population into poverty.

Similarly, school principals emphasized that socio-economic status is the main cause of students' dropout, in addition to other factors like early marriage, weak academic achievement, and lack of belief in education. These results are in congruence with other studies that investigated reasons of dropout (Carter, 2010; Christenson et al., 2008; Reschly & Christenson, 2006; Reschly et al., 2010; Rumberger & Thomas, 2000).

A principal of a big public secondary school in Beirut declared that the number of high school students dropped to quarter from the academic year of 2020-2021 till 2022-2023. According to her, many students went to private schools, others to vocational education and few left school to work. The main reason is the economic crisis. Another principal of a public high school in a remote area of North Lebanon, highlighted two main reasons for students' dropout: low family income and early marriage.

On the other hand, NGO representatives highlighted the parents' literacy, and lack of belief in education as the main reasons behind students' dropout. Similar results were obtained in the study of Ergün and Demir (2017).

Cross analysis of the data collected from interviews and focus groups led to the emergence of specific themes related to students' dropout: socio-economic status; the Lebanese economic crisis; teacher student relation; disengagement/disinterest; better job opportunities; lack of belief in education; early marriage; and weak academic achievment, as presented in table 2.

Table 2. Themes about Factors of Dropouts Emerged from Interviews and Focus Groups

Theme	Principals	Parents	NGO representatives
Socio-economic status	Low family income; financial issues; family background	The elder siblings work; Transportation issues.	Literacy of parents; the high number of children;

Lebanese economic crisis	Inflation and increase dollar rate versus Lebanese Pounds; Teachers' strikes	Increase of fuel prices; Bad living conditions.	NGOs are supporting students in registration, stationery and transportation
School-student relation	Engagement of parents in their children's conduct at school	discrimination and bad treatment for students	Students need support from their teachers
Early marriage	Parents oblige their daughters to get married at an early age		In remote regions of Lebanon girls get married at an early age.
Job opportunities	Students between ages of 14-17 year are leaving school to work to earn money	My elder child is working and earning lot of money	
Weak academic achievement	Students that are weak and fail their classes are at higher risk to dropout	My child repeated his class two times.	Homework support programs for weak students.
Lack of belief in education	Some parents do not see that education is important for their children	C is ir L	

Strategies Proposed and Implemented to Prevent Students' Dropout

To answer the third question of research about the methods to prevent students' dropout, the data collected from the interviews with principals revealed the implementation of specific strategies inside and outside school to decrease this risk. The following are the main strategies implemented according to principals:

1. Meet with parents to discuss the situation of their children.
2. Support programs inside the school for students with weak academic performance.
3. Provide financial support from NGOs and organizations to help families with low income to pay the students' tuition, school supplements, and transportations.
4. Provide remedial courses for students funded by local organizations.
5. Involving students with extracurricular activities and projects to enhance their skills.
6. Provide financial support from Local organizations and NGOs for students and teachers with the consent of the ministry of education to prevent both students' and teachers' dropout.
7. Implement activities to help students to set objectives, put plans, and steps to be followed. Having an objective and a goal helps students who are at a risk of dropping out.
8. Invite high school graduates to share their experience with students and emphasize the importance of education.
9. Direct students to vocational education or to NGOs that provide quick training for certain professions for them to be skillful and be able to work.
10. Provide students with school supplies from NGO and give them money for transportation.
11. Implement new teaching strategies that allow high achievers to help low achievers, and help students to acquire skills.
12. Provide psychological support for students at a risk of dropout by their teachers or from experts when possible.

Moreover, data analysis of the focus group with NGO representatives highlighted some strategies implemented by NGOs to help students at risk of dropping out:

1. Awareness sessions for parents and students. about issues like early marriage and the importance of education.
2. Refering students either to the social worker or the psychologist.
3. Tutoring and homework support.
4. Direct follow up with the school and principal if possible.
5. Involving parents in decision-making in order to work in tandem to create a bright future for their children.
6. Orienting parents to support their children.

In addition, the NGO representatives proposed specific recommendations to decrease the risk of dropouts:

1. Develop National Qualification Framework (NQF) that outlines the pathways between academic education and technical and vocational education and training. This will allow students to transition

between non-formal education and general education. More programs should be designed to support students make this transition.

2. Provide homework support programs for cycle one students, who need further support at home.
3. Work with parents of cycle one students to engage them in building a conducive learning environment at home.
4. Provide cash transfers or livelihood opportunities for low-income families who have children in school and cannot afford the cost of education.
5.

On the other hand, based on the open ended items in the questionnaire, students recommended:

- support for public schools in Lebanon since they are marginalized by the government;
- hiring psychiatrists to help students at schools;
- using more effective teaching strategies;
- the teachers should be more supportive and approachable;
- the school environment should be comfortable and welcoming;
- the teachers should use good communication methods; less homework; more school activities; give more freedom for students; provide more information and support about university;
- the teachers should help with university suggestions; schools should provide music sessions and support talented students; avoid teachers' strikes; make school trips; make more projects.

Moreover, parents also recommended that teacher orientation sessions should be held to teach them how to treat students; set up a committee from the Ministry of Education to monitor schools and ensure that students are being treated well; should enhance school accountability; no discrimination between students; teachers should be better trained. Some rules are irrelevant at school and should be reduced.

Similar strategies were proposed by the National Prevention Center (2023) which emphasized on: school-community collaboration; safe learning environment; family engagement; Mentoring/tutoring; and Individualized instruction, as effective strategies that can prevent dropouts.

Conclusion and Future Recommendations

This study aims to shed light on the factors leading to dropout of Lebanese high school students from the perspective of: principals; parents; NGO representatives, and students themselves. 402 students, 10 principals, 5 parents, and two NGO representatives participated in the study. The factors were classified into three constructs: pull out, push out and fall out factors. The main pull factors deduced from cross analysis of the data collected were: financial instability due the economic Lebanese crisis since 2019; family issues and the need to work to support their families;parents' educational background and their involvement in children's education. The main push factors extracted were: the negative school environment; weak academic achievement; and their feeling that they do not belong to school. In addition, personal challenges and sickness were the two main fall out factors. The main themes related to factors underlying Lebanese secondary students' dropout: The economic Lebanese crises; the bad school-students relation; and lack of belief in education. On the other hand, the main preventive methods implemented or proposed by participants are: school and parents support; parents' involvement; active teaching strategies; academic, psychological and social support for students at a risk of dropping out; comfortable and welcoming school environment; support from local and international NGOs.

As a future recommendation, in the Lebanese context, there should be an urgent plan for catch up programs to mitigate learning loss which in turn will help students engage in school activities. The Lebanese government and Ministry of Education and Higher education (MEHE) should pay more attention to the education sector: Implement early warning systems that identify students at risk of dropping out based on various indicators such as attendance, grades, and behavior; Develop personalized intervention plans for at-risk students, taking into account their specific challenges and needs, this may include academic tutoring, counseling, mentoring, or addressing issues related to housing, transportation, or health; . support schools, teachers and students; Help students develop educational and career goals, recognize the importance of their education, and see a clear way forward by offering them comprehensive career counseling and advice; Provide students with resources to assist them deal with personal issues, stress management programs, and counseling services to address their mental health and well-being; Foster collaborations between local organizations and parents to involve families and communities in the educational process, this may foster an environment where students feel supported both inside and outside of the school.

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Enhancing Student Creativity through the Implementation of Loose Parts

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Abstract: This article investigates the incorporation of loose parts as a means to enhance student creativity within educational environments. Loose parts refer to flexible, movable objects that can be manipulated, combined, and repurposed in various ways. The study delves into the theoretical underpinnings that support the connection between loose parts and creativity, highlighting the significance of hands-on, interactive learning experiences. The research employed a quantitative approach to assess the improvement in students' creativity, utilizing t-test as the measurement tool. The analysis technique employed non-parametric inferential statistics and involved a sample of 20 students from Junior High School 4 in Malang. The findings of this study indicated a notable increase in student creativity through the implementation of loose parts in the learning process. Consequently, based on these results, it is recommended that educators consider incorporating loose parts to foster creativity among students.

Keywords: Creativity, Loose Parts, Learning Development

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Introduction

Student creativity is a fundamental aspect of education that allows individuals to express themselves and think outside the box. One effective way to enhance student creativity is through the implementation of loose parts in the classroom. Loose parts are open-ended materials that can be manipulated, combined, and transformed in various ways. These materials can range from simple everyday objects such as buttons, sticks, and fabric scraps to more complex items like blocks and building materials. By providing students with a wide array of loose parts, educators can foster creativity and imagination, encouraging students to explore and innovate.

The concept of an idea can be understood as a form of creation. The evaluation of an idea's creativity is typically based on its level of novelty and usefulness (Amabile & Pratt, 2016). While ideas are undoubtedly a product of creativity, it is worth considering whether creativity should be exclusively defined in terms of ideas. For instance, a creator, such as a chef, may conceive a new recipe for a dish. However, the final product may not be deemed creative, tasteful, or useful by the patrons. Consequently, the dish would not be included on the menu (Walia, 2019). According to the definition of "novelty and usefulness" proposed by Amabile and Pratt (2016), the chef would not be regarded as creative based on the judgment of individuals who were likely not involved in the creative process.

The relationship between creativity and learning is a topic of significant interest in educational research. It is widely acknowledged that creativity plays a crucial role in the learning process, as it enhances students' engagement with the material and facilitates their retention of information. Moreover, creative thinking can enable students to approach problems from novel and innovative perspectives, thereby promoting deeper understanding and more effective problem-solving skills (Karwowski et al., 2020). In the contemporary era, creative thinking has emerged as one of the most highly valued skills in both personal and professional contexts. However, the demand for creativity far exceeds the degree to which it is currently available and developed (Ritter et al., 2020). This highlights the need for educational institutions to prioritize the cultivation of creativity among students, in order to equip them with the skills necessary to succeed in the 21st century.

The concept of a creative growth mindset, which places importance on acknowledging and learning from mistakes and striving for improvement, is closely associated with the attitudes and emotions of teachers when confronted with uncertainty (Anderson et al., 2021). The development of creative growth is contingent upon individuals being receptive to vulnerability and being willing to undertake risks, particularly in the face of uncertainty, which is a fundamental aspect of the creative process (Amabile, 2017). In fact, the act of taking intellectual risks serves as a moderator between creative confidence and actual creative behavior and achievement in various domains; if an individual is unwilling to take intellectual risks, the connection between creative confidence and behavior becomes null (Beghetto et al., 2021). Furthermore, the growth of individuals also relies on the personal significance and fulfillment derived from their work as educators. However, high levels of stress and a lack of encouragement hinder the likelihood of engaging in creative risk-taking (Beghetto, 2019).

It is imperative to take into account physical activity and movement during the early stages of life to guarantee that students establish and sustain healthy physical activity routines. Recent research has underscored the significance of outdoor activities and the surroundings in which students are raised. Outdoor activities, particularly unstructured, foster self-sufficiency, self-control, and enable students to investigate their surroundings and make informed choices (Spencer et al., 2019). By integrating loose parts into the activity spaces of students and providing minimal or no guidance, children are afforded the opportunity to interact with objects in a manner of their choosing (Gibson et al., 2017). The utilization of loose parts enables children to fashion their experiences based on their own concepts and objectives, rather than being constrained by materials with predetermined purposes (Änggård, 2011). The incorporation of loose parts can stimulate students to investigate their surroundings, take calculated risks during activities, and cultivate self-assurance and drive (Casey & Robertson, 2016).

The study conducted by Rianti et al (2022) demonstrated that the implementation of the STEAM method, utilizing loose parts media with natural materials, has a multifaceted impact on the development of children. This impact encompasses various domains, including artistic, social-emotional, moral, language, cognitive, and physical aspects. Furthermore, Olsen & Smith (2019) discovered that a significant majority (83%) of the programs examined possessed appropriate surface materials within their outdoor play areas. These outdoor spaces also incorporated loose parts, such as toys, balls, and action figures.

Moreover, Fikriyati et al (2023) research expanded upon this by incorporating musical instruments, such as sand-filled bottles, which added an artistic dimension to the learning experience. This allowed students to engage in activities such as listening to, imitating, and singing ship-related songs, thereby enriching their artistic development. Additionally, Askar & Durmusoglu's (2023) study emphasized the positive effects of loose parts on children's motivation to learn, overall happiness, and various social behaviors. It also highlighted the role of loose parts in increasing parental participation by fostering communication and interaction between parents and schools. These findings suggest that loose parts support children in multiple ways, contributing to their overall development and enabling them to become independent and capable individuals who can actively engage in their own learning through the provision of high-quality play experiences.

Therefore, this research focuses on the implementation of loose parts to enhance students' creativity. This is based on the identified gaps, namely (1) the impact of using loose parts with natural materials on students' development in various aspects has not been fully explored in depth. More research may be needed to understand the details, (2) there is a need to understand the extent to which the use of loose parts has a positive impact on students' development and how to improve its design and integration in children's education, and (3) there is a need to explore how best to incorporate other tools and elements in the use of loose parts to enrich students' artistic development more effectively. Creativity is the dependent variable as a novelty in this study. The present study puts forth the following hypotheses: (H0) The utilization of loose parts does not result in an augmentation of creativity, whereas (H1) the utilization of loose parts leads to an enhancement of creativity.

Method

The present study employed a quantitative research design, utilizing a sample of 20 secondary school students as the experimental cohort. There are fundamental reasons why we selected it. Firstly, regarding the choice of quantitative, Creswell (2014) explains that quantitative involves studying how different factors (variables) relate to each other. These variables can be measured using instruments, which provide numerical data that can then be analyzed using statistical techniques. Secondly, it is important to note that the population under consideration is confined to a single class comprising 20 students.

Consequently, in order to analyze the data, non-parametric statistical techniques are employed, specifically the Wilcoxon test. This choice is justified by Gibbons (1993), who posits that non-parametric methods are suitable for datasets with limited sample sizes ($n<30$) as they do not necessitate the fulfillment of specific distributional assumptions. Lastly, with respect to the selection of a secondary educational institution, Piaget (1988) elucidates that during stage 4 (from the age of 11 until adulthood), individuals engage in mental operations that are applied to abstract concepts, thereby fostering logical and systematic thinking. Consequently, it becomes intriguing to delve into this notion by means of an exploration of loose components.

The analysis technique used is the T test. A t test is a type of statistical test that is used to compare the means of two groups (Kim, 2015). It is one of the most widely used statistical hypothesis tests in pain studies (Yim et al., 2010). The t-test plays a crucial role in the field of pain research, enabling researchers to quantitatively assess the impact of various factors on pain outcomes and contributing to the advancement of our understanding of pain mechanisms and treatments. Its simplicity and effectiveness make it a valuable tool for researchers striving to enhance the quality of life for individuals dealing with pain-related conditions.

Results

In the initial phase of the T-test, a collection of pre-test and post-test data was undertaken to evaluate the creativity levels of a cohort comprising 20 students. In order to ascertain the presence of any disparities between the pre-test and post-test results, the Wilcoxon test was employed. The Wilcoxon test is classified as a non-parametric test, specifically designed to examine distinctions between two interrelated conditions, namely the pre-test and post-test outcomes pertaining to the creativity levels of the students. This particular test is deemed appropriate when the data fails to meet the fundamental assumptions of the t-student test, such as those pertaining to normality and homogeneity of variance, or when the data is measured on an ordinal scale.

Table 5. Ranks Test

		N	Mean Rank	Sum of Ranks
Posttest - Pretest	Negative Ranks	0[a]	.00	.00
	Positive Ranks	16[b]	8.50	136.00
	Ties	0[c]		
	Total	16		

Table 6. Statistic Tests

	Posttest - Pretest
Z	-3.517[b]
Asymp. Sig. (2-tailed)	.000

According to the calculation, it is evident that a distinction exists between the pre-training and post-training stages. Consequently, community service activities exert an influence on the level of students' creativity. The Wilcoxon analysis reveals a significant increase in creativity, as indicated by a significance value below 0.05. To quantify the extent of this increase, researchers employ the standard gain measure.

Table 7. Standard Gain

	N	Minimum	Maximum	Mean	Std. Deviation
Gain	16	.61	.98	.8578	.08857
Valid N (listwise)	16				

Based on the analysis conducted, the obtained value of 0.86 signifies a substantial increase in the utilization of used goods as learning media, thereby indicating a high level of creativity. This outcome demonstrates the effectiveness of the implemented approach in fostering students' creative abilities through the utilization of second-hand materials. Standardized improvement serves as an indicator of the effectiveness of the learning process, and a value approaching 1 signifies that learning is highly advantageous in attaining its objectives. Within this framework, the elevated standardized retrieval value affirms that this approach effectively stimulates students to engage in creative thinking and apply their cognitive abilities in an exceptional manner when utilizing scrap materials as a medium for learning.

Discussion

The use of loose parts in education can create opportunities for sustainability and learning with environments (Neill, 2018; Rotas, 2019). Chawla (2013) suggests that the use of loose parts in the landscape that students manipulate and use result in optimal creative involvement, which leads to a lifelong appreciation, concern, and activism for the natural world. By providing open-ended materials, children can use their imagination and creativity to explore and learn about the world around them. Thus, the use of loose parts in environmental education can be an effective way to develop creativity, environmental love character education, and naturalist intelligence for students.

A study in Indonesia found that STEAM learning with loose parts media could increase children's creativity and imagination. The loose parts media used in this study were unique and natural, such as wood, stone, twigs, sand, and various objects around it (Karomah & Purnama, 2023; Nipriansyah et al., 2021).

A study in Malaysia found that the use of naturalistic loose-part media can help develop creativity in early childhood. The study used a phenomenological qualitative approach and found that naturalistic loose-part media is demonstrated using wood, stone, twigs, sand, and various objects around it. The results of this study have implications related to children's creativity to encourage teachers to use loose-part objects in learning (Tunas & Purnama, 2023).

A study in Indonesia found that the management of STEAM content learning with Loose Parts can be done by planning the form of learning, preparing loose parts, organizing teaching tasks, implementing the learning process, and assessing the learning outcomes. The study found that the implementation of early childhood learning with STEAM content made from Loose Parts can apply all stages of play by paying attention to playing strategies, cleaning, storing things, and strategies to develop early childhood creativity (Rahayu et al., 2022).

The findings of the aforementioned studies indicate that the utilization of Loose Parts Media in the context of learning can serve as a viable strategy for augmenting student's creativity and imagination. This discovery holds promising implications for educators and instructors who seek to incorporate Loose Parts materials into their pedagogical practices. The research aligns with the notion that Loose Parts can effectively enhance students' creativity by utilizing recycled materials as learning media. The statistical significance of the results, as evidenced by Wilcoxon scores and standardized gains, further corroborates the efficacy of this approach. As such, we strongly encourage educators and educational practitioners to consider integrating this concept into their teaching methodologies to achieve more effective learning outcomes and enhance student learning.

Conclusion

The present study investigated the impact of community service activities on the creativity of secondary school students, as measured by pre- and post-training assessments. The Wilcoxon analysis revealed a significant difference between the two stages, with a significant increase in students' creativity following the program ($p < 0.05$). Moreover, the standardized gain value of 0.86 indicated a substantial improvement in the use of used items as instructional media, suggesting a high level of creativity among the participants. These findings provide evidence for the effectiveness of this approach in stimulating the creativity of students through the utilization of loose parts as instructional media.

Recommendations

To further strengthen the generalizability of these findings, future research should extend this study to a larger sample of secondary schools. Additionally, it would be beneficial to investigate the role of specific factors that may enhance secondary school students' creativity through community service activities and the utilization of used materials as instructional media. Such research could provide valuable insights into the development of creativity among secondary school students and inform the design of effective educational programs.

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Action Research in Under-graduation Teacher Program: Case of Lebanese University

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Abstract: Action research, one of the requirements in undergraduate program in education, is a systematic approach that enables teachers to solve problems they face in their classes on a daily basis. Participants in this study are students in their final semester of a three-year teacher preparation program and graduates in their first-year teaching. The study discusses mathematics and science preservice teachers and novice teachers' beliefs and thoughts about their benefits of action research as a means of professional growth and teaching skills. It reports feedback from the two groups about the impact of doing action research on: (a) their learning about action research, (b) their thinking and problem-solving skills, (c) their professional growth, (d) their self-efficacy, (e) their outcome efficacy, (f) their beliefs about whether or not action research is applicable to their future as teachers. Participants views are studied and compared by the mean of a questionnaire that measures the previously mentioned categories. Scores for the six categories were computed by using descriptive statistics for each one of them

Keywords: Action Research, preservice teachers, novice teachers, Professional growth

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Introduction

The use of action research as a strategy for encouraging reflective teaching practices and reflective thinking by preservice teachers is not a new idea. In the USA During the 1950s many experienced teachers were encouraged to participate in various kinds of action research work (e.g., Corey, 1953; Shumsky, 1958). At that period, there were also efforts to introduce action research to students in preservice teacher education programs (e.g., Beckman, 1957; Perrodin, 1959). Over the past decade, most research has focused on the benefits of action research as a mean for: first, developing practical experience by being involved in activities inside classrooms. Researchers suggest that preservice teachers' participation in action research helps them become more aware of student learning, of the complexity of their classrooms, and of their own capacities as teachers. (Chant, Heafner and Bennett, 2004; Rock and Levin, 2002). Second, reflecting on their teaching practices by assessing the teaching methods which is an essential part of action research method. Third, knowing better their students; teachers need to know how much students know about a topic and where they may be having difficulty. Fourth, developing classroom management strategies by observing and adapting to real classroom situations. Fifth, encouraging preservice teachers to adopt a growth mindset, where they view challenges as opportunities for growth and development. Sixth, building a professional portfolio to demonstrate their continuous professional improvement and development.

Lebanese university undergraduate students take an obligatory action research module over two semesters during their last academic year of a three-year Bachelor degree in Education. They learn to conduct action research to develop their critical and reflective thinking as the course syllabus indicates. It is a course that "introduces students to action research as a method of improving teaching and learning at the elementary level." Some of the objectives of the two modules are to:

- "Demonstrate knowledge of, and the ability to use, action research as part of personal professional development and reflective practice.
-Design an action research project based on educational theories and teaching practices to identify, define, and solve problems in teaching and learning elementary mathematics."

The first module addresses topics such as "what is action research, and how does it improve schools? types of action research, generating a research focus and research question, reflection in action research, planning the study, and methods of data collection". At the end of the semester pre-service teachers present their action research projects. The second module comprises implementation of the planned strategy in classrooms in order to collect, analyze and reflect on the collected data.

In both modules, factual knowledge is introduced by the lecturers in a weekly, two-hour seminar period. Working within a social constructivist framework, pre-service teachers are expected to complete their work in pairs or in groups of three.

They will be trained to become "professionals who reflect about teaching in general and about themselves as teachers through applying research that deals on finding a solution for a local problem" (Mills, 2007).

The following are some examples of the topics that pre-service teachers have investigated their third year:

- What is the impact of problem-based learning (PBL) on grade three student's achievement and understanding of multiplication?
- How can the use of manipulatives ameliorate students' misconceptions in mixed numbers and improper fractions operations?

Does self-assessment of the math homework enhance students' understanding of addition in grade one?

How Can the Non-Traditional Activities Enhance Participation and Achievement In Adding Numbers Without Regrouping In Grade 2

To what extent do using manipulative and visual aids affect grade six students' achievement and conceptual understanding in learning signed numbers operation?

Will the usage of virtual manipulatives and space GeoGebra enhance students' performance in space geometry and reduce their misconceptions?

To what extent does modeling fractions affect students' achievement in solving operations of fractions with different denominator?

To what extent does the use of real-life problems, along with modeling, affect grade three students' understanding of the concept of multiplication?

Does the integration of technology in the teaching learning process increase the motivation of students to learn?

What is action research?

Action research is 'the study of a social situation with a view to improving the quality of action within it' (Elliott, 1991). This simple definition draws attention to one of the most essential motivations for conducting action research which is, when used in classrooms, to improve the quality of teaching and learning as well as the working conditions of teachers and students at the school. McNiff (2002) considers action research as one form of "self-reflective practice" that involves thinking and reflection and that is open ended.

Many models of action research have been used; they all have the same main elements (Goodnough, 2011). The process starts with the identification of a problem and an inquiry about the possible causes of that problem. Then the researcher plans and implements a strategy designed to address the problem. the data is collected and analyzed to check the impact of the change. Action research is described as cyclical, with several cycles of planning, implementation, observation, analysis, and reflection (Kemmis & McTaggart, 2005; Riel, 2007; Stringer, 2007). With each cycle, reflection is done based on the data collected from the previous cycle in order to decide on the next step.

Table 1. The Phases of the Routine Relate to Traditional Research Practice

A Basic Action Research Routine
Look
• Gather relevant information (Gather data)
• Build a picture: Describe the situation (Define and describe)
Think
• Explore and analyze: What is happening here? (Analyze)
• Interpret and explain: How/why are things as they are? (Theorize)
Act
• Plan (Report)
• Implement
• Evaluate

Source: Stringer (2007:8)

Action research difference from other types of research

According to Stringer (2004, 2007) action research differs from other types of research by not being objective and generalizable. It is research to solve a specific problem in a local situation. Also, it is not quantitative research; it is qualitative research with a purpose is to gain "greater clarity and understanding of a question, problem, or issue." Moreover, the role of the researcher in action research is not that of an expert but of a facilitator who assists participants in defining and solving their problems. consequently, action research can be considered as a tool for learning in classrooms and schools

Action research and Teacher Professional Development

Professional development cannot be done by attending a class or a seminar, it is the development of learning habits that occur on a daily basis (Fullan, 2001). Teacher professional development is the teacher's commitment to a process of "an ongoing process of inquiry, where they deal with skepticism and values which compose the basis of their practice" (Oakes & Lipton 2003, p.379). Therefore, teachers' professional development should center on their critical thinking and students' learning. This is one of the reasons that educators are urged to conduct independent study or work in groups with their colleagues in the classrooms and educational institutions where they are employed in order to solve issues that arise on a daily basis.

Several scholars and teachers (Stenhouse,1975; Rudduck and Hopkins,1985) encouraged teachers to view themselves as researchers and continuously evaluate their practice. They demonstrated the positive influence of action research as professional development for teachers. On the contrary there were some criticisms for the research work of teachers, some studies pointed out the fact that sometimes teachers are not equipped the needed knowledge, skills and research methodology in order to conduct research of value (Norton, 2009). On the other hand, McMillan (2008) found that teachers are empowered by action research and that participating in collaborative action research fosters an environment in which all teachers are welcomed to ask questions. openly consider their teaching strategies, take chances, and rely on their peers for in-depth knowledge that deepens their comprehension of the data. When teachers reflect on their current practices, it becomes the ultimate reflection in action. It is the best mean to discover how they can improve their instruction. Moreover, empowerment is the Action research is a recurring theme in Mertler's (2014) works; he thinks that teachers get "an increased level of empowerment" and "have a lot more interest in how things are going on both in their classroom and at their schools.

So, wouldn't it be more fruitful to empower the people who are at the center of education—the teachers—to continuously reflect on their methods as part of their model for self-improvement rather than assign blame? Action research offers a method by which existing behavior can be modified to better behavior "p. 14; Mertler, 2014). Teachers are tasked with improving professional practice, critical reflection, and lifelong learning through action research .enhancing the learning of students (Mertler, 2014) .

Purpose of the study

The study will investigate from the standpoint of elementary mathematics and science pre-service teachers (group1) and mathematics and science teachers, graduates of faculty of pedagogy who practice teaching for the first time (group 2), how the specific information about action research and the experiences of engaging in action research as part of the requirements of a degree in Education program impacted their: (a)learning about action research, (b) thinking and problem-solving skills, (c) professional growth, (d) self-efficacy, (e) outcome efficacy, (f) beliefs about whether or not action research is applicable to their future as teachers. The data from these six variables answered by the two groups will provide sufficient information that creates a picture of how they benefited from this two-module action research course and how they do compare.

Research questions

1) What are preservice and novice teachers' beliefs about action research as a mean to improve their knowledge about action research, problem solving skills, professional development, self-efficacy, students' outcome efficacy, and applicability of action research in the future?
2) Is there a difference in the beliefs of preservice and novice teachers?

Method

Participants

The participants in this study are 33 third year students (pre-service teachers) enrolled in mathematics or science education programs in their last semester and 9 elementary mathematics or science teachers who graduated from the Lebanese University and are in their first teaching year. The majority of the participants are female (91%) whose ages are between 22 and 26

Instrument

The research sought to uncover what the preservice and novice teachers thoughts about the action research process as related to their knowledge about action research, problem solving skills, professional development, self-efficacy, students' outcome efficacy, and applicability of action research in the future. For this purpose, the study adopted and adapted a questionnaire developed by Debby & Ron Zambo (2007). The original questionnaire examined students' beliefs about action research and targeted eight areas of interest, referred to as variables, each of which was assessed by a subset of items. "The variables include the following:

LEARN: Did doing action research help students learn the process and cycle of action research?
THINK: Did action research improve students' thinking and problem-solving skills? PROFDEV: Did action research help students grow professionally?

SELFEFF: Did action research increase students' self-efficacy?
OUTEFF: Did action research increase students' outcome efficacy?
MENTOR: Were mentor teachers knowledgeable and interested in action research?
COMMUN: Did doing action research foster communication between students and their mentors?
FUTURE: Do students believe that action research is applicable to their futures?" (Debby & Ron Zambo, 2007, p64)

Our research neglected two of these variables, MENTOR and COMMUN, that assess students' relationship with their mentor teacher since our pre-service teachers do not have a mentor teacher accompanying them during their practice.

The first variable (LEARN) examined the extent to which our pre-service teachers were able to learn the process of action research through the way it was taught. They were asked to assess their ability to produce methods for gathering and analyzing data, inform oneself through literature, and develop a successful intervention strategy.
The second variable (THINK) focused on how students felt action research affected their ability to think critically. We wanted to know if our pre-service teachers thought that engaging in action research enhanced their capacity for decision-making, critical analysis, and problem-solving.

The third variable (PROFDEV) looked at whether teaching our students about action research aided their professional development. We wanted to know if students believed that action research made them more reflective and if it provided them with a plan for upholding their values.

The third variable (PROFDEV) looked at whether teaching our students about action research aided their professional development.

The fourth and fifth variables addressed self-efficacy and outcome efficacy. These two variables assess students' thought about whether action research "increased positive self-efficacy beliefs (SELFEFF), if learning to think as action researchers gave them a strategy to reach and teach each child" (Zambo, 2007)

Students' perceptions of the relevance of action research to their futures was the focus of the final variable (FUTURE). We were interested in knowing if our pre-service teachers thought action research was important and applicable to their future classrooms. We questioned whether they would apply it in the classroom and whether this motivated them to learn about action research and complete their project successfully.

The reliabilities of the six variables were high, with coefficient alphas as follows: LEARN = .88, THINK = .88, PROFDEV =.89, SELFEFF = .85, OUTEFF = .91, and FUTURE = .85.
The items for each of the six variables are listed in Table 2

Table 1. Items for Each of the Eight Variables

LEARN	**Did doing action research help them learn about action research** ?
	Doing the action research project helped me learn how to find a focus .
	Doing the action research project helped me learn how to collect data .
	Doing the action research project helped me learn how to analyze data .
	Doing the action research project helped me learn how to create an intervention .
	Doing the action research project helped me learn how to review literature
THINK	**Did learning action research improve their thinking and problem-solving skills ?**
	Learning how to do action research made me a more critical thinker about what goes on in classrooms .
	Learning how to do action research made me a better problem solver about educational issues .
	Having an action research component in an education program helps develop expert teachers .
	Doing action research helped me understand the complexity of teaching .
	Doing the action research project helped me know how to apply theories and concepts to my teaching.
PROFDN	**Did doing action research help them to grow professionally?**
	Learning how to do action research has made me a more reflective educator .
	Action research changed my beliefs about teaching .
	Doing action research helped me understand the kind of teacher I want to become .
	Knowing how to do action research caused me to grow professionally .
	Knowing how to do action research helps me keep my ideals about education.
SELFEFF	**Did doing action research increase their self-efficacy?**
	Because I know how to do action research, I will be an effective teacher .
	My self-confidence has grown because I learned how to do action research .
	I feel empowered because I know about action research .
	Doing action research changed my beliefs about my competence as a teacher.
OUTEFF	**Did doing action research increase their outcome efficacy?**
	Doing action research helped me see that I can bring about change in a classroom .
	Because I know how to do action research my students will meet more of the standards .
	Because I know how to do action research my students will score better on standardized tests .
	Because I know how to do action research my students will learn more .
	Action research will allow me to reach more of my students.
FUTURE	**Do the students believe action research is applicable to their futures?**
	Action research is relevant to my career as a teacher .
	I will use action research in my classroom .
	I was motivated to learn how to do action research because I know I will use it in my future .

Action research will become a regular part of my teaching .
I understand how action research will apply to my life as a teacher

Items on the questionnaire were formatted with a 4-point Likert scale (4 = strongly agree, 3 = agree, 2 = disagree, and 1 = strongly disagree

Data Collection and Analysis

After obtaining pre-service teachers' agreement to participate, they were given the questionnaires on the final day of their last semester before graduation. They were referred to as group 1. It took around 15 minutes to complete the questionnaire. Completed anonymous questionnaires were placed in the author's box located at the university. The second group, referred to as group 2, were the teachers who graduated the previous year from the faculty of pedagogy and who were teaching elementary science or mathematics. They were contacted at the end of the academic year and they sent their responses through mail.

A 4-point Likert scale was used to format the questionnaire's questions (4 being strongly agree, 3 being agree, 2 being disagree, and 1 being strongly disagree. Since the questionnaire used a 4-point scale, we considered means above 2.5 (the scale's midpoint) to indicate agreement, means below 2.5 to indicate disagreement, and their distances from 2.5 to indicate the strength of their agreement or disagreement.

Results

The data collected in this research was intended to portray pre-service teachers and novice teachers' beliefs of action research. The results are presented in the following section in a way to answer the research questions. Regarding the first variable, LEARN: Did doing action research help them learn about action research? group 1 mean was 3,47 and the mean of group 2 was 3,51. both means reflect an agreement of both groups that the two action research modules helped them to learn how to do action research. The below figure shows in more details the difference between the two groups

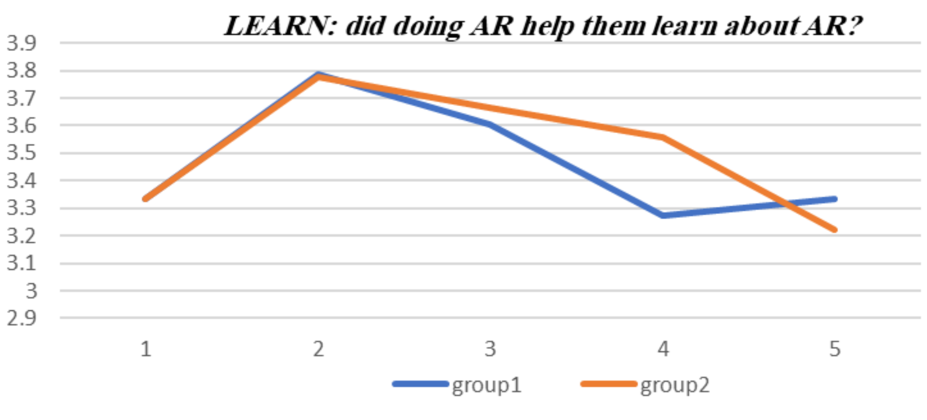

Figure1. means of the five items of the first variable in the two groups

Regarding the second variable, THINK: Did learning action research improve their thinking and problem-solving skills?, group1 mean was 3,472 and group2 mean was 2,66 with an obvious stronger agreement of group 1 that action research modules helped them to be a more critical thinker and better problem solver who understands the complexity of teaching. The figure below shows the means of the five items of the second variable in the two groups

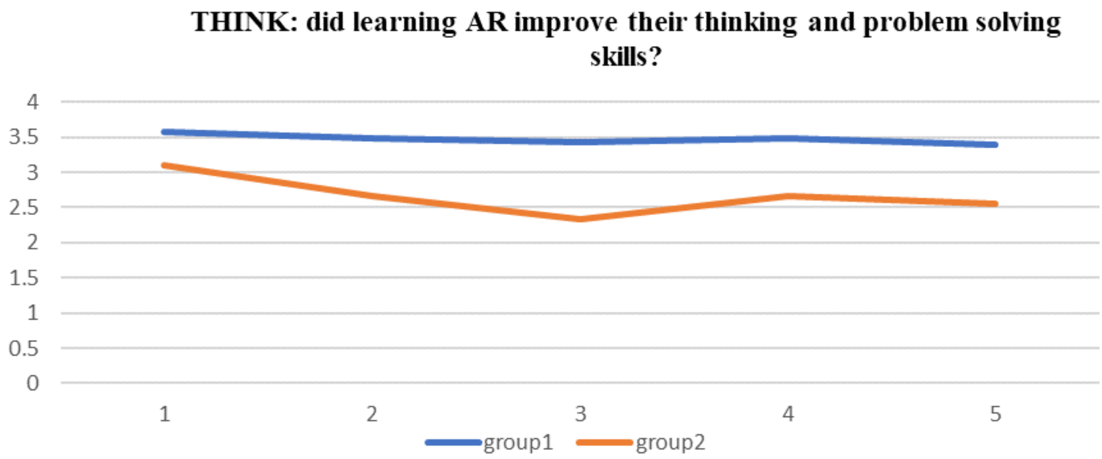

Figure2. means of the five items of the second variable in the two groups

The third variable means, professional growth PROFDN: Did doing action research help them to grow professionally?, were 3,33 for the first group and 2,46 for the second group. Novice teachers did not agree that action research modules helped the to grow professionally. Figure3 shows the difference in the means of the five items of the third variable.

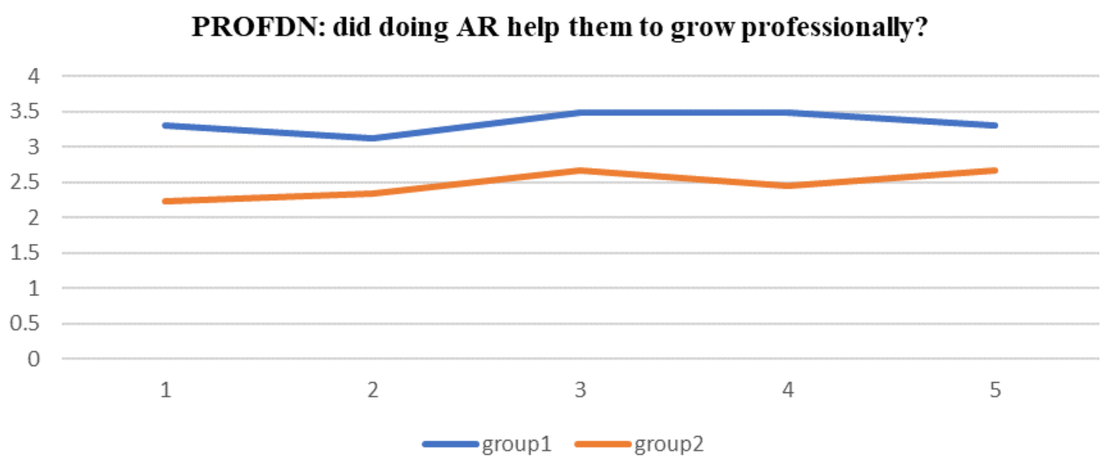

Figure3. means of the five items of the second PROFDN in the two groups

In terms of action research improving group 1 and group 2 self-effectiveness and confidence (SELFEFF: Did doing action research increase their self-efficacy?) group 1 students were more positive, with a mean 3,41 than were group2 whose mean was 2,63. The below figure show the two groups means of the four items of this variable.

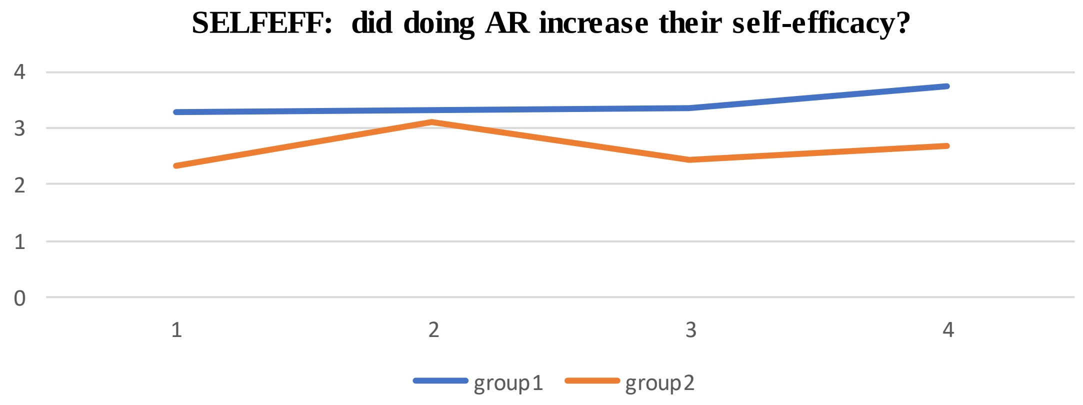

Figure4. means of the four items of the SELFEFF in the two groups

In terms of action research improving effectiveness and helping students reach set standards (OUTEFF: Did doing action research increase their outcome efficacy?), group 1and 2 means were respectively 3,30 and 2,53
In the following figure we notice the means of all the items of the fifth variable for the two groups.

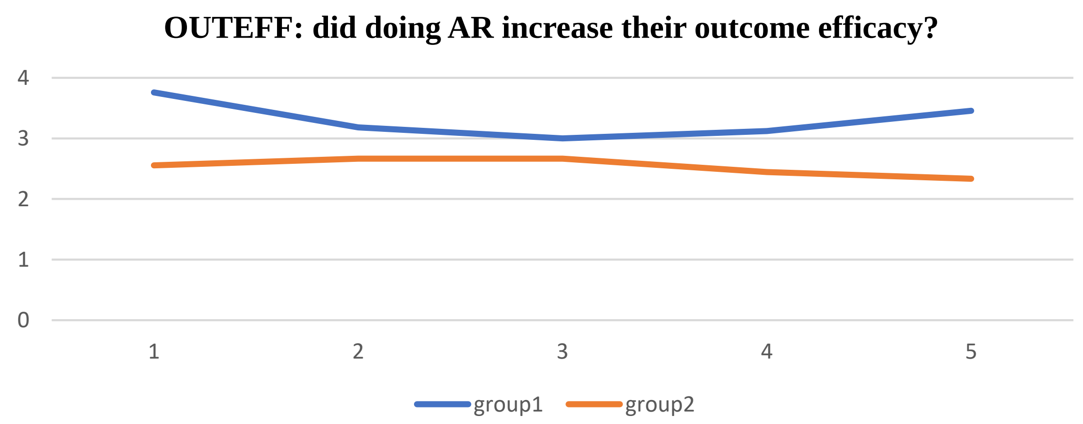

Figure 5. means of the five items of OUTEFF in the two groups

In terms of action research being applicable in both groups future work (FUTURE: Do the students believe action research is applicable to their futures?) both groups agreed that action research is relevant to their as a teacher and could become a regular part of their teaching. Results showed that group1 agreement was stronger with a mean 3,53 compared to group 2 mean 2,73. Details of means difference of all the items of the sixth variable are in Figure 6

To summarize, Figure 1 represents a comparison between the means of the two groups.

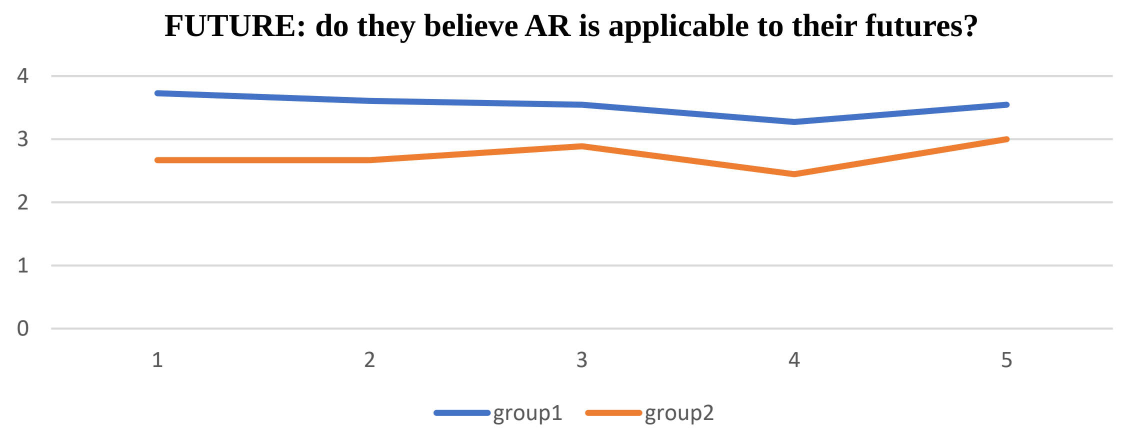

Figure 6. means of the five items of FUTURE in the two groups

The thirty-three pre-service teachers who participated in this study showed a stronger and significant agreement on the effect of action research on their knowledge about action research, problem solving skills, professional development, self-efficacy, students' outcome efficacy, and applicability of action research in the future. The t-value is 13.39086. The p-value is < .00001. The result is significant at p < .05.

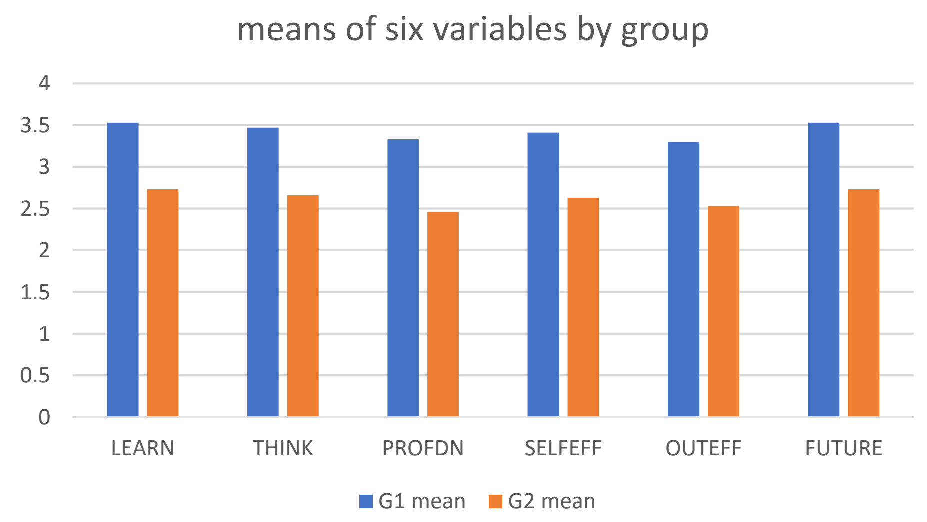

Figure 7. means of the six variables by group

Discussion

Being an instructor working with pre-service teachers, I wanted to survey how our students felt about learning the action research process and what, if any, benefits they thought they gained from it. Despite the fact that the questionnaire appears to have content and face validity in addition to a high degree of reliability, we consider that this study has some limitations and may not be generalizable to other populations. Keeping this in mind, we provide the following discussion and implications.

One purpose of the study was to reveal what pre-service teachers and novice teachers thought about the action research process as related to their knowledge, professional development, self-efficacy, problem solving skills, students' outcome efficacy, and applicability of action research in the future. It was evident from the data that the pre-service teachers expressed a strong agreement for the all examined domains and an average agreement for novice teachers.

The strongest agreement for both groups of teachers was for the learning process of action research and its applicability in their future teaching with a remarkable difference between the two groups.

We think that the detailed structure of the two modules of action research that the students learn allows us to hypothesize that students who complete our program will be familiar with the action research process because they receive thorough instructions about each component of the action research project.

The results also indicated that taking part in action research led to an increase in self-efficacy. Participants agreed that learning about action research will make them be effective teachers, more self-confident and more empowered also it changed their beliefs about their competence as teachers. According to the Self-Determination Theory, one of the fundamental human psychological needs that fosters effective learning is autonomy. People are intrinsically motivated to perform tasks with a high degree of aspiration and a sense of choice when they feel independent and in control (Ryan & Deci, 2000). Other studies (Henson, 2001; Mulholland & Wallace, 2001; Ross, 1994; Wyatt, 2013) also stated similar results although the context was different.

Since teaching is a complex profession, we believe that delivering knowledge to students is not sufficient to assume that they have become proficient teachers. This is why we tracked a group of our graduates to examine their beliefs about action research after one year of graduation and teaching. There was a significant difference between their results and the results of pre-service teachers. Group 2 participants showed slightly positive agreement on all the variables except profession development that was slightly negative. This is compatible with previous research that indicates that efficacy beliefs of new teachers get lower as teachers traverse along the early paths of their careers (Woolfolk & Hoy, 1990).

Although group 2 participants agreed that action research is applicable in their future teaching, none of them has conducted action research during their first-year teaching. They claimed that the lack of time, the fact that action research is not a part of the requirements, the unfamiliarity with action research within the school staff were obstacles to its implementation. However, they said that occasionally and in certain situations, they followed the steps of action research without writing the research. Meaning that, they identified a problem, they searched for methods to solve it, they tested these methods and analyzed the results. They claim that action research had a positive impact on their teaching practices.

Conclusion

More research is required to examine the value that action research add to the teacher preparation programs. However, the results of this current study suggests that pre-service teachers should be involved in action research as part of their teacher preparation. While the traditional preparation programs' required courses and fieldwork provide candidates who possess the necessary knowledge and abilities, action research can foster growth of the qualities required to be a successful teacher in the classroom.

This study is truly the beginning of on-going inquiry regarding the impact of action research on pre-service teachers' practices and development. The data that were collected will add to the literature and raise future questions to be answered.

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Identification of Constraints to Implementation of Entrepreneurship Digitalization Training: The Case of Batik SMEs In Indonesia

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Abstract: The digital world in the creative industry has provided new opportunities for entrepreneurs to utilize and exploit products and services in a more transparent and widespread manner. Products and services can grow exponentially and be offered to all users and communities throughout the world without time and space limitations. Creative SMEs, especially batik SMEs, are currently required to keep abreast of technological developments, especially digitalization. They must be able to take advantage of digital transformation in managing their business. One effort that can be made is through digital entrepreneurship training. It's just that they are still faced with several obstacles, including digital skills, digital knowledge, management commitment, and government support. Even though batik SMEs adhere to the basic principles of digital entrepreneurship, these four aspects are very important to improving the sustainable performance of SMEs. This research uses a qualitative approach using participants from batik SME owners and managers, the government, and customers of natural color batik SME in Ciwaringin Cirebon, West Java, Indonesia. Validity and reliability were carried out using a triangulation approach with three parties (SMEs, government, and customers). In increasing the success of digital entrepreneurship, fundamental changes must be prioritized: digital knowledge, digital skills, management commitment, and government support. These four aspects will make a significant contribution to improving sustainable SME performance. Apart from that, batik SMEs must play an active role in participating in digital training and connect actively and proactively with people who do not understand digital.

Keywords: digital training, digital skills, digital knowledge, management commitment and government support

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Introduction

Digital technology has brought a fundamental change in the business world (Steininger, 2019; Fachrunnisa et al. 2020). Technological changes that are growing rapidly are increasingly important to be utilized by all business people, both on a large, medium, and small industrial scale. Post-Covid-19, digital technology has been able to change the mindset, culture, and mindset of business managers to transform traditional patterns into more modern digital-based ones. (Elia et al. 2020; Fachrunnisa et al. 2020; Steininger, 2019), including creative MSME managers in Indonesia. The presence of digital technology no longer limits space, movement, distance, or time, even though business locations are located anywhere, including in rural areas. Something impossible will happen because people can communicate anywhere and to anyone.

Toffler's prediction is now proven to have occurred because the creative economy wave has grown very rapidly all over the world. Through UN General Resolution No. 74/198, the UN has designated 2021 as the international year of the creative economy. In Indonesia itself, the creative industry has grown rapidly and can make a significant contribution to the growth of the national economy. The development of the creative industry in Indonesia is even more rampant with the emergence of various creative and innovative ideas from all business people. This is because in Indonesia itself, the creative industry focuses more on producing products and services whose business processes rely on knowledge, expertise, and creative and innovative talents that are expected to have high marketability and competitiveness. In Indonesia, the creative industry is currently managed by the Indonesian Ministry of Tourism and Creative Economy.

There are currently more than 8.2 million creative businesses in Indonesia, dominated by culinary, fashion, and craft businesses. In addition, there are four sub-sectors of the creative economy with the fastest growth, namely film, animation, video, performing arts, and visual communication design. The rapid growth in this sector is supported by the higher adoption of digital technology in society (Coordinating Ministry for Economic Affairs, RI, accesses September 1, 2023). Cirebon Regency has a very potential creative industry to be developed. Besides having a very strategic geographical location because it is located on the crossing of goods and services through the north coast (pantura), Cirebon Regency also has the potential for creative industries that are indeed worth developing.. Wartoyo & Haida (2020) conducted research in the city of Cirebon by mapping through surveys with a qualitative approach. The results explain that the 15% fashion economy has good opportunities and priorities to be developed in the future so that it can be used as a superior subsector for the city of Cirebon. The hope is that in the future, it can be one of the sectors that boosts the local, national, and even global economies. One of the most famous creative industry products in Cirebon is batik. One of the known batik centers is natural color batik, produced by batik makers in the Ciwaringin area. (Arni & Ciptandi, 2021).The artisans who are members of the "Koperasi Serba Usaha Anugerah Batik" association have a very strong commitment to using natural dyes produced from leaves and roots. "Koperasi Serba Usaha Anugerah Batik" has a large membership and shares the same commitment to producing hand-dyed batik. On the other hand, the existence of synthetic-colored batik is also an alternative for buyers because it offers cheaper prices and brighter colors that are sometimes more attractive. Nevertheless, the manager of the natural-color batik SMEs is still surviving. But unfortunately, it is not supported by promotion and strong digital entrepreneurship, so it is feared that it will gradually lose to competitors. whereas the current digital transformation has become a new trend setter for all levels, including managing businesses in Indonesia. Conditions in the Ciwaringin Batik Association still require supporting factors, including digital knowledge, digital skills, management commitment, and government support.The artisans who are members of the "Koperasi Serba Usaha Anugerah Batik" association have a very strong commitment to using natural dyes produced from leaves and roots. "Koperasi Serba Usaha Anugerah Batik" has a large membership and shares the same commitment to producing hand-dyed batik. On the other hand, the existence of synthetic-colored batik is also an alternative for buyers because it offers cheaper prices and brighter colors that are sometimes more attractive. Nevertheless, the manager of the natural-color batik SMEs is still surviving. But unfortunately, it is not supported by promotion and strong digital entrepreneurship, so it is feared that it will gradually lose to competitors. whereas the current digital transformation has become a new trend setter for all levels, including managing businesses in Indonesia. Conditions in the Ciwaringin Batik Association still require supporting factors, including digital knowledge, digital skills, management commitment, and government support. (Fachrunnisa et al. 2020; Ghezzi & Cavallo, 2020; Fossen & Sorgner, 2019; Geissinger etv al., 2019; Steininger, 2019). All of them if running in configuration are expected to improve the performance of Ciwaringin batik SMEs in a sustainable manner.

Literature Review

Digital Technology Adoption

Online media has been widely utilized by SMEs in Indonesia, although not all of them use it. They have generally used email, Twitter, WhatsApp, Instagram (IG), and Facebook as their media. They usually open online stores to offer their products, although sometimes they still use the conventional way of selling their products offline. Batik SMEs in Ciwaringin need to be innovative because they need to have the ability to express creative ideas and actions.. (Rogers, 2003). When making a decision to adopt an innovation, a person will be faced with 3 decisions; voluntary decisions, authority decisions, and collective decisions. (Rogers, 2003). Rogers (2003) said that innovation Adoption decisions take place through five stages: knowledge, persuasion, decision, implementation, and confirmation. The knowledge stage is the introduction stage, where someone can be introduced to the existence of innovation so that they are increasingly aware of its importance. This is the first stage of the introduction of adoption. The second stage is the persuasion stage, where a person begins to be persuaded to have an attitude towards innovation. Adopters are grouped according to the speed of innovation: relative advantage, compatibility, complexity, trialability, and observability. The third stage is a stage where someone can make a decision to accept or even reject innovation. Furthermore, the fourth stage is the implementation stage. Someone starts implementing innovations and can evaluate the innovations that have been implemented. The last stage is confirmation, where someone confirms it to a trusted person to strengthen decisions in implementation. At this stage, the adopter may not continue if it is not in accordance with the evaluation results. The consideration is that the adopter has evaluated the functional benefits, which are reinforced by references from people trusted by the adopter.

Digital technology can be widely useful when MSME players can optimize their digital potential and capabilities. Unfortunately, they are faced with limited resources, both human and other. In fact, in marketing their products and services, they are in dire need of it, especially now that the promotion war in online media is very intense. Today's consumers also generally prefer convenience and speed in transactions. They currently have cellphones or other gadgets because they can transact at any time. Training related to digital entrepreneurship is needed. (Elia et al., 2020; Martinez et al., 2018).

The Role of Digital Knowledge, Digital Skills, Management Commitment, and Government Support

In today's digital era, knowledge management related to digital technology is very important to increase competitive advantage. The digital era requires strong digital knowledge and digital competencies. This is because the level of competition outside the organization is getting tighter and demands a strong digital innovation advantage. Organizations will be able to survive in the long term when they are able to utilize 'intangible assets' such as knowledge, especially 'digital knowledge'. (Hendrawan, 2020). Hendrawan (2020) adds that knowledge management is 'a series of strategic and systematic approaches to managing knowledge, from creation, organization or mapping, utilization, transfer, dissemination, preservation, to evaluation'. The knowledge in question consists of both tacit and explicit types of knowledge. Relating to digital technology means that organizations should make digital knowledge a strategy used to manage digital knowledge that serves to create competitive advantages and improve organizational performance in a sustainable manner. Nawawi (2012) said that the type of knowledge is not only tacit knowledge and explicit knowledge but also intellectual capital. Tacit knowledge is knowledge that is located in the brain or inherent in a person and is acquired through experience and work. Explicit knowledge is any form of knowledge that has been recorded and documented so that it is easier to distribute and manage. Furthermore, intellectual capital is knowledge that transforms raw materials and makes them valuable, which consists of human capital, structural capital and costume capital. Research results from Braun (2001) has explained the importance of knowledge and innovation flows that are embedded in and connected to communities of practice and technology. SMEs in Australia have the potential to collaborate and compete by utilizing knowledge platforms built on digital technologies and new relationships. Braun (2001) suggested that fostering a culture of connectivity and trust among SMEs to initiate knowledge exchange could offer a potential solution to the possible loss of competitive advantage for SMEs in the digital economy.

Mack et al. (2002) added that the role of digital knowledge on employees can help their tasks in carrying out dailywork including information collection of documents that have been distributed, data indexing, text search and categorization, and new functions in the future. In essence, digital knowledge means that SMEs can capture the knowledge and expertise they have digitally while they do their work and make it possible for them to interact with a wider community. Digital technology is useful when SMEs can optimize their digital potential and capabilities. Consumers today also generally prefer convenience and speed in transactions. They currently have gadgets because they are able to transact at any time. Training related to digital entrepreneurship is needed (Elia et al. 2020; Martinez et al. 2018; Yaghoubi et al., 2012). A person's digital skills are important for improving work performance and development in an organization. When digital skills are lacking, they must be supported by a comfortable work environment and high levels of commitment from managers. (Jarad & Shaalan, 2022). Importantly, in the context of SMEs in developing countries the findings from the Thong & Yap (1995; Muafi, 2012; Muafi et al., 2012) explains that management commitment has a direct impact on IT usage. This result is supported by Ghobakhloo, et al. (2011; Kwahk, 2006). Furthermore Steinlechner *et al*. (2021) added that to assess digital skills, the digital competency model (DigiCoM) can be used, which consists of 49 attributes that can consider the digital competencies needed for direct value creation for the organization. In the Indonesian context, the findings Baharrudin et al. (2021) found that digital competencies did not make a significant contribution to HR performance. This condition occurred at the time of the establishment of WFH by the government in Indonesia. While Marguna & Sangiasseri (2020) instead, they found that digital competence was able to make a significant contribution to the performance of Hasanuddin University Library employees in Indonesia. Huu et al. (2022) added that the digital competence of the company should be evaluated as a significant feedback for improving business digital performance for future generations. After the Covid-19 pandemic, creative SMEs still need support from the government for the adoption of digital entrepreneurship. The participation of the government can help to promote and support the SME network. (Muafi et al., 2021; Nakku et al., 2020; Alam & Noor, 2009), can also encourage the use of e-commerce for MSMEs (Xu et al., 2004).

Methods

This research was conducted on batik SME owners/managers in Cirebon Regency who focus on producing hand-written batik with natural coloring. Cirebon Regency has a natural color batik village called Ciwaringin Batik Village. The natural-color batik SMEs in Ciwaringin are members of "Koperasi Serba Usaha Anugerah Batik". This type of research uses a qualitative approach where data collection is done by interviewing 3 SMEs (P1), 2 customers (P2) and 1 from the government (P3) as key participants. These key participants served as key sources for data exploration and data analysis. The participants are currently very hopeful and supportive of entrepreneurial digitalization training. This training is needed because they realize the importance of digital technology in the current era. Specific questions were directed at the obstacles encountered during the training, both those that have been implemented and those that will be implemented. Testing the validity and reliability of the questionnaire through triangulation of sources from; SMEs, customers and government officials. This is in accordance with the requirements of the credibility and reliability of qualitative research. (Yin, 2009), Eisenhardt & Eisenhardt, 2018).

Results and Discussion

This research aims to identify the obstacles faced by batik SMEs in Ciwaringin in digital entrepreneur training, both those that have been implemented and those that will be implemented. This aspect is important to research and analyze because they are faced with very volatile situations and conditions, especially in the digital world. Currently, whether we want it or not, like it or not, all elements of society cannot be separated from digital technology. All users or consumers today must use information technology media where they can easily and quickly access WhatsApp, Facebook, email, and Instagram at any time. The population of Indonesia that spreads to various islands is a great opportunity for Ciwaringin Batik SMEs to promote their products. Moreover, when they master English well and fluently, they will have a high level of confidence to transact business with the global community. So far, the Batik SMEs in Ciwaringin have received training, one of which is digital entrepreneurship training, from universities and the government. After being asked questions related to the constraints faced, they identified these constraints in accordance with the order of priority, including the importance of roles, digital knowledge, digital skills, management commitment, and government support. The research has also conducted interviews, with the results of the interviews captured as follows:

Interviewee 1 (P1)
"So far we have been given training from the government.... of course, we are very happy...we realize that we do not have higher education so sometimes it is difficult for us to follow...but we are enthusiastic..."

Interviewee 3 (P1)
"Our expertise in digital technology is still very weak.... this is because we have been focusing on batik production...we would like to be assisted by university students to handle our promotional media.... because we are already overwhelmed to serve our regular customers...".

Interviewee 1 (P2)
"I actually really want to transact through IG or WhatsApp with consumers....but sometimes I find it difficult to continue...I really need assistance even though I have been trained."

Interviewee 2 (P2)
"I happen to be a lover of Ciwaringin batik...because of its distinctive patterns and natural colors...besides I really respect and appreciate their efforts...they have a high commitment to maintain natural color batik...even though the price is expensive I still buy it...because I like it...only they need to continue to maintain that commitment...because it is one of their strengths...now they have to learn IT because it is important..."

Interviewee 3 (P3)
"We, the government, have tried to facilitate them by providing various kinds of training...including digital entrepreneurship training.... they are very enthusiastic and have begun to realize its usefulness."

The results of these interviews are also supported by the results of open interviews with participants as outlined in Table 1.

Table 1. Identification of constraints and their impacts

Prioritization of constraints and expectations	Conditions	Impact
Digital knowledge - Weak knowledge related to digital technology because SMEs only use it for internet access, viewing videos and movies, and other unproductive things. - Lack of digitalization in product design to product marketing.	*****	Strengthening digital business processes Strengthening digital entrepreneurship Increased digital technology-based promotion Reputation enhancement Increased competitive advantage Sustainable improvement of SME performance
Digital skills - Lack of digital skills/competence - Limited human resources and mostly production-focused	****	Strengthening digital business processes Strengthening digital entrepreneurship Increased digital technology-based promotion Reputation enhancement Increased competitive advantage Sustainable improvement of SME performance
Management Commitment - Too focused on production and less focused on marketing aspects - The need for Ciwaringin batik SMEs to take the time to learn more intensely and focus on digital entrepreneurship. - The need for involvement in affective commitment and sustainability in addition to cognitive commitment.	***	Strengthening digital business processes Strengthening digital entrepreneurship Increased digital technology-based promotion Reputation enhancement Increased competitive advantage Sustainable improvement of SME performance
Government support - There is a need for regular and intensive government support related to digital entrepreneurship. - - Government support can be financial and non-financial, including mentoring.	**	Strengthening digital business processes Strengthening digital entrepreneurship Increased digital technology-based promotion Reputation enhancement Increased competitive advantage Sustainable improvement of SME performance

Note: ***** = very very priority; **** = very priority, ***= priority, ** = low priority

Conclusion

This research concludes that Ciwaringin Batik SMEs are very enthusiastic when training that includes digital entrepreneurship is held. But they were constrained by various reasons. The researcher identified, on a consecutive priority scale, among others: (1) digital knowledge, (2) digital skills, (3) management commitment, and (4) government support. These constraints can be overcome when they are given regular and periodic training. It seems that support from the government is a top priority, both financially and non-financially. Likewise, the participation of universities is also highly expected.

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The Mediating Effect of Supply Chain Agility on Innovation Capability and Absorption Capacity on Competitive Advantage

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Abstract: This study investigates the effect of implementing supply chain agility in mediating the relationship between innovation capability and absorptive capacity on competitive advantage. This study developed seven hypotheses tested using the Structural Equation Modelling (SEM) method. The software used in processing research data is SmartPLS 3.0. The sampling technique applied in this study was purposive, with the criteria being at an intermediate level in digital adoption. The sample in this study was 200 coffee shops with Instagram followers of more than 500 followers, while the research respondents were owners, managers, and supervisors who manage coffee shops. The researcher collected data through valid and reliable questionnaires distributed via Google Forms. The results of the study show that absorptive capacity has a positive and significant effect on supply chain agility, supply chain agility has a positive and significant impact on competitive advantage, absorptive capacity has a positive and significant effect on competitive advantage, and supply chain agility has a positive and significant impact in mediating the relationship between absorptive capacity and competitive advantages. Conversely, innovation capability does not affect competitive advantage and supply chain agility, and supply chain agility cannot mediate the relationship between competitive advantage and supply chain agility.

Keywords: Supply Chain Agility, İnnovation Capability, Absorptive Capacity, Competitive Advantage

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Introduction

Companies need a competitive advantage to survive, develop, and win the competition. Companies no longer compete as individuals but as a supply chain network in the current competitive business environment. Companies and their supply chain networks must improve their ability to respond quickly to market changes and update knowledge and technology that continues to develop through internal R&D or external expertise. Three primary sources are significant for a company's competitive advantage, namely absorptive capacity (AC) and supply chain agility (SCA) (Ambe, 2010; MacCarthy et al., 2016; Martinez-Sanchez & Lahoz-Leo, 2018) and innovation capability (IC) (Iddris et al., 2014; Afraz et al., 2021).

Absorptive capacity is a company's ability to take, assimilate, transform, and exploit new knowledge to produce dynamic organizational capabilities. Absorptive capacity is seen as a strategic asset that enables companies to manage knowledge when there is an opportunity or need. Absorptive capacity enables companies to develop company capabilities continuously. This capability can facilitate company relationships with customers and increase agility. Companies with good absorptive capacity will be better able to perceive and respond to changes in the company's external environment.

Besides that, to build supply chain agility, companies must have absorptive capacity to expand the reach and wealth of company knowledge. Taking the information and knowledge needed from the market will enable companies to increase supply chain visibility and integrate processes with supply chain partners. A company's competitive advantage in today's business environment comes not only from the company's position in the market but also from the company's knowledge assets that are difficult for competitors to replicate and use. A company's knowledge asset capability is a strategic resource asset that is valuable, rare, difficult to imitate, and challenging to replace by other resources and is considered the most critical asset in long-term competitive advantage (Liu et al., 2009; Dobrzykowski et al., 2015; Lis & Sudolska, 2015; Martinez-Sanchez & Lahoz-Leo, 2018).

The supply chain is a concept used to achieve quality, time, and cost efficiency, providing increased productivity. In the supply chain, various parties, from upstream to downstream relationships, carry out different activity processes to produce products that will reach customers (Pedroso & Nakano, 2009). Supply chain management is an essential part of a company to be able to build competitive advantages in the long term and to be able to continue competing. In SCM, companies can apply several strategies to compete and continue to grow. One is the agility strategy (Felea & Albastroiu, 2013; Yadav, 2013).

Agility is the ability to respond to market changes and customer demands quickly and is a requirement for companies to achieve organizational flexibility and rapid response (Pandey & Garg, 2009). Companies need agility to have competitiveness, and it has traditionally been associated with supply chains that provide and produce innovative products, products with short cycles, high levels of market fluctuations, uncertainty in demand, and unreliable supply.

Agility in the supply chain is used to help companies gain a competitive advantage. Supply chain agility (SCA) is the ability to respond to rapid market changes and customer desires and focus on customer-oriented steps (Bottani, 2009; Wu et al., 2017). A company's supply chain agility arises from a company's ability to quickly identify changes and opportunities (alertness), access relevant data (accessibility), decide how to act decisively (decision), implement decisions that have been made (speed), and changing tactics and operations as far as necessary (flexibility). The characteristics that supply chain agility must have are: first, market sensitivity, namely, paying attention to conditions in the market environment, understanding priorities, and finding solutions. The second is a virtual network, where parts of the supply chain elements in the supply chain process can share accurate and real-time information through information technology. Third is process integration, where supply chain partners can collaborate and actively participate in product development with a sense of cooperation and mutual trust. Fourth is network integration, where members of the supply chain process can work in one network (Guner et al., 2018).

An agile supply chain is considered the most critical success factor in today's competitive market because an agile supply chain will enable companies to be more sensitive to the market and better synchronize supply with demand (Balaji et al., 2015; Chan et al., 2017). A supply chain must have four key characteristics and elements to become an agile SC: market sensitivity, virtual integration, process integration, and network integration (Iskanius, 2007).

Supply chain agility impacts increasing competitive advantage regarding operational process integration, accelerating customer needs, maintaining customer-based steps, increasing access to information, and increasing flexibility between producers and suppliers. SCA helps companies to see rapid market changes and prevent disruptions in the supply chain network. Internal integration, external integration, information integration, network integration, and collaboration will improve performance quality, minimize costs, and reduce production time. Companies must be flexible, responsive, and adapt to changing market conditions. It can be achieved through collaborative relationships, process integration, information integration, and customer or market sensitivity to achieve the goal of customer satisfaction. It includes cost efficiency, time, competence, and speed in the supply chain network, contributing to a company's competitive advantage (Ambe, 2010; Wu et al., 2017).
Companies that can recognize and understand the changing business environment will have the possibility to survive and develop in the business environment. The company's ability to respond to changes in customer demand quickly and deliver high-quality products to the market in the shortest possible time will reflect the company's success, information integration, and strategic alliances. Then, process integration has the highest influence in developing competitive advantage (Guner et al., 2018; Iskanius, 2007)

Innovation capability has been recognized as an essential approach for organizations to become competitive (Iddris et al., 2014; Afraz et al., 2021). Innovation capability is the internal driving energy to generate and explore radical new ideas and concepts, to experiment with solutions to patterns of potential opportunities detected in the "white space" of the market, and to develop them into marketable and practical innovations by utilizing resources and competencies internal and external (Assink, 2006)

Innovation capability is widely recognized as a necessary ingredient for organizational performance and innovation Swafford et al. (2008). Panayides (2006) asserts that in today's rapidly changing technology and uncertain market environment, companies must increase their ability to innovate to meet market demands and customer preferences to maintain long-term competitive advantage.

Storer and Hyland (2009) argue that although the dynamic capabilities of companies are included in the supply chain, supply chains still need to implement dynamic capabilities in their operations, abandon old configurations, and develop new ones to optimize their innovation capabilities.

Based on the above, this research aims to investigate the effect of implementing supply chain agility in mediating the relationship between innovation capability and absorptive capacity on competitive advantage.

Theoretical Foundations and Hypothesis Development

Innovation capability and competitive advantage

Innovation is the success of an organization in implementing creative ideas (Sniukas, 2020). Therefore, it can be concluded that innovation is the process of generating, designing, implementing, and succeeding in new ideas in a business that can improve company performance. Innovation capability means a company's ability to create and implement new ideas related to business development until they are successful.

Several previous studies show that innovation capabilities can have a positive impact on increasing competitive advantage (Puspita et al., 2020; Ferreira et al., 2020; Aziz & Samad, 2016; Anjaningrum & Rudamaga 2019; Nafiu et al., 2020; Lo & Tian, 2020). Regarding increasing competitive advantage, several previous studies also emphasized the importance of a company's innovation capabilities. Innovation capabilities can significantly influence a company's competitive advantage (Puspita et al., 2020).

Other empirical evidence was also found that the company's dynamic exploration and exploitation capabilities positively affect creativity and innovation. On the other hand, innovation capability positively affects competitive advantage and company performance (Ferreira et al. 2020).

Other empirical studies use more complex variables, including knowledge sharing, innovation ability, absorptive capacity, and competitive advantage in education industry employees. The results of this research state that knowledge sharing and absorptive capacity significantly affect innovation ability and competitive advantage. This research also found that absorptive capacity can mediate knowledge sharing and innovation ability, and innovation ability influences competitive advantage (Lo & Tian, 2020).

Likewise, research on food SMEs in Malaysia showed that innovation significantly affected competitive advantage. This relationship is moderated by company size (Aziz & Samad, 2020). Other research also supports the finding that innovation significantly affects competitive advantage (Anjaningrum & Rudamaga, 2019; Nafiu et al., 2020). Previous studies and literature emphasize that innovation is essential in increasing competitive advantage. Therefore, the following hypothesis is formulated:
H1: Innovation capability has a positive and significant effect on competitive advantage

Innovation capability and supply chain agility

Innovation capability-driven theories help understand the processes by which companies change and develop in a dynamic market environment. In general, organizational capabilities are an indication of what a company can do and what it cannot do. Organizational capability is the company's ability to deploy available resources as its main assets.

Eisenhardt and Martin (2000) expand the classic Resource-Based View of the firm (RBV) theory through a dynamic capabilities perspective, stating that dynamic capabilities are processes that enable firms to integrate, reconfigure, acquire, and release resources and respond and even promote market changes. Considering the importance of organizational capabilities, innovation capabilities have become a critical high-level construct for achieving enterprise competitiveness.

Recently, companies have placed great importance on the ability to innovate, as a result of which research interest in this phenomenon has increased over the last few years (Bessant & Tidd, 2015). However, research that specifically focuses on the ability to innovate is limited (Schreyögg and Kliesch-Eberl, 2007; Börjesson and Elmquist, 2011), especially studies that examine the relationship between cloud computing-enabled innovation capabilities, trust, open innovation, and their influence on supply chain agility.

Linking Cloud Computing, Trust, and Open Innovation with the Capability for Innovation Examining key innovation capability enablers is essential in exploring how these factors can stimulate the capability to innovate in a particular context.

In the context of SMEs, several studies have shown that developing innovation capabilities results in achieving competitive advantage (Saunila et al., 2012; Albaladejo & Romijn, 2000), but their studies consider the company as the unit of analysis, and their focus is on general innovation capabilities.

Some supporting factors identified in the SME context include power distance, institutional support, and workforce skills. The only study identified in the field of supply chain management is by Storer & Hyland (2009), which examines the relationship between a firm's dynamic capabilities and the development of innovation capacity in the supply chain. However, their study focuses on how the nature and type of inter-organizational relationships influence the dynamic capabilities of supply chains and the types of dynamic capabilities required to develop innovation capacity in supply chains.
H2: Innovation capability has a positive and significant effect on supply chain agility

Supply chain agility and competitive advantage

Research conducted by Ambe in 2010 explored the concept of supply chain agility and looked at the relationship between SCA and competitive advantage. In this research, companies must face challenges in their supply chain to meet changes in the increasingly dynamic business world, increasing competition, and fluctuating customer demand. Companies must respond to ups and downs by increasing their agility. Agility is seen as the ability to react quickly to changes in the market and customer desires as a carrier of competitive advantage (Wu et al. 2017). In research by Koç et al., 2022, they examined achieving competitive advantage through SCA in uncertain or changing circumstances. Supply chain agility (SCA) is a tool that allows companies to gain a competitive advantage. The research results show that flexibility is significantly influenced by process integration, information integration, and strategic alliances. Then, process integration has the highest influence in developing competitive advantage.

H3: Supply chain agility has a positive and significant effect on competitive advantage

Absorptive capacity and competitive advantage

The role of absorptive capacity in company growth and competitive advantage is carried out through developing skills to recognize valuable knowledge in the business environment, taking this knowledge, assimilating, changing, and developing it, companies can take advantage of it to grow and strengthen competitive advantage (Lis & Sudolska, 2015). A company's competitive advantage is built from individual, group, and organizational relationships in a competitive environment. Companies that can create a competitive advantage will have absorptive capacity. The external interactions bring new knowledge that must be developed into new competencies. So, competitive advantage is built by the company's ability to transform this knowledge and bring it into interactions in the business environment.

H4: Absorptive capacity has a positive and significant effect on competitive advantage

Absorptive capacity and supply chain agility

In research, Dobrzykowski et al., 2015, examined AC in the SC. In this research, it is said that information is a core supply chain activity that is increasingly important as companies strive to become more responsive to increasing customer demand for innovative products. This research is based on information processing theory and examines the role of AC in linking strategy and firm-responsive performance. In this research, AC fully mediates the relationship between responsive strategy and company performance. AC is a necessary competency for companies that aim to provide innovative products to customers. Research by Chatchawanchanchanakij and Arphonpisan, 2021 examined the mediating role of absorptive capacity in the relationship between supply chain agility and firm performance. This research shows SCA as a potential mechanism for obtaining high-performance levels by reforming corporate AC. Companies with superior AC are considered to be in an advantageous position to provide superior SCA.

H5: Absorptive capacity has a positive and significant effect on supply chain agility

Supply chain agility mediates the relationship between innovation capability and competitive advantage

The development of the dimensions of the supply chain agility concept was carried out in research by Iskanius, 2007 which provides the latest views on agility in supply chain management and developing supply chain agility in business projects. The supply chain agility concept has four dimensions to be used to see how agility elements appear in business networks. These four dimensions are virtual integration, process integration, network integration, and market sensitivity. Agility, in research by Braunscheidel & Suresh, 2009 is seen as a risk management tactic that enables companies and their partners to respond quickly to market changes and disruptions in the supply chain. The firm supply chain agility variable consists of dimensions: joint planning, demand response, visibility, and customer responsiveness. The results state that companies with high external flexibility have high firm supply chain agility.

Gligor et al., 2013; Gligor, 2014 examined five dimensions of firm supply chain agility: alertness, accessibility, decision, speed, and flexibility. Supply chain agility must provide a competitive advantage amidst uncertainty for companies technological uncertainty regarding supply chain agility. It is stated that technological uncertainty has had a positive influence on supply chain agility, and supply chain agility has positively influenced company performance (Güner et al., 2018)

Innovation capabilities differ in terms of antecedents to building innovation capabilities in an organization. Apart from this, certain supporting factors play a significant role in triggering the ability to innovate. Börjesson and Elmquist (2011) empirically found that the main antecedents of innovation capability are involvement, experimentation, collaboration with external parties, and communication. Samson and Gloet (2013) identified innovation strategy, process, culture, awards, and results as the main determinants of the process of building innovation capabilities in reorganization.

Lawson & Samson (2001) identified seven keys that enable innovation capabilities, including vision and strategy, utilizing the competency base, organizational intelligence, creativity and idea management, organizational structure and systems, culture and climate, and technology management, indicating that there are no studies that use the computing cloud, trust, and open innovation as antecedents to innovation capability and supply chain agility. Also noteworthy is the limited research on the ability to innovate in supply chains (Storer & Hyland, 2009). So, developing innovation capabilities and providing an integrative framework that focuses on essential dimensions of building company-level innovation capabilities is necessary.
H6: Supply chain agility mediates the relationship between innovation capability and competitive advantage

Supply chain agility mediates the relationship between absorptive capacity and competitive advantage

Supply chain agility consists of market sensitivity, virtual integration, process integration, and network integration. These four characteristics represent a company's supply chain agility strategy in business processes. A company's good absorptive capacity will enable the company's supply chain to respond to market changes and better integrate process networks with partners. The company's absorptive capacity is seen from its ability to acquire, assimilate, transform, and exploit new knowledge. With improved supply chain agility capabilities, it also has a positive effect on a company's competitive advantage. Where the company's absorptive capacity also supports a company's competitive advantage.

As is known in the research studies discussed previously, absorptive capacity (AC) facilitates companies in applying the latest knowledge to increase the company's competitive advantage (CA). Excellence is achieved through developing dynamic capabilities, where companies must obtain the latest knowledge to improve company performance. The company's need for customer needs, market knowledge, and processes continues to increase. A high level of AC allows companies to gain the latest understanding of their entire supply chain. Companies with a high level of AC will better adapt to customer demands promptly and quickly recognize market fluctuations. By recognizing market changes more rapidly and responding promptly, companies will gain a competitive advantage by increasing their supply chain agility.

H7: Supply chain agility mediates the relationship between absorptive capacity and competitive advantage

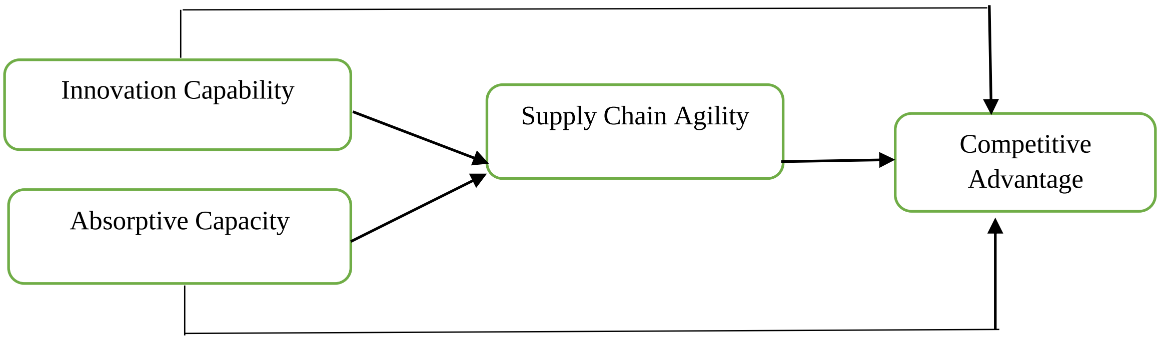

Figure 1. Research Model (Source: Sniukas, 2020; Sripada, 2020; Lo & Tian, 2020); Martinez-Sanchez & Lahoz-Leo, 2018)

Method

This research used a quantitative research model. The sampling technique uses a purposive sampling technique with criteria for being at an intermediate level in digital adoption. The sample in this study was 200 coffee shops with Instagram followers of more than 500 followers, while the research respondents were owners, managers, and supervisors who managed the coffee shops. Research data was collected through a questionnaire distributed via Google Forms. Question/statement items in the questionnaire were measured using a 5-point Likert scale (1=strongly disagree; 5=strongly agree). The statistical analysis tool used in this research is Structural Equation Modeling (SEM). The software used in data processing is SmartPLS.

The operational definition of each variable is as follows:

1. Innovation Capability (Sniukas, 2020; Lo & Tian, 2020):
• My unit always updates products, services, and company programs
• My unit is always able to match the performance of competitors
• My unit can take advantage of opportunities well so that it can increase market share
• I can solve problems using new information or knowledge that I have acquired
2. Absorptive Capacity (Sripada, 2020; Lo & Tian, 2020):
• Employees and management in my unit often discuss and exchange opinions

• Employees and management in my unit often discuss and exchange opinions in informal activities such as lunch and coffee break

• I like to share experiences with my colleagues

• My unit has clear job descriptions and responsibilities for employees

3. Supply Chain Agility (Martinez-Sanchez & Lahoz-Leo, 2018).

• My unit builds business relationships with customers based on developing core competencies

• All SC agents can access information about my SC unit

• My unit has no barriers to coordinating and exchanging knowledge between departments

• My unit uses performance measures based on customer satisfaction

4. Competitive Advantage (Godfrey et al., 2020; Lo & Tian, 2020):

• Overall, my unit has a better reputation than similar competing companies

• My unit is always able to develop new and unique programs

• My unit can always have better research performance than similar competing companies

• My unit can always have better relationships with the industry than similar competing companies

Results & Discussion

Respondent Profile

Table 1. Respondent profile based on position in the company

Position	Frequency	Percentage
Owner	29	14.5%
Manager	42	21%
Supervisor	129	64.5%
Total	200	100%

Source: Data Processed

Table 1 shows that supervisors dominated the respondents in this study at 64% or 129 respondents, managers at 21% or 42 respondents, and owners at 14.5% or 29 respondents.

Validity and Reliability Test

Table 2: Validity and Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
IC	0.924	0.906	0.710
AC	0.864	0.908	0.712
SCA	0.874	0.913	0.725
CA	0.877	0.916	0.731

Source: Data Processed

Table 2 explains that the values of all variables based on Cronbach's alpha and composite reliability are > 0.70, and validity testing uses AVE > 0.50, so the variables tested are valid and reliable, so they can be continued to test the structural model.

Hypothesis testing

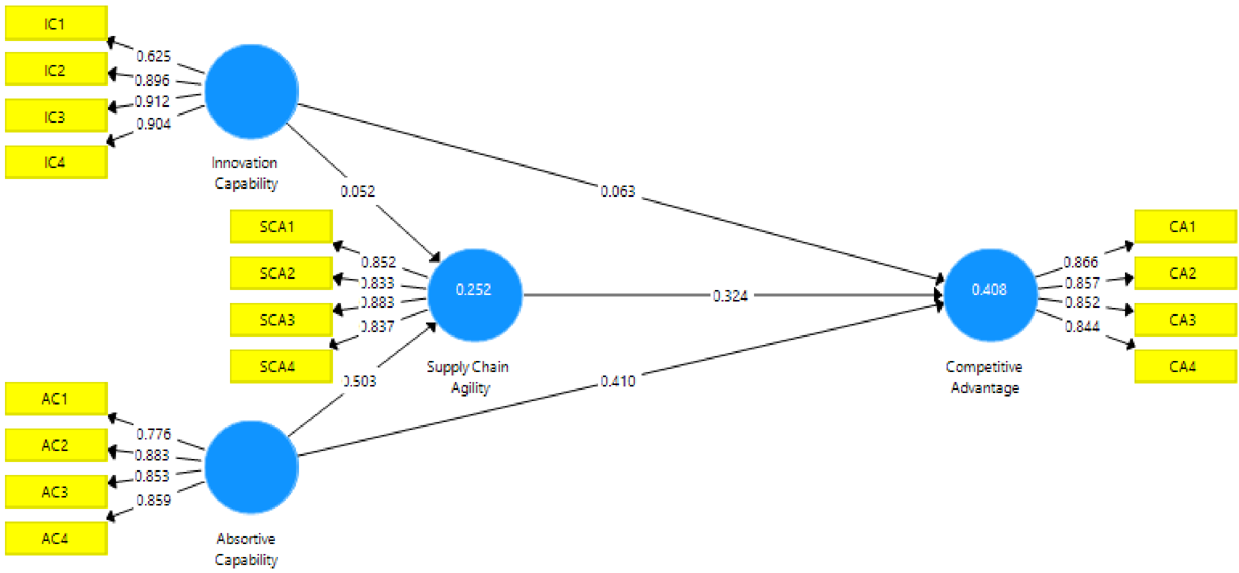

Figure 2. *Path Model* (Source: Data Processed)

The bootstrapping method is used to determine the influence between variables. The PLS method's decision to accept or reject a hypothesis is based on the significance value (p-value) and t-table value. The criteria for accepting or rejecting a hypothesis (Bootstrapping) is if the t-value is > 1.96 and the p-value is < 0.05 at a significance level of 5% (α = 5%), then Ho will be rejected.

Ha7: Supply chain agility mediates the relationship between absorptive capacity and competitive advantage

Table 3. Path Coefficient

Variable	Original Sample (O)	T-STATISTICS	P-VALUES
IC > CA	0.063	0.944	0.345
IC > SCA	0.052	0.661	0.509
AC > CA	0.410	4.881	0.000
AC > SCA	0.503	8.777	0.000
SCA > CA	0.324	3.727	0.000

Source: Data Processed

Table 3 shows that the innovation capability variable does not significantly influence (O = 0.063) the competitive advantage variable. The t-statistic value for the relationship between these variables is 0.944 < 1.96, and the p-value is 0.345 > 0.05. Ho failed to be rejected, so the first hypothesis that innovation capability positively influenced competitive advantage was not proven. The results of this research are not supported by previous research by Puspita et al. 2020; Ferreira et al. 2020; Aziz & Samad 2016; Anjaningrum & Rudamaga 2019; Nafiu et al. 2020; Lo & Tian, 2020 found that innovation capability has a positive and significant relationship to competitive advantage.

The innovation capability variable does not significantly influence the supply chain agility variable (O = 0.052). The t-statistic value for the relationship between these variables is 0.661 < 1.96, and the p-value is 0.509 > 0.05. Ho failed to be rejected, so the second hypothesis, which stated that innovation capability positively influenced supply chain agility, was not proven. The results of this research are not supported by previous research. Schreyögg & Kliesch-Eberl, 2007; Börjesson & Elmquist, 2011 found that innovation capability has a positive and significant relationship to supply chain agility.

The supply chain agility variable has a significant favorable influence (O = 0.324) on the competitive advantage variable. It is based on the t-statistic value for the relationship between these variables, 3.727 > 1.96, and the p-value is 0.000 < 0.05. Ho is rejected, so the third hypothesis states that supply chain agility positively and significantly influences competitive advantage. The results of this research follow research by Ambe, 2010; Wu et al. 2017, which state that supply chain agility positively influences competitive advantage. These results are also supported by a previous study by Koç et al., 2022 which revealed a positive and significant influence between supply chain agility and competitive advantage.

The absorptive capacity variable has a significant favorable influence (O = 0.410) on the competitive advantage variable. It is based on the t-statistic value for the relationship between these variables, which is 4,881> 1.96, and the p-value is 0.000 < 0.05. Ho is rejected, so the fourth hypothesis, which states that absorptive capacity has a positive and significant influence on competitive advantage, is proven. It also follows the results of research conducted by Lis & Sudolska, 2015, which states that absorptive capacity positively and significantly influences competitive advantage.

The absorptive capacity variable has a significant favorable influence (O = 0.503) on the supply chain agility variable. It is based on the t-statistic value for the relationship between these variables, which is 8.777 > 1.96, and the p-value is 0.000 < 0.05. Ho is rejected, so the fifth hypothesis, which states that absorptive capacity positively and significantly influences supply chain agility, is proven. It also follows the results of research conducted by Dobrzykowski et al., 2015; Chatchawanchanchanakij and Arphonpisan, 2021 state that absorptive capacity positively and significantly influences supply chain agility.

Table 4 shows that the supply chain agility variable does not mediate a significant influence (O = 0.017) on the relationship between the innovation capability and competitive advantage variables. The t-statistic value for the relationship between these variables is 0.617 < 1.96, and the p-value is 0.537 > 0.05. Ho failed to be rejected, so the sixth hypothesis stated that supply chain agility mediates the relationship between innovation capability and competitive advantage. It is not proven. The results of this research are not supported by previous research. Storer and Hyland 2009; Gligor et al., 2013; Gligor, 2014; Güner et al., 2018 found that supply chain agility mediates the relationship between innovation capability and competitive advantage.

Table 4. *Path Coefficient* - Indirect Effect Test Results

Variable	Original Sample (O)	T-STATISTICS	P-VALUES
IC > SCA > CA	0.017	0.617	0.537
AC > SCA > CA	0.163	3.376	0.001

Source: Data Processed

The supply chain agility variable significantly influences (O = 0.163) the relationship between the absorptive capacity and competitive advantage variables. The t-statistic value for the relationship between these variables is 3.376 > 1.96, and the p-value is 0.001 < 0.05. Ho is rejected, so the seventh hypothesis states that supply chain agility mediates the relationship between absorptive capacity and competitive advantage. The results of this research are supported by previous research by Storer and Hyland 2009 Gligor et al., 2013 Gligor, 2014 Güner et al., 2018 found that supply chain agility mediates the relationship between absorptive capacity and competitive advantage.

Conclusion

Capability innovation does not significantly impact competitive advantage and supply chain agility when applied to 200 coffee shops in Sleman Regency, Yogyakarta. It was also found that supply chain agility does not mediate the relationship between innovation capability and competitive advantage. On the other hand, a positive and significant influence was seen between absorptive capacity and supply chain agility on competitive advantage. Supply chain agility plays a positive and essential role in mediating the relationship between absorptive capacity and competitive advantage.

Managerial Implications

This research proves that absorptive capacity has a significant influence on competitive advantage. A coffee shop that has good absorptive capacity will be able to increase its competitive advantage, which is built through individual, group, and organizational relationships in the business environment. The ability to absorb external knowledge can bring new knowledge to the company and be developed into new competencies through assimilation, transformation, and exploitation. So, the company's ability to transform the knowledge gained and turn it into a strategy in the business environment can build a competitive advantage. The ability to absorb good information and knowledge will also positively influence the company's ability to react quickly to changes in its business environment. Companies need agility to anticipate change to be increasingly able to compete, read the market, and integrate between networks/suppliers. Companies must also be more responsive to increasing customer demand for innovative products.

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What Explain Consumer Attitudes in Using Go-Food Apps? The Mediating Role of Trust Toward Online Food Shopping in Indonesia

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Abstract: The high mobility of people and time constraints are two important reasons that create new opportunities in the culinary industry. People can now search and order food online and have it delivered where ever they are. Go-Food (the online food delivery apps) is presented as a solution for those with high mobility life style and high work load. This study aims to analyze consumer attitudes in the use of Go-Food applications for online food shopping. Using 227 valid respondents across main cities in Java, this study examined the collected data using PLS (Partial Least Squares). By examining the perceived benefits and perceived web quality, this study identified customers attitudes in using Go-Food applications. As there are risks in online shopping, trust is an important variable identified as mediating variable. Some important findings from this study are that perceived benefits, perceived web quality and trust are directly have a positive influence to online food shopping attitudes, and trust mediates perceived web quality and attitude to online food shopping. These findings provide empirical evidence that perceived web quality, perceived benefits and trust should be considered as important factors in understanding customers' attitude when shopping online including in buying food online.

Keywords: Perceived Benefits, Perceived Web Quality, Trust, Online Shopping Attitude

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Introduction

Online food delivery services have become increasingly popular since the Covid-19 outbreak. The restrictions on interaction in the community and mobility have made people use online food delivery services more frequently. After Covid-19 break was declared to an end, online food delivery remained high due to the improved technology and network infrastructure. People have adapted and have experiencde for the ease and convenience in using online facilities. Several surveys identified that Indonesians' interest in online food delivery services increased sharply even after the pandemic ended. Nielsen Singapore found that 58% of Indonesians buy fast food online via smartphone (Jayani, 2019).

In Indonesia, one of the pioneers of this online food delivery service is Go-Food from Gojek (Setyowati, 2019). Based on BPS data from July 2021, Go-Food (Gojek) serves online food delivery applications with the largest market share of 25%, followed by Grab-Food (Grab) with 20%, and others represent 15% (Statista, 2022). Recently, Shopee food emerged as a rapidly growing new competitor in this online food delivery services. Shopee online food delivery is aggressively building market awareness with various discount strategies

Compared to traditional shopping, people decide to shop online because it offers several advantages (Kim, et al., 2008; Liu, et al., 2012). Online shopping allows people to shop anytime and anywhere. In this case consumers will save time, money and effort. Consumers in their online browsing can collect and compare more diverse information. Online shopping also directly connects sellers and buyers, thus providing a true shopping experience. Some of these benefits motivate and have a significant and positive effect on consumer attitudes towards online shopping (Delafrooz, et al., 2011). The benefits of online shopping were observed in Al-Debei's, et al., (2015) research and proving that there was an influence of perceived benefits on consumer's attitudes.

With good management, quality web application can be achieved (web with an attractive appearance/catalog, clear description, easy searching and easy ordering process). Based on this web quality, the company can build consumer trust. With the increasingly advanced management of online shopping applications such as Go-Food, more and more people believe in using this online shopping application and become an important alternative choice for shopping for food. People choose to shop online because they consider various aspects of the benefits obtained according to the conditions and situation of the buyer (Liu, et al., 2012).

Some of the benefits that consumers can get through buying food online include 1). Flexibility of time and place, where consumers can buy anytime and anywhere. 2) Consumers according to their conditions can save time and energy, because the food is delivered and can do other work while waiting for the food to come. 3) Cost eficiency in this case can be the price of food can be more expensive than buying directly, but if not using Go-Food delivery, we have to travel using our own vehicle to buy food and can be more expensive in terms of energy and transportation costs. 4) Online apps offer a variety of options in one place, so there is more information to choose food and adjust prices accordingly. Some of these benefits influence a person's choices and attitudes in making online shopping decisions including buying food online (Delafrooz, et al., 2011). Apart from the benefits, some disadvantages include that the food may not match the picture or the taste is not as expected, including problems in delivery.

This study focuses on analyzing consumer attitudes in shopping for food online. The three antecedents variables studied include consumer perceptions of web quality, benefits and trust. This study provides empirical validation for attitudes of consumers toward online shopping, especially in using food shopping applications g Go-Food managed by the Go-Jek Indonesia company. This study fills the gap in consumer attitudes towards using the Go-food shopping application. The integration among these four variables remained very few. The reliability of the measure should be check in different object/respondents' background.

Literature Review

There are several e-commerce platforms operating in Indonesia ranging from websites, social media and other web applications. Among the most preferred e-commerce applications in Indonesia are Gojek, Grab, Shopee, Tokopedia, Lazada and some others. In food delivery services, Gojek and Grab are among the major players in Indonesia. GoJek was originally an online transportation service. Furthermore, in business development, Gojek launched Go-Food service in 2015 followed by Grab with Grab-Food in 2018. In 2018 Go-Food users reached 142 million and had 400 thousand partners in 370 cities in Indonesia in 2018 (Akhmadi, et al., 2021). The total business value of food delivery services in Indonesia in 2020 reached USD 3.7 billion.

Bank Indonesia (BI) noted that the value of e-commerce transactions throughout 2020 in Indonesia was amounted to IDR 266.3 trillion, an increase of 29.6% compared to the previous year. In 2021, the transaction value was recorded higher, reaching IDR 401 trillion. In 2021, consumers aged 26-35 years or the millennial generation were still the largest contributor to e-commerce representing 48% of market share (Kredivo, 2022).

The Relationship: Trust and Attitude

The online world or what is often said as cyberspace has a high level of uncertainty, because of that, trust is theoretically important to determine customer attitude. (Gefen & Straub, 2003; Lin, 2011). Several definitions of trust from previous research can be found in both offline and online businesses. Trust is a complex and multidimensional concept (Hassanein & Head, 2007). One can find several different definitions of trust in the relevant literature. Barney and Hansen (1994) in Al-Debei, et al (2015) define trust as a person's belief to other person regarding perceived integrity, goodness, and competence. Trust is the expectation that others will not behave opportunistically (Gefen, et al., 2003).

Trust is that the seller will deliver what has been promised (Ganesan, 1994). Trust in the online field is important due to the uncertainty of risk in transactions (Van der Heijden, et al., 2003). In Indonesia, trust is also recognized as one of the crucial factors in online business activities especially in e-commerce. Previous e-commerce research has identified the role of trust on online shopping attitudes. (Gefen & Straub, 2003; Hassanein & Head, 2007; Lin, 2011).

Attitude

Attitude is a person's behavior in interacting with others followed by a person's tendency to act (Al-Debei, et al., 2015). Attitudes are related to individual mentality which affects individual activities in response to certain situations. A person's attitude in responding to objects is accompanied by positive and negative feelings. Several behavioral experts have found the importance of trust as a determinant of a person's mentality or intention (Al-Debei, et al., 2015) and (Hsu, et al., 2014). Hsu, et al. (2014) see that trust in websites and vendors is related to one's behavior towards web-based shopping attitudes. Based on the above discussion, the first hypothesis is proposed:

H1. Trust has a positive effect on consumer attitudes towards shopping for food online

The Relationship: Perceived Benefits and Attitude

Wu (2003) describes perceived benefits as the number of advantages that fulfill consumer needs or desires. According to Kim, et al. (2008) perceived benefits in using online are “a consumer's beliefs about the extent to which someone feels better off from online transactions with a particular website.” Buying over the internet offers the possibility to buy products whenever and wherever they are. The opportunity to shop anywhere and anytime is an innovation in shopping. Eastin (2002) states the advantages or benefits of e-commerce as economic benefits, where consumers can save time, and overall convenience. In online shopping, consumers also have the freedom to window shopping, searching for information, and comparing prices easily and quickly.

Previous studies have analyzed that the benefits of online shopping compared to traditional shopping are one of the key factors that influence a person's online shopping decision (Kim, et al., 2008). The perceived benefits of online shopping are considered to provide significant incentives for consumers in building positive attitudes towards online shopping. In the context of e-commerce, several previous studies have identified the role of perceived benefits in explaining consumer attitudes (Delafrooz, et al., 2011; Liu, et al, 2012).

H2. Perceived benefits have a positive effect on consumer attitudes towards shopping for food online

The Relationship: Perceived Web Quality and Trust

Web quality can be defined as the web characteristics that users of online shopping websites desire. Hsiao, et al. (2010) define web quality as where consumers find that the features and characteristics of the website meet the needs and requirements of users. Web quality can also be reflected in the functions and search facilities of online shopping websites. Website functionality includes usability and interactivity (Constantinides, 2004). Web quality include ease of navigation, responsiveness, interactivity, and ease of accessing the site. (Aladwani, 2006; Al-Debei, 2013). Previous research highlights the importance of perceived web quality in explaining some of the variation in building consumer trust (Al-Maghrabi, et al., 2011). In addition, Hsiao, et al. (2010) found that perceived web quality has the strongest effect on consumer trust in online shopping websites. Therefore, the third hypothesis is:

H3. Perceived web quality has a positive effect on trust

The Relationship: Perceived Web Quality and Attitude

In this study, the researcher assumes that consumers' online shopping attitudes are influenced by the quality of online shopping web sites. The higher the customer perception on the quality of the online web store, the better the consumer attitude (Zhou, 2011). The study hypothesizes that perceived web quality positively and significantly influences attitudes towards online shopping. If an online shopping website has high usability and interactivity, consumers will have a more positive and favorable attitude towards the website. Previous research has emphasized the importance of perceived web quality in explaining attitudes towards online shopping. (Aladwani, 2006; Zhou, 2011; Al-Debei, et al., 2015). Therefore, hypothesis H4 is:
H4. Perceived web quality has a positive effect on consumer attitudes towards shopping for food online

Research Method

This research is a quantitative research, which was designed to analyze the proposed research model. Primary data was collected by distributing the questionnaires. The sampling method used was non-probability sampling, namely purposive sampling, where researchers filtered only respondents who had ordered food through the Go-Food application more than twice in the last three months, before the survey began. The total number of respondents obtained was 227 participants. This number has met the planned sample size. The number of samples required is 5-10 times the number of parameters used (Ferdinand, 2006).

Measurement indicators were developed and adapted to the Bahasa Indonesia. The measurement was desifned using 6 Likert scale from scale 1 strongly disagree to scale 6 strongly agree. Measurement indicators for attitude on online shopping, perceived web quality, perceived benefits and trust were adopted from Al-Debei, et al.'s (2015) research which has specifically been used to measure online shopping behavior. Because the Go-Food application is still focused in big cities, this study only includes Go-Food users in big cities in Java. Of the 227 participants, 132 were women and 95 were men. Respondents' education is mostly millennials who have completed bachelor degree studies, which covers around 72% of total respondents. The majority of monthly expenditure is in the range above IDR-Indonesia Rupiah three million.

To test the research model and the proposed hypotheses, researchers used the Partial least Square Structural equation Modeling (PLS-SEM) statistical tool. The research model involves direct and indirect relationships. PLS SEM can be used to predict the causal relationship of the variables under the study. Before analyzing the structural model, PLS will test the validity and reliability of the measuring instrument through the measurement model. To test construct validity, researchers use composite reliability with the rule of thumb of 0.7, Average Variance Extracted (AVE) with the value of 0.5 for validity. In addition, construct validity is also seen by examining the factor loading, whose value must be more than 0.6 (Hair, et al., 2019). Item loading whose value is below 0.6 will be removed from the data to be analyzed. Based on the rule of thumb, we exclude one item PB1 from the PLS analysis.

Table 1, the construct validity shows that all factor loading values are above 0.6, and one item from perceived benefits with a value below 0.6 is already removed from the analysis. For AVE based on the rule of thumb, everything has met the limit above 0.5. For the reliability value using composite reliability, the value shows above 0.7 of the four variables studied.

Table 1. Construct Validity

Construct	Items	Factor Loading	AVE	Composite Reliability
	ATOS1	0,892	0,731	0,890
Attitude on Online Shopping	ATOS2	0,754		
	ATOS3	0,910		
	PB2	0,669	0,571	0,841
Perceive Benefits	PB3	0,772		
	PB4	0,850		
	PB5	0,721		
	QW1	0,748	0,593	0,879
	QW2	0,744		
Perceived Web Quality	QW3	0,818		
	QW4	0,776		
	QW5	0,761		
	T1	0,788	0,601	0,900
	T2	0,754		
Trust	T3	0,724		
	T4	0,839		
	T5	0,823		
	T6	0,716		

Table 2. Discriminant Validity

	Attitude OS	Perceived benefits	Perceived web quality	Trust
Attitude OS	0,855			
Perceived benefits	0,626	0,756		
Perceived web quality	0,553	0,651	0,770	
Trust	0,662	0,622	0,576	0,776

Based on the results of the PLS analysis, this study analyzed discriminant validity by using the Fornell-Larcker criterion as shown in table 4. Using the results of the AVE square root of each latent variable, all square roots of the latent variable AVE are greater than all correlation coefficients between the variables studied. From the Fornell-larcker criterion assessment, it can be concluded that the discriminant validity of all main variables can be accepted (Wang, et al., 2021).

Findings

After measuring the measurement model to determine the validity and reliability of measurements, the results of the structural model analysis can be seen in Table 3 or Figure 1. From Table 3, it can be seen from the T-value and P-value which all show above 1.96 and using a confidence degree of 0.05, the P-value of the effect of perceived web quality to attitude on online food shopping (H4) is 0.05 which can be considered as significant. While the P-value of other variables is smaller than 0.01 so it is concluded that H1 (T=7.130, P<0.01); H2 (T=3.820, P<0.01) and H3 (T=12.671, P<0.01) also positively significant in influencing attitude for online shopping. It can also be said that all proposed hypotheses are supported. Figure 1 also shows that the three variables perveived benefits, trust and perceived web quality together influence attitude on online shopping by 0.518 (R^2). This can be interpreted that the three variables are strong enough to predict attitudes for online food shopping buyers.

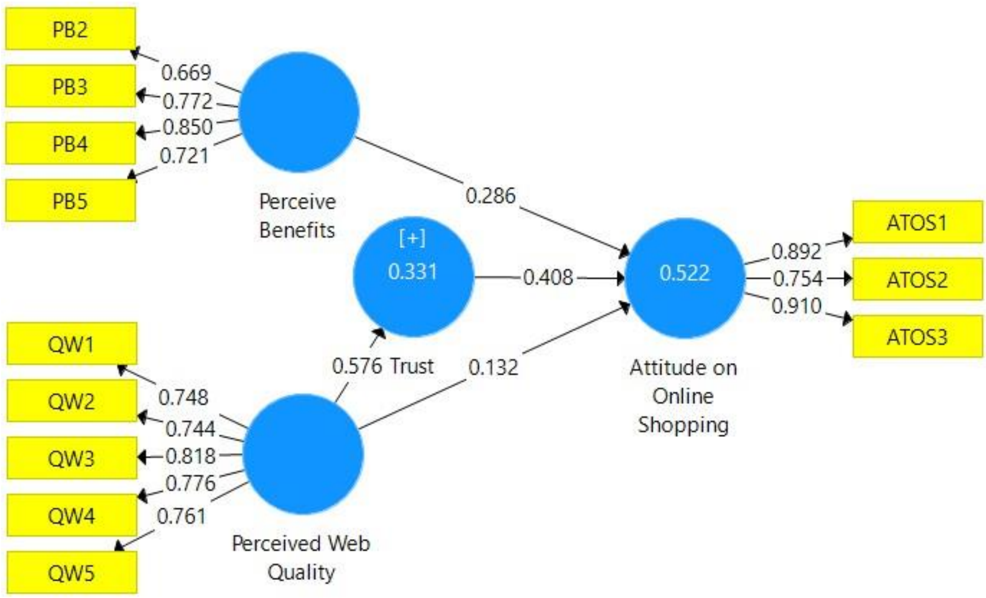

Figure 1. PLS – SEM Result

Table 3. Hypothesis Summary

Hypotheses	Original Sample	T-Value	P-Value	Results
H1: Trust -> Attitude on Online Shopping	0,408	7,130	0,000	Accepted
H2: Perceived Benefits -> Attitude on Online Shopping	0,286	3,820	0,000	Accepted
H3: Perceived Web Quality -> Trust	0,576		0,000	Accepted
H4: Perceived Web Quality -> Attitude on Online Shopping	0,132	1,961	0,050	Accepted

Discussions

The results from the structural analysis of PLS support all the hypothesized model in this study, the four hypotheses proposed are supported with a confidence degree smaller than 0.05. It can be interpreted from this research model that consumer attitudes in online shopping in using the Go-Food application are influenced by perceived web quality, trust and perceived benefits of the application used. Trust was also found to be a consequence of perceived web quality. Therefore, overall, to build positive attitude among online food shopper, managing customer benefits, web quality and trust need to be prioritized as important sources of strategy to successfully influence online customers'attitudes.

Trust and attitude on online shopping

Research by Lin (2011) shows the effect of trust on consumer attitudes in online shopping. In the context of online shopping, the role of trust is very important because sellers and buyers do not meet directly. Research by Gefen and Straub (2003) identify that companies that are able to build trust with consumers have a greater success rate. This study supports previous researches (Al-Debei, et al., 2015; Hsu, et al., 2014) which identified the positive effect of trust on consumer attitudes in online shopping.

This means that in managing an online business, building trust needs to be a priority step. Go-Food as one of the largest online shopping sites in Indonesia so far has a good reputation where the use of Go-Food application from year to year continues to increase. Go-Food is able to build trust among its clients which covers: delivery partners, restaurants that join and consumers who order. Trust in Go-Food is also shown from a variety of user segments, both young and old, employees, students and so on.

Perceived benefits and attitude on online shopping

The results from the PLS analysis show support for the positive effect of perceived benefits on online shopping attitudes. It can be interpreted that the higher the consumers perceive the benefits of buying food online (Go-Food), the more they will have positive attitude towards online shopping. This study provides empirical evidence in accordance with previous research on the positive effect of perceived benefits on attitudes towards online shopping (Kim, et al., 2008; Delafrooz, et al., 2011; Liu, et al, 2012). For Indonesians, when looking at the variety of food choices in the Go-Fod application, consumers can choose according to their desires. Whether choosing the cheapest, best-selling, closest and so on. Variations of food choices after deciding on a choice are also provided. For example, the level of spiciness or the variety of toppings desired. In terms of benefits, Go-Food consumers consider convenience in ordering, time and cost savings as also important factor. For Go-Food IT team and restaurant, order speed and pricing alsoe some important considerations need to be adjusted to the consumer segment served. Benefits can also be met by always listening to customer preferences and current dynamics trend in online consumers preferences.

Perceived web quality and trust

The results of an empirical study to Go-Food consumers in Indonesia found that perceived web quality determines the level of consumer trust. This research supports previous research by Al-Maghrabi, et al., (2011) and Hsiao, et al. (2010). Regarding online food shopping applications, consumers who shop for food online are also very concerned about the quality aspects of the information provided, the breadth of navigation in exploring food choices, search facilities, and ease and clarity of payment bills. For the restaurant partners who join, they need to response with good manner, speed, availability, reliability, and loading time. The performance of Go-Food drivers also plays an important role, to maintain performance, which include speed of delivery and friendliness in communication.

Perceived web quality and attitude on online shopping

Perceived website quality is often associated with functionality and its ability to provide a variety of information, complete, and convenient search facilities. This study provides empirical evidence of the relationship between perceived web quality and attitude towards online shopping in accordance with previous research (Aladwani, 2006; Zhou, 2011; Al-Debei, et al., 2015). According to Constantinides, et. Al., (2010), online shoppers assess web site functionality from the aspects of usability and interactivity capabilities. Furthermore, the quality of this website is also assessed from the aspects of ease of navigation, responsiveness, and ease of accessing the site (Aladwani, 2006; Al-Debei, 2013). In the context of using the Go-Food application to order food online, the functionality element is measured from the aspect of breadth to search for a variety of foods, search for food information, including the ordering process. Related to the quality of the search facility, Go-Food consumers also often consider aspects of simplicity in the search process. Speed is always a major consideration also in online shopping, from the search, ordering process to payment and food received. Therefore, application performance that reflects the quality of the website as previously researched by Al-Debei, et al., (2015) affects attitudes towards online shopping. This research on Go-Food consumers shows support for perceived web quality and consumer attitudes in the context of online food shopping in Indonesia.

Implications

This research provides implications both from an academic and empirical perspective, especially in terms of consumer behavior studies. Implications for the academic world, especially related to enriching empirical evidence in the geographical area in big cities in Java Indonesia. Internet is accessible for the majority of population in big cities in Java where competition in online bussiness is quite high. Key variables such as perceived website quality, perceived benefits and trust play an important role in determining bussiness and consumer attitudes in online shopping. If in previous studies these antecedents variables have a significant positive influence on consumer attitudes in online shopping, Indonesia has also proven to show the same phenomenon. The implication for managerial is that where the online market is considered to have a higher risk for consumers, it is necessary to strengthen the aspect of trust. To further increase the positive attitude of online consumers, improving and enhancing the quality and benefits of online shopping can be a powerful competitive strategy.

Conclusion

This study examines consumer behavior in shopping for food online, especially using the Go-Food application. A quantitative approach was taken by surveying Go-Food consumers in major cities in Java Indonesia. By analyzing 227 valid respondents using PLS SEM, it can be concluded that perceived benefits, perceived web quality and trust, all positively affect attitudes towards Go-Food consumers in shopping for food online. Perceived web quality also has a positive effect on trust in online shopping. Trust mediates the relationship between perceived web quality and attitudes in online shopping. The theoretical implication is that this study empirically enriches the role of perceived quality, perceived benefits and trust variables in influencing consumer attitudes in making online food shopping decisions. The managerial implication is that activities that provide benefits, elements that consumers assess determine the quality of the web or application, as well as the company's ability to provide services that generate consumer trust will enable to enhance positive consumer attitudes towards the online shopping activities.

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Some Aspects of Non-formal Education in Montenegro

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Abstract: This paper investigates the collaborative opportunities between formal and non-formal education providers to enhance learning, development, and peacebuilding. It emphasizes the complementary nature of formal education, known for its structured curriculum, and non-formal education, which prioritizes experiential learning. By identifying common interests and initiating collaborative efforts such as internships and research collaborations, it can lead to creating the link between theoretical knowledge and practical skills. The role of education in peacebuilding is highlighted, showing how both educational approaches can foster social cohesion in post-conflict societies. Recommendations for policymakers include fostering partnerships, promoting internationalization, and providing funding to support collaboration. The paper suggests evaluating the effectiveness of such programs through criteria like education quality, participation levels, and participant feedback. A case study of Montenegro shows the integration of non-formal education in a society traditionally valuing formal education, suggesting the establishment of state-supported centers and joint peacebuilding programs. The collaboration between the University of Montenegro and the UNESCO Chair Programme exemplifies the potential impact of such international partnerships.

Keywords: Non-formal education, Montenegro, peacebuilding, formal education, education programs

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Introduction

In order to provide an overview of how to develop common goals and objectives between formal and non-formal education providers, it is necessary to understand their roles, such as the promotion of learning and development among learners. Formal education focuses on classroom learning, follows a structured curriculum and it is usually accredited by relevant authorities, which leads to recognized qualifications such as education degrees. On the other hand, non-formal education often occurs outside academic institutions and it focuses on experimental learning through real-life situations (Lefstein and Snell, 2014; Johnson and Majewska, 2022). In addition, it can offer practical/vocational trainings which are focused on specific skills and personal development.

Formal and non-formal education aim to provide learners with knowledge, skills, and competencies and to enhance learners' social development. Both formal and non-formal education providers tend to address different learning needs from basic literacy to lifelong learning by acquiring skills, knowledge, and competencies (Hamadache, 1995; Ivancheva and Minina, 2019). Finally, we can say that formal and non-formal education tend to promote learning and help learners achieve their full potential.

Developing common goals and objectives between formal and non-formal education providers requires collaboration. In order to collaborate, it is necessary to:

1) identify common areas of interest of formal and non-formal education providers, such as: promoting digital literacy, improving vocational skills and fostering lifelong learning;
2) foster collaboration and encourage participation in joint programs, workshops, or conferences, where individuals would have opportunities to exchange knowledge, and share ideas;
3) determine the specific activities, programs, or projects that would be undertaken jointly.

Both formal and non-formal education aim to foster personal growth and development in learners. It includes enhancing creativity, self-confidence and adaptability. Formal and non-formal education strive to develop socially responsible individuals who actively participate in their communities. They aim to promote values such as empathy, respect, tolerance, inclusivity, and civic engagement.

Best practices for setting achievable and measurable goals

When it comes to setting achievable and measurable goals, they serve as a roadmap, which would help in ensuring progress toward desired outcomes. The aim of the practices is to improve communication, align goals, promote resource sharing, and facilitate mutual learning. By following these practices, formal and non-formal education providers can set realistic goals and contribute to the overall effectiveness of their collaboration (Gillies, 2016).

There are some best practices for cooperation between formal and non-formal education providers:

- **Internship Programs:** Formal education providers could collaborate with non-formal education providers (businesses and industry associations) by offering internship programs. This collaboration enables students to gain practical experience and apply their knowledge in real-world contexts, thus bridging the gap between academia and the workplace.

- **Research Collaborations:** Educational institutions, such as universities, can collaborate with non-formal education providers (research institutes and industry organizations) to undertake joint research projects. This cooperation allows for the exchange of expertise and resources, which would lead to enhanced research outcomes and practical applications in various fields.

The role of formal and non-formal education providers in peacebuilding

Formal and non-formal education play an important role in peacebuilding in some post-conflict societies by contributing to the development of a peaceful society (Van der Linden, 2015). By providing high-quality education to all citizens, formal education can reduce inequality and promote social cohesion by promoting tolerance, understanding, and respect for diversity (Millican, Kasumagić-Kafedžić, Masabo, and Almanza, 2021). When it comes to non-formal education, it can complement formal education by providing practical learning experiences that can help to build skills, knowledge, and attitudes that support peacebuilding. Also, it can promote dialogue, reconciliation, and civic engagement, which are essential for peacebuilding in post-conflict societies.

Collaboration between formal and non-formal education providers in peacebuilding

In the peacebuilding process, formal and non-formal education providers can collaborate through cultural exchange by creating platforms and opportunities for individuals from different cultures to interact and share experiences. The collaboration between education providers can be done through:

1. **Language programs:** They would bring together students interested in learning and practicing different languages. Some universities or community centers organize language cafés where individuals gather to practice speaking a specific language. Participants have the opportunity to engage in language conversations, share their cultures, and build friendships across linguistic boundaries. The examples are: Language Cafés and Tandem.
2. **Involvement of the communities:** It is important to involve local communities in cultural exchange activities. This can be done through community events (cultural/art festivals), and partnerships that actively engage foreign students in sharing their cultural traditions, knowledge, and experiences with community members.
3. **Extracurricular Activities:** Formal education providers can collaborate with non-formal education providers in a way to offer extracurricular activities that would encourage and motivate youth to participate. These activities can include clubs, sports teams or arts programs. By participating in these activities, students develop teamwork, communication, and leadership skills, fostering their personal growth.

Recommendations for policy and decision makers to create incentives and support for collaboration between formal and non-formal education providers

Policy and decision-makers can play a crucial role in creating incentives and providing support for formal and non-formal education providers to collaborate in peacebuilding education. For such a collaboration, it is necessary to:

1. foster partnerships

2. foster internationalization, i.e. create joint programs and encourage their development
3. support professional development and training
4. provide funding

In the sequel, each of the above-mentioned will be briefly explained.

1. **Foster partnerships:** It is necessary to foster the formation of partnerships. Therefore, conferences, workshops, forums and summer schools should be organized in order to bring researchers, practitioners and educators together, so they share knowledge and experiences.

   Higher education institutions invite experts, scholars, and community leaders to deliver lectures and participate in panel discussions on topics related to culture, diversity, and peacebuilding. These events provide platforms for discussions, critical thinking, and exchanging the ideas among students and the wider community.
2. **Foster internationalization:** Formal and non-formal education providers can collaborate to develop joint programs and initiatives that promote cultural exchange. This could involve incorporating non-formal education activities, such as intercultural workshops or community engagement projects. It is feasible to establish collaborative programs with partner universities. This arrangement would enable the students to study at one or two partner universities for a duration of one year. Graduates of such programs would develop a unique understanding of the political and cultural landscapes in the host countries.
3. **Support professional development and training: Workshops and seminars**
   The workshops and seminars promote understanding and appreciation for diversity, addressing topics such as cultural sensitivity and creating inclusive environments. In that way, participants learn strategies for fostering diversity and social inclusion. These are short-term training programs that can be conducted by experts in specific areas of peacebuilding and education.
4. **Provide funding:** Financial incentives can encourage collaboration and enable formal and non-formal education providers to work together effectively. This can include grants, scholarships.

An overview of how to implement and evaluate the effectiveness of collaborative peacebuilding/education programs and best practices for evaluating program outcomes

In order to evaluate the effectiveness of collaborative peacebuilding/education programs, it is necessary to consider:

- **Quality of education programs**: It is necessary to evaluate if the collaboration led to improving the quality of education programs, teaching methods, and learning materials. Also, it should be assessed if the collaboration has contributed to the desired peacebuilding outcomes, such as increased social inclusion, reduced violence, improved diverse intergroup relationships, and promotion of tolerance and understanding.

- **Level of participation**: The level of participation is a crucial factor in evaluating the effectiveness of peacebuilding/education programs, as it reflects the engagement and involvement of educators, students, community members, and local organizations. Higher participation rates indicate a stronger sense of collaboration, and community involvement, leading to more impactful and sustainable outcomes.
- **Feedback from participants:** It is necessary to conduct surveys/interviews or to organize focus groups discussions, so we can get their feedback regarding the quality of peacebuilding/education programs. Compare the outcomes of participants with those who did not participate.

Montenegro as a Case Study

Non-formal education is an important segment and is increasingly encouraged institutionally in the EU. Montenegro is a country that has aligned its educational system with the EU system, and in that sense, it is important for Montenegro to promote and enhance non-formal education. On the other hand, Montenegro belongs to the post-communist countries where formal education in state institutions has been crucial for obtaining employment and advancing in a career. Therefore, it is a system where a diploma of completed education is the primary goal. Since non-formal education is weak in such societies, it is important to make additional efforts to organize it in a generally acceptable manner. A good compromise in such a situation could be non-formal education coordinated by a center supported by the state and the most significant educational institutions. In that sense, a broader center could be established at the national level, which would include sectors dealing with various forms of non-formal education at both university and vocational levels. Within that center, it is necessary to organize sectors that would:

- deal with lifelong learning and training at the university level;
- organize and provide guidelines for professional training;
- deal with the organization of internships.

With the support and coordination of the state, these centers would provide particular legitimacy, which would help this form of education be widely accepted in Montenegrin society.

Similar to ideas already existing in Europe, joint programs regarding peacebuilding could be established, which would lead to fostering collaboration between the University of Montenegro and partner universities. Through these joint programs, students would have the opportunity to spend one year at one or two of these partner institutions (Morais, 2016). Graduating from such programs would offer students a distinct political perspective on the host countries they study in. This type of education would shape their problem-solving approach, by giving it an international character. Particularly in small environments like Montenegro, the dimension of internationalization would open new perspectives and help to reduce animosities. By participating in joint programs, students would gain valuable multi-cultural experiences and insights, contributing to their personal and academic growth while, at the same time, fostering a broader understanding of global issues. As mentioned earlier, the University of Montenegro holds UNESCO Desk for Education and Democratic Citizenship and Human Rights which serves as a platform for fostering the development of democratic values, which is focused on building international cooperation networks. Through the collaboration between the University of Montenegro and the UNESCO Chair Programme, educators, and researchers can benefit from the specialized knowledge, international networks, and diverse perspectives that contribute to the advancement of a democratic society, the promotion of cultural diversity and harmonious coexistence. This partnership exemplifies how formal education institutions can collaborate with international organizations to enhance educational opportunities and promote peacebuilding values and practices.

Conclusion

The integration and collaboration between formal and non-formal education providers hold transformative potential across different contexts, including peacebuilding efforts, the establishment of common goals and objectives, and aligning educational systems with broader international frameworks. By cultivating shared objectives, fostering best practices, and encouraging collaborations, education providers can greatly contribute to personal development, social cohesion, and peacebuilding. It is important to note that aligning the goals and objectives between formal and non-formal education providers enhances the learning experience. Best practices, such as internship programs and research collaborations, bridge the gap between theory and practical application, ensuring a more comprehensive approach to learning and development.

In the context of peacebuilding, formal and non-formal education play complementary roles. By engaging in cultural exchanges, community involvement, and extracurricular activities, these educational providers foster essential skills and attitudes that contribute to reconciliation and peace in post-conflict societies. Policy and decision-makers can significantly bolster these collaborations through incentives, funding, and support in creating joint programs and initiatives. The case study of Montenegro exemplifies the transformative potential of embracing non-formal education in a society traditionally emphasizing formal education. By establishing state-supported centers and encouraging international partnerships, Montenegro can legitimize non-formal education and align itself with broader EU practices.

The paper emphasizes the significance of fostering an educational approach that combines formal and non-formal elements. Whether in promoting lifelong learning, peacebuilding, or internationalization, a collaboration between different educational providers can lead to enriched learning experiences and contribute positively to development of society. By advocating for such collaborations, societies can nurture individuals who are versatile, culturally aware, and prepared to make positive contributions to both their local surroundings and the broader global context.

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The Influences of Entertainment & E-WOM on Brand Image: The Mediating Consumer Brand Engagement

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Abstract: This paper investigated the impact of social media marketing elements, namely entertainment and electronic word of mouth (E-WOM) on a brand image by mediating consumer–brand engagement (CBE). This study used a quantitative approach with a survey using questionnaire to collect the data. This study collected data in Yogyakarta from 150 Shopee application users. The statistical technique used SPSS to test the links between social-media marketing elements (entertainment and E-WOM), consumer–brand engagement, and brand image. Social media marketing (SMM) is important in building relationships between brands and consumers. The findings revealed that two elements of SMM, such as entertainment and E-WOM, positively and significantly influence CBE. In addition, CBE also has a positive and significant influence on brand image. The benefits of this study include theoretical benefits, which provide useful information for further research in the field of digital marketing, and practical benefits, which provide insights to companies and managers in developing marketing strategies that are concerned with emotional aspects and optimizing the use of social media as a marketing tool.

Keywords: Entertainment, Electronic Word of Mouth, Consumer Brand engagement, Brand Image

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Introduction

Electronic commerce allows a consumer to buy the desired item online. Electronic commerce is a direct item sold using the internet both for consumers (Business to Consumer) and businesses (Business to Business) (Ali, 2008). Electronic commerce is one of the most important parts of the internet these days. Currently, the rapid development of technology and the internet in Indonesia, it has had a major impact on business changes (Sri et al., 2011). Paid advertising is available on certain social media platforms for the purpose of endorsing a business's products. Facebook and Instagram are two social media platforms that have experienced significant transformations. Furthermore, these two platforms facilitate business marketing through the provision of advertising functionalities and business accounts. Additionally, businesses obtain feedback from satisfied consumers in the form of recommendations or opinions regarding their products. This phenomenon confers advantages upon businesses by bolstering brand credibility and sales performance.

The influence of electronic word-of-mouth and entertainment components of social media marketing on brand image, with consumer brand engagement serving as a mediator. According to the findings of Keng and Ting (2009), consumer attitudes towards receiving communications are positively impacted by entertainment due to the sense of interaction it provides. Respondents indicate that entertainment plays a significant role in internet advertising (Ducoffe, 1996). Consumer Brand Engagement (CBE) is recognised as a crucial element in improving the effectiveness of advertising (Yang et al., 2016), overall business performance (Kumar and Pansari, 2016), and consumer satisfaction, brand attachment, and brand loyalty (Islam and Rahman, 2016). Marketers want to enhance their comprehension of the development, cultivation, and longevity of customer-based equities (CBEs) (Calder et al., 2016; Harrigan et al., 2017; Schultz and Peltier, 2013). Therefore, it is necessary to enhance the theoretical foundation of CBE by providing empirical support (Hollebeek et al., 2014; Hollebeek et al., 2016; Islam and Rahman, 2016), particularly in relation to factors that precede and follow it (Pansari and Kumar, 2017). Empirical study on CBE is necessary to enhance comprehension of the constructs, drivers, and methodologies involved. This includes investigating the utilisation of marketing communications to recruit and retain consumers by strengthening consumer-brand relationships.

The ongoing difficulties encountered by marketers in developing and executing SMM strategies that effectively captivate and provide value to consumers warrant additional investigation into SMM content and consumer experience (Schultz and Peltier, 2013). The present demand is for empirical research that investigates the tactics and material that result in Competency-Based Education (CBE), as well as the consequences of CBE (Barger et al., 2016). Brand knowledge is a specific result that attracts scientific attention since it is believed to enhance company performance by impacting brand loyalty, purchasing intent, and competitive advantage (Algharabat et al., 2019; Cheung et al., 2019; Keller, 2016).

Literature Review

Entertainment

SMM (Social Media Marketing) is conceptualized as a psychological state involving consumer desire for brands, arising from the strength of the consumer-brand relationship (Brodi et al., 2011; Hollebeek et al., 2014). CBE is an emerging concept in marketing in both practical and academic domains (French et al., 2016). It refers to 'the specific level of consumer cognitive, emotional, and behavioural activity in brand interactions." (Bowden, 2009), including own brand connection, purchase intention and brand loyalty (Harrigan et al., 2017; Leckie et al., 2016).

In line with prior discourse regarding social media marketing components, brand communication that incorporates entertaining elements is regarded as pleasant and lighthearted (Agichtein et al., 2008; Ashley and Tuten, 2015), thereby motivating consumers to invest more mental effort in comprehending the brand (Barger et al., 2016). Consumers may undoubtedly develop a stronger affinity towards a brand if they are exposed to entertaining SMM content that offers them informative and enjoyable material (Hollebeek et al., 2014; Ismail, 2017). For instance, existing research indicates that brand pages incorporating dynamic animations, videos, games, anecdotes, contests, and prizes are regarded as enjoyable, thought-provoking, and captivating. This satisfies consumers' desires for aesthetic satisfaction and emotional catharsis, encouraging them to engage with brand-related content (De Vries et al., 2012; Manthiou et al., 2014; Muntinga et al., 2011). Positive consumer experiences result from the entertainment value of brand pages, thereby strengthening CBE and increasing consumers' psychological immersion in the brand (Ashley and Tuten, 2015; French et al., 2016; Merriees, 2016).

Electronic Word of Mouth (E-WOM)

The prevalence of consumers who assess brands and products via electronic word of mouth has grown in tandem with social media developments (Ananda et al., 2019; Wu and Wang, 2011). Consumers are compelled to expend additional cognitive effort to comprehend electronic word of mouth, which may positively impact their assessment of products and services (Krishnamurthy and Kumar, 2018). In light of the perceived reliability of social media platforms (Cheung et al., 2008; Kudeshia and Kumar, 2017), the generation and dissemination of electronic gossip fosters an emotional bond between consumers and brands (Brodi et al., 2013; Chae et al., 2015), thereby eliciting favourable emotions from consumers (De Vries et al., 2012). Hence, the presence and utilisation of electronic word-of-mouth on social media platforms contribute to developing favourable brand perceptions and emotions, consequently fortifying the bond between consumers and brands.

Hypothesis 2: Electronic word-of-mouth (E-WOM) substantially and positively impacts consumer brand engagement.

Brand Image

Brand image, which comprises characteristics, advantages, and perceptions, pertains to the collection of associations ingrained in consumers' memories and indicates the brand's mental perception. Brand attributes are distinctive qualities and characteristics that define a particular brand and serve as indicators of consumers' perceptions of that brand (Keller, 2001). Brand benefits encompass consumers' perceived value to brand attributes (Keller, 2013). These value components may be functional, experiential, or symbolic in nature. Brand attitude is defined as the assessment and determination made by consumers regarding the merits and characteristics of a brand. It is formed in their minds by recollecting all pertinent brand components and experiences (Keller, 2010).

The impact of brand image on consumer brand preference is a significant determinant in the process of brand development (Cobb-Walgren et al., 1995). This impact is positively correlated with the brand's capacity to command a higher price point (Orang, 2010). Consequently, brand image has the potential to foster enduring brand loyalty and future profits (Chen and Chang, 2008; Villarejo-Ramos and Sanchez-Franco, 2005).

The input in the formulation of brand image is the interaction between consumers and brands that takes place throughout the CBE development process (French et al., 2016). Hence, by augmenting CBE, consumers' cognitive comprehension of product attributes and brand advantages is fortified, customer satisfaction is increased, and customer-brand relationships are further developed (Brodi et al., 2011; Rohm et al., 2013). Ultimately, this fosters a more favourable perception of the brand and its credibility, which in turn influences brand attitude (Barger et al., 2016). Furthermore, a brand has the ability to enhance CBE by engaging in social media-based brand communities where it responds to and assists consumers with their concerns. The establishment of a strong and favourable brand image is facilitated by the emotional connection to the brand that is fostered via the CBE process (Barger et al., 2016; Muntinga et al., 2011; Chahal and Rani, 2017; Nguyen Van Thang et al., 2016).

Hypothesis 3: Brand image is significantly and positively impacted by consumer brand engagement.

Method

This study employs a quantitative methodology, utilising a survey with a questionnaire to get the data. This study also investigates the features or causal correlations between variables without any intervention from the researcher. The focus of the study is to examine the correlation between entertainment and electronic word-of-mouth (E-WOM) in shaping brand image, with customer brand engagement acting as a mediator. The researchers employed surveys by administering questionnaires and maintaining a specific emphasis on factors associated with the conditions of the empirical concerns under investigation. The study utilised a sample of 150 individuals who are users of the Shopee application in Yogyakarta. The factors in this study are assessed using a Likert scale ranging from 1 (indicating severe disagreement) to 6 (indicating strong agreement). The participants were requested to provide statistical methodologies utilising SPSS.

Result and Discussion

Respondent's Characteristics

Table 1. Respondent's Characteristics

Characteristics		Amount	Percentage
Gender	Woman	110	73.33%
	Man	40	26.67%
Age	16 – 20	32	21.33%
	21 – 25	80	53,33%
	26 - 30	17	11,33%
	30 – 35	10	6.67%

	More than 35	11	7.33%
Occupation	Student	100	66.67%
	Employee	25	16.67%
	Businessman	9	6%
	Teacher/lecturer	11	7.33%
	Others	5	3.33%
Income	Less than IDR 500,000	53	35.33%
	IDR 500,0001 – IDR 1,500,000	25	16.67%
	IDR 1,500,001 - IDR 2,500,000	16	10.67%
	IDR 2,500,001 - IDR 3,500,000	22	14.67%
	IDR 3,500,001 - IDR 4,500,000	22	14.67%
	More than IDR 4,500,000	12	8%

Table 1 indicates that Shopee application users in Yogyakarta are mostly women (110 respondents), aged between 21 to 25 (80 respondents), occupation as students (100 respondents), and income less than IDR 500,000 (53 respondents)

Validity and Reliability Test

Table 2. Validity and Reliability Test

Variable	**Indicator**	**Corrected Item-Total Correlation**
Entertainment	The content found in the Shopee application looks interesting	0,505
	The fun of using the Shopee application	0,595
	It is fun to collect product information through the Shopee application	0,625
	It is easy to spend time using the Shopee application	0,489
E-WOM	I want to pass on information about brands, products, or services from the Shopee application to my friends	0,629
	I want to upload content from the Shopee application on my social media pages	0,574

	I want to share my opinion about brands, goods, or services obtained from the Shopee application with my friends	0,593
Consumer brand engagement	I spend a lot of time using the Shopee App compared to other applications	0,470
	Every time I use a smartphone, I usually use the Shopee Applicationn	0,442
	I use the Shopee App at most	0,493
Citra Merek	Compared to other brands, Shopee products are of high quality	0,321
	Shopee has a rich history	0,398
	I can reliably predict how Shopee will perform	0,362
	Shopee is a reputable company	0,268
	Shopee has extensive experience	0,258
	Shopee is a good industry representative	0,344
	Shopee is a customer-oriented company	0,259

Reliability Test

Table 3. Reliability Test

Variable	**Cronbach' s Alpha**
Entertainment	0,749
E-WOM	0,752
Consumer brand engagement	0,783
Brand image	0, 842

Hypotheses Test

The Influence of Entertainment to Consumer Brand Engagement

Table 4. The Influence of Entertainment to Consumer Brand Engagement

Hypothesis	Independent Variable	Dependent Variable	Relation	β	t	Significance	Information
1	Entertainment	Consumer brand engagement	Positive	0,233	2,806	0,006	Accepted
R Square		0,054					
F		7,875					

Entertainment can provide information about brands that have been modified to suit the preferences and requirements of consumers (Rohm et al., 2013). Marketers disseminate information pertinent to the products and brands that consumers favour via social media platforms. This data assists consumers in locating products that fulfil their requirements concerning price, qualities, and product characteristics. This approach aims to progressively enhance the perceived worth of the brand page and foster consumer confidence in the brand (Ko and Megehee, 2012; Dehghani and Tumer, 2015; Ismail, 2017).

Additionally, the findings indicated that entertainment qualities positively impact consumer brand engagement. As evidenced by a significance level (α) below 0.05, this is the case. This hypothesis is subsequently supported by a t-test value of 2.806 and a beta coefficient (β) of 0.233 (t-count > 1.96). Therefore, it is possible to adopt hypothesis 1 (H1), which posits that consumer-brand engagement is positively and significantly impacted by entertainment attributes.

The Influence of E-WOM To Consumer Brand Engagement

Table 5. The Influence of E-WOM To Consumer Brand Engagement

Hypothesis	Independent Variable	Dependent Variable	Relation	β	t	Significance	Information
2	E-WOM	Consumer brand engagement	Positive	0,377	4,766	0,000	Accepted

R Square	0,142
F	22,715

Consumers feel motivated to access current information about brands through social media platforms, intending to keep up to date and understand relevant trends related to the brand (Gallaugher and Ransbotham, 2010). Trending information is important in attracting consumer attention, generating positive feelings, and stimulating the intention to remain loyal to the brand (Liu et al., 2019). The results also showed that the attributes of E-WOM positively influence consumer-brand engagement. This is indicated by a significance level (α) of less than 0.05. Then, this hypothesis has a beta coefficient (β) of 0.377 and a t-test value of 4.766 (t-count>1.96). Thus, hypothesis 2 (H2) states that E-WOM's attributes have a positive and significant influence on consumer brand engagement, can be accepted.

The Influence of Consumer Brand Engagement to Brand Image

Table 6. The Influence of Consumer Brand Engagement to Brand Image

Hypothesis	**Independent Variable**	**Dependent Variable**	**Relation**	**β**	**t**	**Significance**	**Infor mation**
3	Consumer brand engagement	Brand image	Positive	0,361	4,536	0,000	Accept ed
R Square	0,131						
F	20,572						

A compilation of associations associated with a brand that are retained in the memories of consumers constitutes its image. It reflects the brand's perception and how consumers perceive the brand. A brand image comprises the qualities, advantages, and perceptions ascribed to the brand (Keller, 1993). Brand attributes are distinguishing features and characteristics that serve to characterise the brand and mirror the opinions and perceptions of consumers (Keller, 2001). The establishment of a strong brand is significantly impacted by the image that consumers have of the brand (Cobb-Walgren et al., 1995). The findings also demonstrated the characteristics of consumer brand engagement that positively impact brand image. As evidenced by a significance level (α) below 0.05, this is the case. Consequently, the beta coefficient (β) for this hypothesis is 0.361, and the t-test value is 4.536 (t-count>1.96). Subsequently, it is possible to adopt hypothesis 3 (H3), which posits that the attribute of consumer-brand engagement exerts a substantial and favourable impact on brand image.

Conclusion

Social media marketing (SMM) is important in building relationships between brands and consumers. Two elements of SMM, such as entertainment and E-WOM, affect positively and significantly on brand image with mediating consumer brand engagement. The benefits of this study include theoretical benefits, which provide useful information for further research in the field of digital marketing, and practical benefits, which provide insights to companies and managers in developing marketing strategies that are concerned with emotional aspects and optimizing the use of social media as a marketing tool. Overall, this research will help deepen the understanding of how marketing through social media affects brand image with mediating consumer-brand engagement and provide guidance for developing effective marketing strategies on social media platforms.

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A Comparative Analysis of the Lexical Content: National Curriculum, Textbooks, and Student Text Production in Slovakia

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Abstract: Vocabulary represents one of the fundamental components influencing the development of linguistic activities and strategies, communicative competence, and thereby the overall acquisition of the target foreign language. As Laufer and Sim (1985) state, insufficient vocabulary knowledge is the biggest obstacle in understanding a foreign language, even more so than insufficient grammar knowledge. However, our previous research indicates significant differences between the Recommended Vocabulary, defined in the Innovated State Education Program (2015), foreign language textbooks prepared for the global market, and the final output, which is student text production. The aim of the presented article is to provide an overview analysis of vocabulary in the Innovated State Education Program, selected foreign language textbooks, and student text production at reference levels A2 to B2, and to highlight parallels and differences between them. The comparison of source materials was carried out through two functionalities of the Compleat Lexical Tutor lexical analysis toolkit, specifically through TextLex Compare and RANGE. The study's results reveal several issues that can help teachers strengthen vocabulary instruction of the target language in Slovak schools.

Keywords: Innovated State Education Program, student text production, foreign language textbooks, lexical analysis, digital tools

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Introduction

The issue of foreign language education is among the frequently discussed topics in the field of contemporary education. In the European context, the key document in the field of foreign language education is the Common European Framework of Reference for Languages: Learning, Teaching, Assessment (referred to as "CEFR"), which was developed between 1989 and 1996 and has served as the foundation for acquiring and verifying language competencies in the educational systems of European countries since its publication in 2001. Conceived with the intention of standardizing the fundamental principles of foreign language instruction and fostering the growth of plurilingualism and pluriculturalism among member nations, the Common European Framework of Reference for Languages (CEFR) serves as the cornerstone for assessing and validating language competencies within educational systems.

Within the 53 illustrative scales of the CEFR (2017), only two qualitative categories, i.e. "range" and "control," have been used to describe a student's knowledge and skills in the area of lexical competence. Lexical competence refers to a person's knowledge of the vocabulary of a particular language and their ability to use it. Lexical competence integrates lexical units and grammatical elements (ibid., p. 114).

Initial materials related to CEFR's development tended to provide in-depth descriptions of linguistic lexicon in relation to language competence and performance at the six reference levels. At the B1 level, the publication 'Threshold' (Van Ek & Trim, 1991) recommended an extensive vocabulary encompassing both target languages, totalling approximately 2000 words. On the A2 level (originally Waystage), materials featured dictionaries (e.g., Van Ek, 1980) with around 1,000 lexical units. However, compiling vocabulary into predefined lists posed a significant drawback as it restricted the system's flexibility, potentially hampering its applicability in diverse language courses and academic programs (Weir, 2005). In Slovakia, this document exerted a notable influence on the development of domestic pedagogical documentation.

Slovak Pedagogical Documentation

Prior to 2008, vocabulary in state curriculum and related documents was primarily outlined by delineating thematic domains for various primary and secondary school grade levels. The State Educational Program (SEP, 2008) established specific vocabulary acquisition prerequisites and harmonized them with the criteria for language proficiency within the A1 - B2 range.

In the development of the mandatory vocabulary profile, the authors of SEP (2008) considered thematic relevance of the vocabulary, recognizing that in many cases, especially with less specific, general lexicon, there was overlap. They initially established basic thematic areas, comprising 21 topics and provided detailed specifications for these themes in alignment with the CEFR reference levels. These themes and subtopics applied to all foreign languages taught in schools, but the specific vocabulary within the profile was unique to each language.

The next step involved selecting basic vocabulary (A1 and A2 levels) and expanding it with more thematically and stylistically specific lexicon (for B1 and B2 levels). The lower levels served as the foundation for building vocabulary at higher levels (up to B2). The profile was not exhaustive, meaning it did not encompass all possible vocabulary inclusions. However, it served as a starting point for teaching and acquiring the vocabulary necessary for effective oral and written communication.

The Innovated State Educational Program (iSEP, 2015) builds upon the principles established in SEP but extended educational standards for the English language to the C1 level. Within the vocabulary framework, it modified the wording of certain thematic areas and subtopics and supplements vocabulary profiles for CEFR levels A1 – B2. Additionally, the labelling of mandatory vocabulary was changed to recommended vocabulary.

Vocabulary Size and Frequency

Defining the number of words that students should acquire at each level presents a challenge for linguists, educators, and textbook authors. Various factors, including communicative intent (e.g. frequency, relevance), complicate the attainment of entirely reliable conclusions. According to Nation (2006), students require a vocabulary range of 8,000-9,000 lemmatized words to read diverse authentic texts, such as novels or newspapers in English, while a slightly smaller range of 6,000-7,000 words suffices for watching English-language movies. These estimates align closely with data from vocabulary range tests, such as the Eurocentres Vocabulary Size Test (EVST) (Meara and Jones, 1990), which suggests that students possess the capacity to acquire a vocabulary ranging up to 10,000 lemmatized words. However, they would need to demonstrate mastery of 7,500 words or more to successfully complete a CEFR C2-level examination, such as the Cambridge Proficiency English (CPE) test.

Traditional foreign language education adheres to the principle that high-frequency words should be prioritized in instruction (e.g., Nation, 2013). Textbook creators tend to simplify the target language for learners by controlling the type of vocabulary to which students are exposed. Carter and McCarthy (1988, p. 159) advocate for frequency as the most appropriate measure of word utility, emphasizing the importance of high-frequency words that regularly appear in everyday language use.

The Role of Foreign Language Textbooks in Vocabulary Teaching

The dominant position of the English language stems from its global use in various sectors such as trade, education, healthcare, and more. The status of English as a global language explains why it is taught worldwide, leading to a global demand for educational materials. The largest producers of educational materials are major international publishing houses that strive to meet the demand in the global textbook market. In the realm of foreign language education in Slovakia, textbooks take center stage as the primary medium for conveying the target language to learners (Nunan, 1999). As a result, textbooks shape the selection and implementation of classroom activities, influencing pedagogical methods and the roles of students in the English language classes (Ur, 2012; Harmer, 2007).

Given the extensive range of English language learning materials, teachers and institutions face the challenging task of selecting appropriate materials. In academic settings, the adequacy of foreign language teaching materials is debated based on various criteria. The criterion of input and the presentation of vocabulary, often contextualized and accompanied by activities focused on word formation processes (Millar, 2016), is one of the most prominent. Discussions revolve around the suitability and appropriateness of topics (Reda, 2003), the presentation of words in context and out of context (Erten & Tekin, 2008), as well as the scope and frequency of vocabulary distributed in teaching materials.

Vocabulary and Communication Language Activities in Reading and Writing

Various theorists and researchers in the field of education have postulated a close connection between vocabulary and reading comprehension. This interdependence between target vocabulary and reading comprehension possesses a dual nature, influencing vocabulary proficiency and reading comprehension mutually (Hsueh-Chao & Nation, 2000). Similarly, there exists a reciprocal relationship between vocabulary and communicative language activities in writing. In other words, the breadth and depth of vocabulary significantly impact writing, while, conversely, writing tasks contribute to vocabulary development. Receptive vocabulary is cultivated through an array of sources. Pichette, Serres, and Lafontaine (2012) suggest that composing written texts can enhance retention more effectively than reading, especially when sufficient time is allocated to each task. Consequently, language educators may incorporate writing assignments as a strategy to bolster the retention of new vocabulary.

In conclusion, the presented comprehensive theoretical framework encompasses the landscape of foreign language education, particularly within the context of Slovakia and emphasizes the pivotal role played by foreign language textbooks in the educational process and their critical importance for vocabulary learning, impacting reading comprehension and communicative writing activities. This theoretical foundation has laid the groundwork for the forthcoming empirical research, which will investigate the practical implications of these theoretical concepts. Specifically, the study will focus on comparing the vocabulary coverage in the state curriculum, selected textbooks, and students' written productions, providing valuable insights into the effectiveness of vocabulary instruction in the Slovak educational context.

Method

By bridging theory and practice, this research intends to contribute to a deeper understanding of foreign language education and inform pedagogical approaches that facilitate more effective vocabulary acquisition and language proficiency among learners. In spite of the prevailing practice of assigning CEFR reference levels to textbooks by major international publishers, our prior research reveals a noteworthy anomaly. Specifically, the vocabulary within certain textbooks, particularly at the A1 and A2 levels, exceeds the expected level of proficiency, imposing a disproportionately high learning burden on students. This current study delves into the intricate landscape of vocabulary profiles within English textbooks employed in Slovak educational contexts.

Aims and Hypotheses

The primary aim of our study is to thoroughly examines the vocabulary profiles within English textbooks used in Slovak education, assesses the extent to which the vocabulary in these selected textbooks aligns with the vocabulary used by students in their written assignments, and evaluates the degree of congruence between the vocabulary found in foreign-language textbooks and the vocabulary stipulated in Slovak educational programme

(ISEP). In correspondence to the main aim, two objectives have been stated as follows:

1. To examine the degree of congruence between the vocabulary of foreign language textbooks and the vocabulary recommended in the Slovak National Curriculum (ISEP).
2. To analyse to what extent the vocabulary of the examined textbooks for individual levels is reflected in the vocabulary range used in specific written assignments in the research sample of students.

The operationalisation of variables identified in the aim and objectives led to developing two hypotheses:

1. The degree of congruence between the reference level of word families from foreign language textbooks and the reference level of word families from the ISEP will be negative.
2. The degree of congruence between the reference level of word families from foreign language textbooks and the reference level of word families from students‘ written assignments will be negative.

Our study meticulously explores the alignment between vocabulary in English textbooks and both the Slovak National Curriculum (ISEP) standards and students' written assignments. The outcomes of this investigation hold potential implications for curriculum development and pedagogical practices in Slovak education.

Research Sample

The research necessitated the segmentation of the research sample into three sets of data. The first dataset comprises corpora composed of texts extracted from two series of textbooks and workbooks for each of the reference levels A2 – B2, corresponding with the topics of written production samples. The examined textbooks included texts of various types. The datasets were compiled from the Project 5 and English Plus 3 textbooks at the A2 level. At level B1, all texts were drawn from the second edition of the Solutions series and the fourth edition of the New Headway series in the Pre-Intermediate and Intermediate versions. Analogously, at reference level B2, all texts were drawn from the Solutions series at the Upper-Intermediate level (2013) and the New Success series in the Intermediate and Upper-Intermediate versions (2012).

The educational standards for the English language at various educational levels, which are part of the Innovated State Educational Program, present a framework for developing communicative language activities and strategies and their implementation in diverse communication contexts. A portion of the educational standard focuses on the development of lexical competence and provides recommended word lists for each CEF level within the 21 topics. Based on this, the vocabulary corresponding to the specified themes of the content standard was examined and compared with other components of the research sample. Relevant sections with recommended vocabulary for reference levels A2 – B2 were selected from the pedagogical documentation in iSEP.

The final dataset consists of a corpus of written assignments. At the A2 level, two primary schools located in western Slovakia were engaged. The first primary school comprised two 9th-grade classes and provided a dataset of 15 texts, each of which tasked students with crafting an informal letter to a friend from England, while also planning a prospective visit to Slovakia. The second primary school, featuring a single 9th-grade class consisting of 13 students, contributed a collection of 13 texts. Both of these institutions employ the fourth edition of the *Oxford Project* series as their primary educational resource.

Moving on to the measurement at the B1 and B2 reference levels, a comprehensive comparative analysis was conducted, encompassing 120 essays sourced from two additional institutions. The first, a grammar school, educates students at the B2 level, while the second, a secondary vocational school, imparts education at the B1 level. The grammar school opted for the *New Success* textbook series by Pearson for their English language instruction, whereas students at the secondary vocational school utilized two textbooks along with their corresponding workbooks from the second edition of the *Oxford Solutions* series throughout their four-year academic journey. Both secondary schools generously provided a compilation of 60 submissions drawn from the written internal segment of the school-leaving examination for the academic years 2017/18 and 2018/19, marking the last academic years before the eruption of the pandemic. During the 2017/18 academic year, the written portion of the graduation examination was centred around the theme of Education, whereas the 2018/19 academic year witnessed both written examination tasks revolving around the theme of Sports.

Research Tools

A thorough exploration of the comparative lexical data obtained from three primary sources: the Innovated State Educational Program, textbooks, and student-written texts was conducted through a comparative analysis, facilitated by harnessing the capabilities of the Compleat Lexical Tutor tool, deploying both the TextLex Compare and RANGE functions. While TextLex Compare is primarily tailored for the differentiation and comparison of vocabulary in a pair of selected sources, the RANGE function allowed us to detect congruent vocabulary across all three sources. Moreover, the TextLex Compare analysis offered a detailed breakdown, including specifics on the number of unique word families and tokens, as well as a precise quantification of shared lexical elements."

Results

This study conducted a comparison of identified lexical resources across three types of examined sources, namely, the Innovated State Educational Program, textbooks, and student text productions. The aim of the analysis was to investigate the degree of concurrence in the occurrence of vocabulary within the mentioned documentation.

Analysis of Congruence in Textbook Vocabulary Compared to the Slovak Innovated State Educational Program (ISEP)

The table provides a clear representation of the congruence between the vocabulary from selected English textbooks and the recommended vocabulary in the Slovak Innovated State Educational Program (ISEP). The textbooks examined were Project and English Plus at A2 level, Solutions and New Headway at B1 level, and Solutions and New Success at B2 level. The vocabulary congruence was measured using two metrics: word families (WF) and tokens, which were subsequently converted into percentages to offer a more comprehensible comparison.

At A2 level, the Project (PROJ) textbook contains 1,724 WF and 15,181 tokens. When aligned with the ISEP, it exhibits a congruence of 43.78% in terms of tokens. English Plus (EP) textbook contains 1,377 WF and 9,699 tokens. It shows a congruence of 42.72% in terms of tokens when compared to the ISEP. For the A2 level, both textbooks display a close alignment with the ISEP in terms of tokens, with Project showing a slightly higher congruence than English Plus by just over 1%.

At B1 level, Solutions (SOL) textbook contains 2,503 WF and 25,570 tokens. Its congruence with the ISEP is presented at 23.12% when measured by tokens. New Headway (NH) textbook contains 2,363 WF and 19,243 tokens. Its token-based congruence with the ISEP is 20.85%. At the B1 level, Solutions maintains a marginally higher congruence with the ISEP, surpassing New Headway by approximately 2.27%.

At B2 level, Solutions (SOL) textbook contains 2,582 WF and 20,526 tokens. Its congruence, based on tokens, with the ISEP is 20.56%. New Success (NS) Textbook contains 2,537 WF and 21,424 tokens. It exhibits a token-based congruence of 19.83% with the ISEP. For the B2 level, Solutions once again displays a slightly superior congruence with the ISEP in comparison to New Success, but by a relatively slim margin of 0.73%.

Table 1. Results of Measuring Lexical Congruence Between ISEP and Textbooks

	TEXTBOOKS		**ISEP**		**CONGRUENCE**			
Source	**WF**	**Tokens**	**WF**	**Tokens**	**WF**	**WF%**	**Tokens**	**TOK%**
A2 (PROJ)	1724	15181	662	1062	421	17,64%	7111	43,78%
A2 (EP)	1377	9699	662	1062	350	17,17%	4597	42,72%
B1 (SOL)	2503	25570	1166	2098	684	18,64%	6398	23,12%
B1 (NH)	2363	19243	1166	2098	652	18,48%	4449	20,85%
B2 (SOL)	2582	20526	1411	2109	588	14,73%	4653	20,56%
B2 (NS)	2537	21424	1411	2109	652	16,51%	4667	19,83%

Overall, the analysis indicates that while all the examined textbooks show a reasonable level of congruence with the ISEP's recommended vocabulary, the degree of alignment varies. Project for the A2 level and Solutions for both B1 and B2 levels seem to have a marginally higher congruence when measured by tokens. These findings could be pivotal for educators in Slovakia when selecting textbooks that most closely adhere to the recommended vocabulary in the ISEP. Further research might delve into the implications of these congruences for students' language acquisition and proficiency outcomes.

Analysis of Congruence in Students' Production Vocabulary Compared to the Slovak Innovated State Educational Program (ISEP)

The data measuring congruence between the Recommended Vocabulary in ISEP and students' text production was tabulated in table 2. The table under review delineates the congruence between the vocabulary utilized by students in their essays, produced as either the study outcomes (at the level A2) or as part of the Maturita school-leaving exam across B1, and B2 levels, and the vocabulary recommended by the Slovak Innovated State Educational Program (ISEP).

For the A2 level, students produced essays that incorporated 718 word families and 4,855 tokens. When juxtaposed with the ISEP's recommended 662 word families and 1,062 tokens for this level, the congruence in terms of word families stands at 13.19% and 17.98% for tokens. This indicates that A2 students not only met but exceeded the recommended vocabulary in their essays, suggesting a commendable breadth in vocabulary at this level.

Transitioning to the B1 level, the essays showcased a vocabulary set consisting of 1,088 word families and 14,283 tokens. In comparison to the ISEP's recommendation of 1,166 word families and 2,098 tokens for B1, the congruence rates are 13.53% for word families and a notable 22.10% for tokens. The data here presents an interesting observation: while the students' usage of word families is closely aligned with the ISEP's recommendation, their token usage considerably surpasses the suggested benchmark.

Table 2. Results of Measuring Lexical Congruence Between ISEP and Students' Text Production

	ISEP		**TEXT PRODUCTION**		**CONGRUENCE**			
CEF Reference Levels	**WF**	**Tokens**	**WF**	**Tokens**	**WF**	**WF%**	**Tokens**	**TOK%**
A2	662	1062	718	4855	182	13,19%	1064	17,98%
B1	1166	2098	1088	14283	305	13,53%	3620	22,10%
B2	1411	2109	1230	14975	370	14,01%	3055	17,88%

Lastly, at the B2 level, the essays contained 1,230 word families and 14,975 tokens. Set against the ISEP's B2 recommendation of 1,411 word families and 2,109 tokens, the congruence stands at 14.01% for word families and 17.88% for tokens. Interestingly, despite students at B2 level producing a higher number of word families and tokens than their B1 counterparts, their congruence with ISEP's recommended vocabulary is slightly lesser, especially in terms of tokens.

The data manifests a consistent trend wherein students across all examined levels display a proficiency in vocabulary that either meets or surpasses the ISEP's recommendations. This could signify effective teaching methods, diligent student practices, or the Maturita school-leaving exam prompting a richer vocabulary usage. Future research might delve into the underlying reasons for these commendable results, ensuring the continual enhancement of language education.

Analysis of Congruence in Textbook Vocabulary Compared to the Vocabulary Contained in Students' Text Production

The table in consideration presents a comprehensive examination of vocabulary congruence between students' essays produced as assessment materials at A2 level and during the Maturita school-leaving exams across B1 and B2 levels, and the vocabulary found within selected English textbooks.

Starting with the A2 level, the Project textbook showcases a vocabulary comprised of 1,724 word families and 15,181 tokens. When this is juxtaposed against the students' essays, the congruence in terms of tokens is 26.79%. On the other hand, the English Plus textbook, which incorporates 1,377 word families and 9,699 tokens, exhibits a congruence of 26.19% when compared with the students' production. This suggests that students at the A2 level have a slightly higher alignment with the vocabulary of the Project textbook, albeit by a narrow margin of 0.6%.

Table 3. Results of Measuring Congruence of Textbook Lexis and Student Text Production Lexis

	TEXTBOOKS		**TEXT PRODUCTION**		**CONGRUENCE**			
Source	**WF**	**Tokens**	**WF**	**Tokens**	**WF**	**WF%**	**Tokens**	**TOK%**
A2 (PROJ)	1724	15181	718	4855	428	17,53%	5368	26,79%
A2 (EP)	1377	9699	718	4855	366	17,47%	3812	26,19%
B1 (SOL)	2503	25570	1088	14283	624	17,38%	12469	31,29%
B1 (NH)	2363	19243	1088	14283	573	16,60%	10344	30,85%

B2 (SOL)	2582	20526	1230	14975	820	21,51%	11483	32,35%
B2 (NS)	2537	21424	1230	14975	820	21,77%	11870	32,61%

Moving to the B1 level, the Solutions textbook contains 2,503 word families and 25,570 tokens. Its vocabulary congruence with the students' essays stands at 31.29% based on tokens. In comparison, the New Headway textbook, inclusive of 2,363 word families and 19,243 tokens, aligns with the students' production at a congruence of 30.85%. While the congruence difference is again minimal, it's evident that the Solutions textbook at B1 holds a slightly superior alignment with student essays by a difference of 0.44%.

Lastly, for the B2 level, the Solutions textbook demonstrates 2,582 word families and 20,526 tokens. When compared with student essays, the congruence is 32.35% in terms of tokens. The New Success textbook, on the other hand, with 2,537 word families and 21,424 tokens, reveals a congruence of 32.61%. Intriguingly, at the B2 level, the New Success textbook surpasses the Solutions textbook in congruence with the students' essays, albeit by a small margin of 0.26%.

While the differences in congruence percentages across the textbooks are minimal, they do offer valuable insights. These subtle variations could guide educators and curriculum developers in choosing textbooks that might best reflect the actual vocabulary usage of students, thereby enhancing the real-world relevance of language instruction.

Discussion

The findings from this study provide an in-depth insight into the alignment between the Revised State Educational Program, examined textbooks, and English text production by primary and secondary school students. The central methodology used for comparison was the TextLex Compare software, which precisely quantified the presence of vocabulary in extensive databases. The software's prowess in distinguishing between texts, sets of texts, or word indexes was pivotal in establishing the congruence of vocabulary across the analyzed materials. Word families and their corresponding tokens were the main units of measurement, ensuring uniformity in data evaluation.

In the initial analysis, the congruence between the Innovated State Educational Program and the examined textbooks was evaluated. The results were revealing. Despite exhaustive comparisons using the complete texts of selected samples, the alignment never exceeded 20%. This underscores a potential gap between the curriculum and the content that students access through their textbooks.

The subsequent comparison shifted its focus to the Innovated State Educational Program and the English text productions of students. Here, the congruence was found to be even more diminished, lying in a tight range of

13-14% for word families. Interestingly, when tokens were considered, values exceeded 20% at the B1 reference level. However, it's crucial to note that these figures exclusively represent the manifestations of identical word families and not the broader spectrum of vocabulary usage.

The final analysis evaluated the vocabulary congruence between student text production and the selected textbook materials. The methodology mirrored previous evaluations, aiming for thoroughness. The resulting data revealed congruence percentages ranging from 16% to 21%, with an average standing at 18%. This again accentuates the limited alignment between the productive vocabulary of students and the content they access.

Considering the breadth of analyzed samples and the nature of the Innovated State Educational Program, the findings offer a clear inference. The lexical concordance between the program and the examined textbooks is subpar. This confirms the verification of Hypothesis #1. Furthermore, the alignment between student text production and the textbooks is equally insufficient, verifying Hypothesis #2.

Challenges, such as limiting the number of processable characters in some functionalities of the Compleat Lexical Tutor program, affected the research process. In specific research phases, it necessitated working with extracted vocabulary lists over full texts, potentially impacting the breadth of analysis.

Conclusion

The research undertaken provides a critical evaluation of the vocabulary alignment across the Revised State Educational Program, textbooks, and student text productions within the Slovak educational context. The results highlight a significant gap in congruence, with insufficient lexical alignment across the analyzed materials. This disparity, underscored by the TextLex Compare software, raises concerns about the coherence of curriculum content with available educational resources and students' productive vocabulary.

Drawing from the theoretical framework, the inadequate alignment between the Revised State Educational Program and the textbooks indicates potential challenges in ensuring effective and consistent language education. This misalignment may affect the overall quality of language education and students' language proficiency levels.

Several limitations were encountered during the research. The Compleat Lexical Tutor program, for instance, posed challenges due to its character processing restrictions. These limitations necessitated adjustments in the research approach, such as relying on extracted vocabulary lists over complete texts.

In light of these findings, it's evident that the Slovak educational system requires recalibration. The data from this research can pave the way for harmonizing state documentation with textbooks. This harmonization will not only enhance the quality of language education but will also streamline the learning experience for students.

Lastly, the research offers avenues for further studies. There is a significant opportunity for a more granular profiling of vocabulary in existing textbooks. Such endeavors can empower educators in evaluating content quality and equip academicians in creating a national textbook that resonates with the curriculum.

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AI Tools for Pre-Service EFL Teachers: Exploring Applications and Implications

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Abstract: The expanding domain of Artificial Intelligence (AI) offers a diverse array of educational applications and tools. However, the scholarly exploration of AI's suitability for enhancing English as a Foreign Language (EFL) instruction at the university level remains notably limited. This research gap impedes educators from fully harnessing AI's pedagogical potential. Given the inclusion of linguistic and literary disciplines in pre-service EFL teacher training in Slovakia, it is increasingly imperative for educators to acquaint themselves with various AI tools, enabling the development of effective methodologies for enhancing EFL teaching and learning. Integrating AI into teacher training programs equips future EFL educators with essential skills for 21st-century classrooms and meets the evolving needs of digitally proficient students. This paper aims to provide a concise yet comprehensive overview of AI's relevance to pre-service EFL teacher training, encompassing linguistic and literary domains, by categorising six prominent AI forms: a) Natural Language Processing (NLP) Tools, b) Content Creation and Personalisation tools, c) Content Recommendation Systems, d) Emotion and Sentiment Analysers, e) Text Summarisation and Analysis tools, and f) Chatbots and Virtual Assistants. Furthermore, it highlights the research gap in AI's implementation in EFL education and emphasises the need to explore pedagogical and ethical implications while outlining future research directions to enhance our understanding of this dynamic field.

Keywords: AI tools, English as a Foreign Language (EFL), linguistics, literary studies, pre-service teacher training,

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Introduction

Higher education is undergoing a significant transformation, largely fuelled by the evolution of artificial intelligence (AI). Artificial intelligence, alternatively known as Machine Intelligence or Computational Intelligence, strives to replicate human cognitive capacities ranging from intricate data processing to decision-making. AI's scope includes learning, adaptation, and specialized undertakings such as machine learning. Applications of machine learning identify patterns and predict outcomes, showcasing significant potential in the educational sector (Popenici & Kerr, 2017). The domain of AI in education (AIEd) has been scrutinized for over three decades, evidenced by the establishment of the International AIEd Society (IAIED) in 1997. This entity advances AIEd through endeavors like the International Journal of AI in Education and annual symposia (Ouyang, Zheng & Jiao, 2022).

Opportunities and Concerns Surrounding AI Implementation

Nevertheless, this paradigm shift is not without its set of challenges. There are concerns that integrating AI into higher education might introduce ethical quandaries and inherent risks (Zawacki-Richter, Marín, Bond & Gouverneur, 2019). For instance, the allure of cost reduction might tempt decision-makers to consider substituting human roles with AI-driven tools, potentially endangering various positions within academia and stirring job security anxieties. Furthermore, the extensive data requirements of AI for learning analytics introduce complications around data privacy and protection (ibid.).

AI's Role in Modern Digital Education

In light of the surge in higher education, AI is increasingly being used to enhance both contact and online learning. Early research suggests that AI's function in online teaching centers around predicting student behaviors, proposing resources, automating evaluations, and enriching the overall learning journey. While traditional AI technologies remain dominant, nascent methods like deep learning and genetic algorithms are emerging. The resulting AI-facilitated outcomes, ranging from tailored recommendations to enhanced predictions, are already improving academic performance and strengthening virtual student engagement (Wang, Liu & Tu, 2021).

The digital revolution, typified by technological wonders like AI, has drastically altered educational practices in the 21st century. Innovations have given rise to generative artificial intelligence (GAI) — a paradigm that crafts artificial content. Utilizing deep learning, GAI can generate a spectrum of content, from graphics to written material, by scrutinizing prevailing digital patterns. Among the myriad of GAI variations, the Generative Adversarial Network (GAN) is notable, producing synthetic content almost indistinguishable from genuine artifacts (Baidoo-Anu & Ansah, 2023).

The advent of artificial intelligence (AI) has ushered in a transformative era in various domains, including higher education. By integrating AI technologies, particularly generative AI, educational institutions are reshaping traditional learning paradigms and optimizing various aspects of the learning process (Ouyang, Zheng & Jiao, 2022).

Utilizing AI for Resource Recommendation

Among the areas significantly impacted by AI is resource recommendation. In the online higher education context, AI systems have been developed to provide learners with personalized and suitable resources based on their individual characteristics. The use of recommendation approaches and systems like CARAMBA, as highlighted in the provided texts, exemplifies this application of AI (Cárdenas-Cobo et al., 2020). These systems enhance learning quality and cater to the specific needs of each student, ultimately fostering a more personalized learning experience.

AI as a Universal Teaching Resource

Generative AI extends the capabilities of resource recommendation by not only personalizing content but also generating educational material that encompasses multiple disciplinary domains. This cross-disciplinary approach fosters a holistic learning experience, encouraging students to engage in cross-disciplinary learning and exploration (Benhamdi et al., 2017). The ability of generative AI to customize teaching content based on individual learning characteristics and interests further underscores its potential in enhancing learning efficiency and quality. However, the efficacy of these systems depends on the quality of the algorithms and data used, necessitating ongoing scrutiny and refinement to mitigate potential biases and inaccuracies (Vincent-Lancrin & Vlies, 2020).

Comprehensive Student Assessment and Prediction through AI

Traditional methods of student assessment are often limited to exam grades and subjective evaluations. AI, particularly generative AI, offers a more comprehensive approach by analyzing various aspects of a student's performance, including learning, practice, communication, and innovation (Hooshyar et al., 2016). This holistic evaluation provides a more accurate representation of a student's abilities and potential. Furthermore, generative AI's capability to predict future learning trajectories aids educators in formulating personalized learning plans, enhancing the overall educational experience.

Automated Assessment in Online Higher Education

In addition to comprehensive assessment, AI is also instrumental in automating the assessment process in online higher education. Systems like TRIS-Q-SP and AEE exemplify how AI can be used to provide timely feedback and assessment, improving students' self-awareness and reflection (Aluthman, 2016). While these systems introduce efficiency and immediacy, challenges such as ensuring fairness, accuracy, and addressing subjective assessment components remain.

Generating and Optimizing Educational Content

Generative AI is revolutionizing the way educational content is created and optimized. By automating the creation of course materials and instructional activities, educators are afforded more time to focus on improving teaching quality (Ijaz et al., 2017). Additionally, AI's ability to analyze student feedback and learning data facilitates the identification of areas for improvement, enabling timely adjustments in teaching practices.

Enhancing Learning Experience through AI

AI is not only transforming educational content but also enhancing the overall learning experience. Through the introduction of tools such as AI-enriched educational resources and virtual reality applications, learning environments are becoming more interactive and engaging (Koć-Januchta et al., 2020). These tools contribute to increased student engagement, retention, and satisfaction. However, challenges related to accessibility and the learning curve associated with new technologies need to be addressed.

Teachers' Perspectives on AI Integration

The swift advancement of AI necessitates its smooth amalgamation into learning environments to enhance student outcomes. An educator's inclination to incorporate AI tools within their courses is critical for this assimilation. Various factors, encompassing their perception of AI, its observed advantages, and personal experiences, influence this predisposition. Frameworks like the Technology Acceptance Model (TAM) have historically been vital in deciphering such behavioral inclinations, underlining the educators' central role in the successful infusion of AI into pedagogy (Wang, Liu & Tu, 2021).

Policies and Research on AI in Education: The Slovakian Context

The Slovakian higher education system, shaped by mass tertiary education, presents a plethora of study programs and research directions. However, rapid expansion has brought challenges like institutional homogenization. This environment poses questions about academic integrity, especially with AI's increasing presence in academia. These concerns necessitate introspection among higher education entities in Slovakia to address these emergent challenges.

On the other hand, entities like the Slovak Accreditation Agency for Higher Education (SAAVS, 2023) propose a balanced view of AI in higher education, highlighting the importance of integrating AI responsibly while maintaining academic integrity. Concurrently, institutions such as the Department of the English Language and Literature of TU in Slovakia are undertaking projects to explore the potential of AI tools in foreign language education, aiming to enhance pedagogical efficiency.

AI's emergence in education has ushered in transformative opportunities, ranging from personalized learning to improved institutional processes. While AI offers enhanced learning experiences and operational efficiencies, it also presents challenges, especially concerning ethics, job security, and data privacy. As with many technological revolutions, striking the right balance between harnessing the benefits and mitigating the risks is essential. Institutions, educators, and policymakers must work collaboratively to shape an education landscape where AI serves as an enabler rather than a disruptor (Ministry of Education, 2023).

Method

Integrating AI into teacher training programs equips future EFL educators with essential skills for 21st-century classrooms and meets the evolving needs of digitally proficient students. This paper aims to provide a concise yet comprehensive overview of AI's relevance to pre-service EFL teacher training, encompassing linguistic and literary domains, by categorising six prominent AI forms of tools: a) Natural Language Processing (NLP) Tools, b) Content Creation and Personalisation tools, c) Content Recommendation Systems, d) Emotion and Sentiment Analysers, e) Text Summarisation and Analysis tools, and f) Chatbots and Virtual Assistants. Furthermore, it highlights the research gap in AI's implementation in EFL education and emphasises the need to explore pedagogical and ethical implications while outlining future research directions to enhance our understanding of this dynamic field.

In undertaking a comprehensive exploration of the six identified AI tool forms, the methodological approach necessitates a multi-faceted analysis to unravel the complexity and multifunctionality of these technologies in the realm of EFL education. The initial phase of this research methodology involves a meticulous delineation of the intrinsic nature and overarching purposes of each AI tool category. This clarification process is instrumental in establishing a foundational understanding of how these tools are engineered and the specific educational needs they are designed to address. Concurrently, this stage of research will elucidate the varied capacities in which these tools can be integrated into linguistic and literary studies, specifically within an EFL context, thereby illuminating their relevance and applicability to this specialized field of education.

Following the definitional and contextualization phase, the research will delve deeper into the specific functions and capabilities of the AI tools, elucidating how they contribute to and enhance the EFL education process. This stage will involve a detailed analysis of the practical applications of these tools, highlighting how they can be employed to facilitate language acquisition, augment literary analysis, and enrich the overall learning experience for EFL students. To bolster the empirical grounding of this research, each function and application identified will be substantiated with real-world examples, drawing upon specific AI tools that are currently available and utilized within EFL education settings. This exemplification will serve not only to illustrate the practicality of these tools but also to provide tangible evidence of their efficacy in advancing educational outcomes for EFL learners.

Results and Discussion

Natural Language Processing (NLP) in EFL

Natural Language Processing (NLP) stands at the forefront of artificial intelligence, endeavoring to bridge the gap between human language and computer understanding. These tools employ advanced algorithms and computational linguistics to parse text, comprehend semantic nuances, and generate human-like responses. They excel in deconstructing language into its fundamental components, identifying patterns, and establishing contextual relevance. The crux of NLP lies in its ability to not only interpret the explicit content but also to infer the implied meaning, capturing the subtleties and intricacies of human communication. Moreover, the integration of machine learning within NLP tools facilitates their continuous learning and adaptation, enhancing their proficiency over time (Pustejovsky & Boguraev, 1993).

The overarching purpose of NLP tools is to democratize and streamline access to language processing capabilities, thereby fostering a more inclusive and efficient communication environment. They serve as indispensable assets in various domains, ranging from customer service and content moderation to education and research. In the context of education, particularly in the teaching and learning of English as a Foreign Language (EFL), NLP tools transcend conventional boundaries, offering innovative solutions to longstanding challenges. They provide learners and educators with a suite of functionalities that facilitate language acquisition, comprehension, and application, ensuring a more holistic and engaged learning experience (Manning, 2015).

Significance of NLP in EFL Higher Education for Linguistics: In higher education, particularly within the realms of linguistics, NLP tools hold transformative potential. They empower students and researchers to delve deeper into the structural and functional aspects of language, enhancing their understanding and mastery of linguistic principles. By automating complex linguistic analyses, NLP tools make intricate language patterns and structures more accessible and comprehensible, fostering a more intuitive grasp of language mechanics. Additionally, they facilitate the exploration of language variation and change, contributing to a richer, more nuanced understanding of linguistic phenomena. The ability of NLP tools to process and analyze large volumes of text data in real-time significantly accelerates research processes, enabling more comprehensive and data-driven linguistic studies (Pustejovsky & Boguraev, 1993).

For literature studies in EFL contexts, NLP tools open up new avenues for analysis and interpretation. They equip learners and educators with the means to conduct stylistic and thematic analyses across diverse texts, identifying patterns and trends that might otherwise remain obscured. Through sentiment analysis and authorial voice detection, NLP tools enhance the exploration of narrative techniques, character development, and thematic depth. The capacity to automate text analysis fosters a more engaged and interactive approach to literature studies, encouraging students to experiment with and reflect upon various interpretative possibilities. Furthermore, the ability of NLP tools to provide immediate feedback on literary analyses ensures a more responsive and adaptive learning environment, catering to the individual needs and pace of EFL learners (Manning, 2015).

Practical applications of NLPs in EFL higher education

Automated Linguistic Assessment: Within the domain of linguistic studies, NLP tools such as SpaCy, NLTK, and GATE stand out for their capacity to automate and enhance linguistic assessment. These tools delve into the structural and lexical dimensions of language, providing granular insights into grammatical correctness, lexical diversity, and discourse coherence. For EFL learners, this translates into a more transparent and objective evaluation of their linguistic competencies, ensuring that feedback is both immediate and actionable. The ability of these NLP tools to provide consistent and unbiased assessments is particularly crucial in higher education settings, where the stakes of linguistic proficiency are high, and the margin for error is minimal. Furthermore, the adoption of these tools in automated linguistic assessment signifies a paradigm shift from summative to formative evaluation, fostering a more learner-centric and formative educational milieu (Burstein et al., 2013).

Real-time Linguistic Interaction: NLP-driven platforms, including conversational agents like Google's Dialogflow and IBM's Watson Assistant, introduce a dynamic and interactive dimension to language learning. These platforms facilitate real-time linguistic interaction, providing EFL learners with a safe and responsive environment to practice and hone their language skills. Beyond the confines of formal instructional settings, these conversational agents encourage linguistic experimentation and spontaneous language use, contributing to a more immersive and authentic learning experience. The ability of these platforms to provide instant feedback and contextually relevant responses ensures that learners receive timely and pertinent support, accelerating their language acquisition process. Furthermore, the integration of these conversational agents into the broader EFL curriculum signifies a move towards a more blended and experiential learning approach, aligning education with the digital proclivities of contemporary learners (Fryer & Carpenter, 2006).

Pronunciation Rectification: For EFL learners aspiring to achieve native-like pronunciation, NLP tools such as Rosetta Stone and Duolingo offer invaluable support. Leveraging advanced speech recognition technologies, these platforms provide precise assessments of phonetic and phonological articulations, pinpointing areas of discrepancy and offering targeted practice exercises. The capacity of these tools to provide real-time feedback ensures that learners can immediately rectify pronunciation errors, fostering more accurate and fluent language use. Furthermore, the gamified and interactive nature of these platforms enhances learner engagement, ensuring that pronunciation practice is both enjoyable and effective. The adoption of these pronunciation rectification tools in EFL education represents a significant advancement, ensuring that learners receive comprehensive and personalized language support, catering to their unique learning needs and preferences (Neri et al., 2002).

Text Summarisation and Analysis: NLP tools also play a pivotal role in text summarisation and analysis, assisting EFL learners in distilling key information and identifying central themes. Tools such as QuillBot and SummarizeBot employ advanced algorithms to generate concise and coherent summaries of text, ensuring that learners can quickly grasp the main ideas without being overwhelmed by extraneous details. In literary studies, this facilitates a more focused and efficient exploration of texts, allowing learners to concentrate on critical analysis and interpretation. Additionally, these tools provide valuable support in the analysis of linguistic structures and patterns, contributing to a deeper understanding of language use in literary contexts. The capacity of these NLP tools to adapt to individual learner preferences and needs ensures a more personalized and responsive learning experience, catering to the diverse needs of EFL learners in higher education settings (Barzilay & Elhadad, 1999).

Content Creation and Personalisation Tools

Content Creation and Personalisation tools in the realm of education are pivotal in transforming conventional pedagogical methods into more individualized learning trajectories. Leveraging artificial intelligence, they actively intertwine with educational content to create, adapt, and personalize instructional materials tailored to distinct learner profiles. Machine learning, natural language processing, and comprehensive data analytics work in tandem to dissect vast datasets, decoding user behaviors, preferences, and learning trajectories. By facilitating this, these innovative tools create content that genuinely resonates with the target audience, promoting both heightened engagement and comprehension (Kishore&Shah, 2019).

A salient feature of these tools is their intrinsic ability to morph generic educational materials into highly individualized learning experiences. Utilizing AI's predictive analytics and sophisticated adaptive learning algorithms, such tools offer educators an impactful means to customize instruction. They ensure each learner is presented with content that aligns impeccably with their specific needs and preferences. As Kamat& Nasnodkar (2019) elucidate, interactive and adaptive learning tools can adjust course content, focusing on identified weak areas of a student. Such adaptive techniques prove transformative for the educational arena, signifying the dawn of a student-focused instructional paradigm.

In the specialized context of EFL higher education, particularly within linguistics and literature, these tools are indispensable. They authorize educators to meticulously curate reading lists and coursework, ensuring materials impeccably align with students' linguistic proficiencies, cognitive propensities, and literary proclivities. By aligning instructional materials with individual requirements, a profound engagement with language and literary studies is nurtured. These tools, with their capacity for adaptive learning, are calibrated continuously based on student feedback, promoting a dynamically responsive educational milieu (Kishore&Shah, 2019).

Highlighting their application within EFL higher education, these tools ensure content remains adaptive and relevant. Interpreting individual progression metrics and engagement levels, they adjust both content and pedagogical strategies to meet students exactly at their proficiency level. Such adaptivity is paramount in addressing knowledge disparities, enhancing comprehension, and fostering an inclusive educational environment for all EFL students, irrespective of their foundational linguistic knowledge (Kamat& Nasnodkar, 2019).

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Specific tools, such as Knewton and DreamBox, epitomize AI's prowess in tailoring instructional trajectories. They consider individual linguistic proficiencies, learning inclinations, and pacing, ensuring personalized yet effective learning paths (Kishore&Shah, 2019). This transformative AI role extends to material design, enabling educators to construct engaging instructional resources that deeply resonate with learners. For instance, Quillionz, through its capability to generate comprehension questions from literary texts, augments critical engagement. Simultaneously, Grammarly serves the dual function of grammar verification and stylistic analysis. Platforms like Smart Sparrow adapt in real-time, letting students consolidate their understanding at their pace (Kishore&Shah, 2019).

Utilization of these tools within linguistic and literary studies transforms passive learning into active linguistic and literary exploration. They foster the creation of immersive course materials, captivating students in a manner that's both enlightening and engaging. As Kamat& Nasnodkar (2019) suggest, the enriched learning environment facilitated by such tools is especially advantageous for EFL learners. They often require added scaffolding while grappling with the nuances of a new language and its literary traditions. These tools ensure these learners are adequately supported, yet continuously challenged, cultivating a conducive learning atmosphere.

Conclusively, an analytical assessment of these tools underscores their transformative capabilities, underscoring their pivotal role in sculpting an enriched, responsive, and holistic educational framework (Kamat& Nasnodkar, 2019).

Content Recommendation Mechanisms

The integration of technology into education has seen a marked transformation in the domain of English as a Foreign Language (EFL) studies, especially within university settings. At the crux of this transformation lies the Content Recommendation Mechanisms. These sophisticated algorithms, rooted in the principles of adaptive learning, have been meticulously tailored to address the linguistic intricacies faced by non-native English speakers. The principal motive of these mechanisms is to pave a highly personalized educational trajectory – one that aptly meets a student's language proficiency, learning predilections, and academic objectives (Hsu, Hwang & Chang, 2013).

Such mechanisms have monumental implications in the landscape of EFL education, symbolizing a paradigm shift from generic content delivery to a more personalized, AI-driven approach. Their potency is not confined to merely suggesting content; rather, they play an instrumental role in bolstering the efficiency of language assimilation and literature exploration. This is accomplished by ensuring that pedagogical resources are both pertinent and accessible, fostering an environment that amalgamates challenge with support. The mechanisms act as the bridge between technology and education, emphasizing the transformative capabilities of AI in orchestrating adaptive and learner-centered educational experiences (Hsu et al., 2013).

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The realm of linguistics and literature further underscores the value of these recommendation mechanisms. Students and researchers benefit from the capacity of these tools to autonomously suggest academic papers, literary works, and articles that resonate with their current academic trajectory. This seamless alignment not only bridges any knowledge chasms but also magnifies the breadth of their intellectual vistas. It fosters an exposure to a rich tapestry of linguistic and literary perspectives. The strategic integration of these mechanisms ensures that content is not just delivered, but it is intricately woven into the unique learning arcs of students, making education a more tailored experience (Hsu et al., 2013).

Yet, the ubiquity of mobile technologies has also catalyzed a parallel transformation in EFL studies. Devices such as mobile phones and personal digital assistants are increasingly being integrated into learning modules, enabling students to partake in educational activities in more dynamic settings (Hsu et al., 2013). The incorporation of mobile technologies in pedagogy offers learners the flexibility to engage with content anywhere, anytime. The very fabric of learning has metamorphosed, allowing for a more collaborative, participatory, and decentralized approach, thus amplifying the benefits of adaptive learning. An exemplar of this is the Mobile Adaptive Language Learning (MALL) system. This system encompasses modules for reading material recommendations, instantaneous translation annotations, and shared annotations. By leveraging such a system, students can not only access differentiated content but can also augment their learning experiences by tapping into communal knowledge, shared annotations, and collective experiences (Hsu et al., 2013).

In conclusion, the nexus of adaptive learning mechanisms and mobile technologies in the domain of EFL studies is transformative. Whether it is through algorithms that curate content tailored to individual student trajectories or through mobile systems that enable collaborative learning, the overarching goal remains the same – to craft an educational experience that is as individualized as it is collective, and as adaptive as it is empowering.

Emotion and Sentiment Analysers

Introduction to Emotion and Sentiment Analysers Emotion and Sentiment Analysers, sitting at the confluence of Natural Language Processing (NLP) and Machine Learning, signify a paradigm shift in linguistic and literature studies within English as a Foreign Language (EFL) education. These sophisticated computational tools facilitate an in-depth analysis of textual data, revealing a wide array of emotions and sentiments, ranging from joy and sorrow to positive, negative, and neutral tones (Zhai & Wibowo, 2022). Their functionality transcends traditional realms like marketing and customer feedback, asserting their significance in EFL education, particularly in literature and linguistics.

Purpose and Application in EFL Education In EFL settings, Emotion and Sentiment Analysers serve as critical instruments for non-native English learners, enabling them to deeply engage with English literature and grasp subtle cultural nuances, authorial intentions, and complex character dynamics (Smith & Johnson, 2023). In linguistic studies, these tools assist in examining sentiment biases and analyzing emotional tonality in student-generated content. This analytical capability provides educators with essential insights into students' perspectives, challenges, and engagement levels, fostering a more personalized and empathetic educational experience (Zhai & Wibowo, 2022).

Enhancing Literature Studies Within the realms of literature and linguistics, Emotion and Sentiment Analysers emerge as pivotal tools, ensuring that the emotional dimensions of texts are central to the analysis. They offer a unique lens for deciphering readers' reactions and the emotional undertones embedded in literary works. This not only enriches the interpretative experience but also cultivates a more nuanced understanding of the narrative and thematic elements of literary pieces, contributing significantly to literature studies in EFL higher education.
In linguistic studies, these tools play a crucial role in uncovering sentiment biases and emotional tonalities in texts, which is invaluable for understanding language use and communication patterns among EFL learners. By providing educators with a deeper understanding of students' emotional states and perspectives, these tools enhance the effectiveness of instructional strategies and feedback mechanisms, aligning them more closely with students' needs and expectations (Zhai & Wibowo, 2022).

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Monitoring Academic and Affective States Emotion and Sentiment Analysers, exemplified by IBM Watson Tone Analyzer and VADER, transcend their conventional uses, becoming essential tools for monitoring students' academic and emotional states. By analyzing the emotional content in students' responses and written materials, educators can identify potential academic or emotional challenges, enabling timely and supportive interventions.

Tools such as TextBlob and MonkeyLearn extend the capabilities of sentiment analysis to providing pedagogical feedback. These tools contribute to creating a supportive and responsive educational environment, which is particularly crucial in EFL settings, where students might face additional emotional and academic challenges due to language barriers (Zhai, 2023).

In literature studies, Emotion and Sentiment Analysers facilitate a deeper and more empathetic engagement with texts. They enable students and educators alike to uncover the emotional layers of literary works, enriching the analysis and interpretation of these texts. These tools also play a vital role in helping EFL learners understand cultural nuances and authorial intentions in literary works, which might otherwise be challenging to grasp. This not only aids in language acquisition but also contributes to a more holistic understanding of literature. In linguistic studies, Emotion and Sentiment Analysers are employed to analyze student-generated content, providing insights into students' language use, sentiment biases, and emotional tonalities. This analysis is instrumental in understanding communication patterns and language acquisition among EFL learners (Corredera Arbide, Romero & Moya Fernández, 2017).

The integration of Emotion and Sentiment Analysers in EFL higher education is a testament to the multifunctionality of these tools, as outlined in the methodology. They serve not only as instruments for textual analysis but also as means of providing tailored educational experiences and feedback. However, it is crucial to acknowledge potential challenges, such as the need for continuous updating and refinement of these tools to ensure their accuracy and reliability. Furthermore, the effectiveness of these tools is contingent on their appropriate integration into the curriculum and the educators' proficiency in utilizing them.

Textual Summarisation and Analytical Tools

The nature and purpose of Textual Summarisation and Analytical Tools are intricately connected to the principles of Natural Language Processing (NLP) and data analysis, aiming to condense extensive text and elucidate main ideas without compromising meaning. These tools employ sophisticated algorithms, as seen in OpenAI's GPT, Sumy, and LexRank, to analyze textual content and highlight pivotal themes, arguments, and sentiments. This process transforms verbose material into a clear, compact version, enhancing accessibility while preserving the text's essence. Beyond text reduction, these tools play a crucial role in data-driven decision-making, uncovering significant patterns and trends across various fields, including academic research and business intelligence. Thus, they serve a dual function: streamlining textual content for efficiency and extracting underlying patterns for insightful analysis (Marzuki et al., 2023).

In the context of EFL (English as a Foreign Language) higher education, particularly in linguistics and literature, Textual Summarisation and Analytical Tools are invaluable. For linguistics, they enable corpus analyses, aiding in the exploration and identification of linguistic trends across extensive datasets, which is essential for understanding linguistic phenomena. In literature, these tools help students navigate through voluminous works, extracting central themes and arguments, thus ensuring that language barriers do not hinder engagement and understanding of literary works. They provide EFL learners, who may find lengthy English texts daunting, with condensed versions of texts, facilitating their academic journey.

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Facilitating Text Comprehension: Tools like Sumy and OpenText Summarizer break down complex English discourses, aiding EFL learners in comprehension and critical engagement with text. They reveal textual coherence patterns, contributing to an understanding of text structure and thematic development. SMMRY not only provides textual summarization but also highlights coherence and thematic prominence, crucial for advanced EFL instruction.

Thematic Analysis in Literature: These tools allow learners to explore the thematic complexities of literary works, identifying motifs and stylistic nuances. Quillionz, for example, generates questions based on literary texts, fostering thematic exploration and critical engagement.

Syntactic and Semantic Analysis in Linguistics: Tools like Grammarly assist in grammatical accuracy and writing style analysis, enhancing linguistic proficiency and stylistic awareness. They contribute to a deeper understanding of language structure and use, benefiting both linguistic and literature studies.

Enhancing Academic Writing: AI writing tools such as Quillbot, Jenni, and Chat-GPT enhance the clarity and logical progression of students' writing, as indicated by a study conducted by Marzuki et al. (2023). These tools provide scaffolding, aiding students in developing coherent and well-structured academic texts.

Content Recommendation: Tools like Copy.ai and Paperpal offer content suggestions, enriching students' vocabulary and expression in academic writing. These recommendations are based on context and writing purpose, ensuring relevance and coherence in student work.

While Textual Summarisation and Analytical Tools offer numerous benefits in EFL higher education, particularly in literature and linguistic studies, it is crucial to address potential challenges and limitations. The dependence on these tools may impede the development of critical thinking and problem-solving skills among students, as noted by Marzuki et al. (2023). By critically evaluating and addressing these challenges, the integration of Textual Summarisation and Analytical Tools in EFL education can be optimized, enhancing both linguistic and literary competencies among learners.

Chatbots and Virtual Assistants

Chatbots and virtual assistants, integrated into systems like Apple's Siri, Amazon's Alexa, and OpenAI's GPT, are at the forefront of the AI conversational paradigm. These agents, rooted in Artificial Intelligence, are crafted to converse with users using a format mimicking natural language. The inception of these tools can be traced back to the need for enhancing user interactions and engagements. They emerge as a seamless blend of Natural Language Processing (NLP) and Machine Learning, encapsulating the essence of modern computational linguistics. Their innate capability to not just react to user inputs, but to proactively anticipate and respond to queries, underscores their sophistication. Such proficiency renders them invaluable in domains demanding rapid, accurate, and contextually relevant interactions, including customer support and task automation (McTear et al., 2016).

Extending beyond their conventional roles, these AI conversational agents hold significant implications for the fields of linguistics and literature. From a linguistic vantage point, they offer a rich terrain for the exploration of conversational dynamics and the pragmatics of language. They epitomize the nuances of conversation, encompassing aspects like turn-taking, context recognition, and sentiment analysis. Literature aficionados, on the other hand, can harness these tools in innovative ways, such as engaging in interactive plot summaries, delving into character psyches, or even simulating dialogues with literary stalwarts or fictional characters. Such immersive experiences not only amplify literary appreciation but also pave the way for innovative pedagogical techniques.

Practical applications of Content Recommendation Mechanisms in EFL higher education

One of the standout features of chatbots, such as Duolingo Bots and Mitsuku, is their ability to facilitate uninterrupted linguistic engagement. They present a continuous channel for linguistic immersion, simulating a diverse range of conversational scenarios. This dynamic interaction promotes linguistic fluency, aiding learners in mastering the ebbs and flows of conversational English. Additionally, the administrative acumen of these bots is noteworthy. Their adeptness in handling routine instructional inquiries and managing administrative tasks underscores their potential in streamlining educational processes, leading to optimal resource allocation.

A particularly intriguing application lies in the simulation of real-world engagements. Pioneering chatbots, engineered on robust architectures like GPT's ChatGPT, manifest an ability to recreate multifaceted real-world dialogues. For learners, especially in the EFL domain, this translates into a preparatory ground, equipping them with the linguistic and conversational skills required for authentic English communicative settings. Such simulations are not mere reproductions; they embody the intricacies, unpredictabilities, and diversities of genuine conversations, making them indispensable for comprehensive linguistic training.

In essence, chatbots and virtual assistants represent a synthesis of advanced AI and linguistic prowess. Their applications span across enhancing user experiences, pioneering linguistic and literary explorations, and revolutionizing educational paradigms. Their multifunctional capabilities, ranging from uninterrupted linguistic engagements to simulating real-world dialogues, underscore their transformative potential in the realms of linguistics, literature, and education.

Conclusion

In the realm of higher education, particularly within English as a Foreign Language (EFL) studies, the impact of Artificial Intelligence (AI) is undeniably profound. The literary and linguistic facets of English, rich with complexities and nuances, present challenges that demand innovative pedagogical approaches. AI, with its advanced tools and systems, provides the means to navigate these challenges, enhancing the depth and breadth of EFL studies. Platforms like CARAMBA, which offer tailored resources based on individual learning profiles, exemplify the precision with which AI can refine the educational journey. In literature, the ability to dissect narratives, themes, and motifs is augmented by AI's analytical capabilities, ensuring students engage in a more thorough exploration of literary texts.

The linguistic studies of English, characterized by intricate phonetic, syntactic, and semantic intricacies, are also substantially elevated by AI's intervention. Generative AI, with its cross-disciplinary potential, is a game-changer. It allows EFL students to delve deep into linguistic studies, unearthing patterns, and structures that would otherwise remain obscured. The algorithms powering these AI tools, while requiring diligent oversight to curtail biases, promise an enriched linguistic study experience, encompassing the vast spectrum of language facets from phonology to pragmatics.

AI's role in student evaluation within the EFL higher education framework is another testament to its significance. Traditional assessment methodologies, while effective, often fail to capture the multifaceted nature of linguistic and literary comprehension. AI transcends these limitations, providing a panoramic view of a student's prowess, encompassing both their current competencies and potential trajectories. In the domain of linguistics, this means a more accurate assessment of phonetic accuracy, syntactic understanding, and semantic interpretation. For literature, AI-driven assessments can delve into a student's analytical, critical, and thematic understanding of texts.

Moreover, the world of EFL in higher education has witnessed the advent of AI-driven chatbots and virtual assistants, revolutionizing the way linguistic studies are approached. These tools, previously associated predominantly with customer interactions, have found a pivotal place in linguistic training. The immersive linguistic interactions they offer simulate real-world conversational dynamics, enhancing both the receptive and productive skills of EFL learners. Literary studies, too, can benefit from these AI entities, using them to explore literary dialogues, character interactions, and narrative structures.

In conclusion, the nexus between AI and EFL studies in higher education is not just transformative; it's revolutionary. The confluence of Natural Language Processing tools and content personalization mechanisms brings forth an EFL educational experience that is unparalleled in its depth, precision, and adaptability. As educators and learners navigate the intricate terrains of English literature and linguistics, AI stands as a beacon, guiding the way towards a more enriched, nuanced, and comprehensive understanding.

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Uncovering the Impact of Social Media Adoption on Indonesian SMEs' Business

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Abstract: The utilization of social media for business purposes, particularly in engaging with diverse stakeholders, is on the rise. Despite this becoming a common practice, studies on integrating social media into business operations, especially within SMEs, remain relatively limited. This study seeks to explore the factors influencing the adoption of social media and its impacts on the SMEs' business in Indonesia. The study framework is developed by adapting technology acceptance theories. Data was collected through a survey involving 182 Indonesian SMEs, which was subsequently used to empirically evaluate the model and analyze the relationships among variables using PLS-SEM. The findings of this study emphasize the positive impact of social media adoption on the business outcomes of SMEs. Additionally, SMEs' adoption of social media in Indonesia is influenced by perceived usefulness and perceived ease of use as predictive factors. Conversely, other factors, such as compatibility, facilitating conditions, and cost, do not exhibit significant associations with social media adoption. This study makes a valuable theoretical contribution to the existing literature regarding the effects of social media adoption in business, particularly within SMEs operating in developing nations.

Keywords: Social media, Technology adoption, Small and medium enterprises, Technology impact on business

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Introduction

Small and Medium Enterprises (SMEs) play a crucial role in both social and economic development by creating jobs and fostering entrepreneurship, benefiting communities (Wu et al., 2017). Therefore, SMEs can drive economic growth, encourage innovation, and enhance competitiveness in the country. In Indonesia, the SME sector has substantially contributed to Indonesia's Gross Domestic Product (GDP), accounting for a remarkable 61%, which translates to IDR 8,573 trillion (Limanseto, 2022). Moreover, this sector has played a pivotal role in the country's labor market, providing employment opportunities to an astounding 97% of the national workforce

(Limanseto, 2022). Given these substantial economic and employment contributions, it is evident that the Government's continued commitment to nurturing and advancing the SME sector is of paramount importance and underscores its profound impact on Indonesia's economic well-being.

While Small and Medium Enterprises (SMEs) are vital to Indonesia's economy, they remain susceptible to uncertainty. In 2022, the Indonesian government disclosed that a significant 80%-90% of startup businesses face the risk of failure, underscoring the challenges SMEs encounter despite their crucial role in the country's economic landscape (Nugraheny, 2022). Therefore, enhancing the health of SMEs stands as a pivotal driver for fostering sustained economic growth within the nation (Chatterjee & Kar, 2020).

Consequently, in the pursuit of enhancing SMEs' overall performance, encompassing aspects such as effectiveness, efficiency, and competitive edge, the adoption of contemporary Information and Communication Technology (ICT) solutions emerges as an indispensable imperative, as advocated by previous studies (Consoli, 2012; Ongori & Migiro, 2010). Within the variation of (ICT), social media is a pivotal element with a significant influence on business (Chatterjee & Kar, 2020). Hence, a pressing need arises to explore the potential of social media utilization in fostering the overall growth of SMEs (Chatterjee & Kar, 2020). It is important to note that there is a scarcity of research investigating the ways in which the adoption of new technology can enhance the holistic operations of SMEs (Alhakimi & Mahmoud, 2020).

In a broader international context, numerous studies have underscored the myriad benefits that social media platforms confer on the growth and expansion of SMEs. These platforms facilitate direct engagement between consumers and new products, services, and brands (Aral, et al., 2013; Aswani, et al., 2018; Sawhney & Prandelli, 2000). Given this global perspective, it becomes imperative to explore whether the utilization of social media can similarly drive the holistic growth of SMEs operating within the Indonesian landscape.

Numerous scholars have diligently undertaken a series of comprehensive investigations in recent times, delving into the multifaceted impact of social media on SMEs within the Indonesian landscape (Winarso et al., 2023; Mahendrawathi & Wardati, 2020; Dirgiatmo et al., 2020; Munir et al., 2021; Patma et al., 2021). However, it is essential to acknowledge that these prior studies exhibit certain limitations while contributing valuable insights, thus leaving distinct research gaps in this domain. For instance, the study by Mahendrawathi & Wardati (2020) employed a single case study approach, concentrating solely on SMEs within the garment industry, and assessed performance primarily regarding reputation and sales.

In addition, while the investigation by Winarso et al. (2023) successfully revealed the impact of social media adoption on performance, it did not explain the factors motivating SMEs to embrace social media. Furthermore, another study offered a descriptive analysis without employing a causal relationship test between social media utilization and its effects on SMEs' business (Dirgiatmo et al., 2020), focused exclusively on the implications for marketing performance (Munir et al., 2021), and focus on the specific area of sustainability as a result of social media adoption (Patma et al., 2021).

Hence, to fill the research gap, the primary objective of this research is to comprehensively investigate the implications of incorporating social media into SMEs in the Indonesian setting. Additionally, the study seeks to pinpoint the determinants that effectively facilitate the adoption of social media among SMEs in Indonesia. Ultimately, the findings from this study hold the potential to serve as a valuable resource for the policymaker, providing essential insights for the formulation of strategic social media adoption policies aimed at enhancing SMEs' business performance. In this study, we endeavor to delve into the following pair of research questions, employing an elaborate theoretical framework as follows:

1. What are the primary determinants that affect the adoption of social media within SMEs?;
2. What is the impact of social media on SMEs?.

Literature Review

This section offers an extensive literature review that revolves around technology acceptance theories, aimed at explaining SMEs' adoption of social media platforms. This study strives to comprehensively present various theories concerning the acceptance of this technology, to identify pertinent variables essential for constructing the framework of this study. Detailed elaborations of these theories are presented in the subsequent passage.

Technology Acceptance Theories

The Technology Acceptance Model (TAM), is one of the prominent theories of technology acceptance. Initially introduced by Davis (1989), emerged as a widely acknowledged and influential framework for gauging individuals' receptivity toward technology (de Graaf et al., 2019). TAM, encompassing Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as its independent variables, holds a prominent position within technology adoption theory due to its IT-specific focus, simplicity, and capacity to elucidate and predict the adoption of various technologies across diverse populations, spanning different cultural, organizational, and expertise backgrounds (Chatterjee & Kar, 2020). Notably, these two TAM beliefs, PU and PEOU, encompass numerous causal pathways involving beliefs, intentions, and attitudes (Chatterjee & Kar, 2020). Accordingly, SMEs are inclined to embrace social media when they perceive its usefulness and user-friendliness.

In addition to these two core factors outlined by the TAM, which encompass a broad range of psychological attributes, it is imperative to consider other technological and financial aspects concerning the adoption of social media within SMEs. Notably, the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), as introduced by Venkatesh et al. (2012), and the well-established Diffusion of Innovation Theory (Rogers, 1983) are offer valuable insights into this context. In the subsequent section, we provide a clear illustration of the critical variables derived from these theories that have been incorporated into the foundation of this research framework.

Perceived Usefulness (PU)

Davis (1989) defined PU as the conviction that adopting cutting-edge technology will lead to enhanced performance. It summarizes an intangible metric denoting the SME's belief that integrating a particular technology, such as using social media, can elevate the SME's overall performance (Davis, 1989). When SME leadership perceives that implementing a given technology, like social media, can significantly strengthen the productivity of the SME, it engenders a solid tendency to embrace that technology (Park, 2009).

Perceived Ease of Use (PEOU)

As Davis (1989) explained, PEOU encapsulates the extent to which an individual anticipates that utilizing a specific system will entail minimal effort. Hence, PEOU reflects an individual's confidence that engaging with cutting-edge technology will be a straightforward experience (Marso, 2023). In the context of social media adoption, ease of use pertains to the SMEs' perceptions that employing social media platforms will demand minimal effort.

Cost/Price Value

Venkatesh et al. (2012) have emphasized the significance of cost (price value) as one of the predictors of the behavioral intention to embrace technology within the UTAUT2 model. They explain that the price value attains a positive connotation when the advantages of technology adoption are perceived to outweigh the costs, and this favorable cost exerts a positive result on intention. In emerging economies, individuals who engage with technology are consistently mindful and prudent regarding the cost consequence of their actions (Dwivedi et al., 2017). Accordingly, if the utilization of social media does not present a more cost-effective alternative than conventional practices, SMEs may doubt its adoption (Misirlis & Vlachopoulou, 2018). Hence, the likelihood of SMEs adopting social media depends upon their perception of it being a more economical alternative.

Facilitating Conditions

Venkatesh et al. (2003) defined facilitating conditions as the extent of an individual's belief in the presence of an organizational and technical infrastructure that actively supports the utilization of a given system. Suppose employees within SMEs are equipped with the requisite training to effectively navigate this new system, particularly in situations where the SME's existing conditions foster motivation among its personnel to embrace social media, in that case, they will likely adopt it (Venkatesh et al., 2012). Therefore, considering that facilitating conditions is one of the factors Venkatesh et al. (2012) employed in the UTAUT2 model to explain adoption behavior, it may also prove instrumental for SMEs considering integrating social media into their operations.

Compatibility

Compatibility, as outlined in the Diffusion of Innovation Theory (Rogers, 1983), represents one of its foundational dimensions. It pertains to the extent to which an innovation is seen as aligning with the overall values, needs, and prior experiences of potential adopters (Rogers, 1983). Given that social media technology is not entirely unknown to SMEs, it corresponds with their prior exposure and established practices, fostering a sense of compatibility and readiness for adoption, as Hsu et al. (2007) argue. Therefore, compatibility is another significant factor that may effectively incentivize SMEs to integrate social media to advance their business (Derham et al., 2011). In essence, SMEs are more likely to engage with social media when they perceive it as compatible with their existing operations.

SMEs' Social Media Adoption

SMEs adopt social media for several reasons related to gaining its benefits. Social media helps firms improve customer relationships, information accessibility, and marketing (Parveen et al., 2016). In addition, social media helps firms handle customer queries and build customer relationships, allowing them to create and share user-generated content, such as product or service reviews, gaining a competitive advantage (Qalati et al., 2021). Furthermore, social media generates a vital link between SMEs and potential consumers (Hosseini et al., 2019).

Hypotheses Development

PU encompasses a range of underlying beliefs, including considerations related to performance, efficacy, risk, and trust (Aggelidis & Chatzoglou, 2009; Henderson & Divett, 2003; Turner et al., 2010). Within the domain of risk factors, elements such as privacy and security play a crucial role, and when these aspects are adequately protected, the adoption of social media SMEs can deliver substantial benefits (Turner et al., 2010). Therefore, PU is believed to exert a significant effect on social adoption by SMEs. Several studies have provided empirical evidence of PU's substantial impact on the prediction of social media adoption by SMEs, as presented by the findings of previous studies (Patma et al., 2021; Chatterjee & Kar, 2020).
H1: PU positively affects the SMEs to adopt social media.

It is evident that when an innovation is perceived as user-friendly, it is a compelling motivator for users to embrace that technology (Ware, 2018). This statement underscores the positive relationship between PEOU and the adoption of new technology. Hence, in the context of SMEs in Indonesia, the willingness to adopt technologies like social media is contingent upon whether SMEs perceive it as a straightforward and non-complex tool. This remark aligns with prior studies, as highlighted by the significance of PEOU in affecting SMEs to adopt social media (Patma et al. 2021; Chatterjee & Kar in 2020)
H2: PEOU positively affects the SMEs to adopt social media.

The integration of social media into SMEs is often considered a well-suited concept, as it facilitates effective

communication with potential consumers and contributes to enhancing the overall fitness of business operations (Derham et al., 2011). In this context, a certain degree of alignment in organizational processes and tasks becomes critical to enable employees to utilize social media without encountering barriers stemming from a lack of prior familiarity with the technology. Previous studies have consistently confirmed that technology with a higher degree of compatibility is more likely to find overall adoption (El-Gohary, 2012; Hong & Zhu, 2006). Moreover, it is worth emphasizing that compatibility also emerges as an essential variable affecting SMEs to adopt social media (Chatterjee & Kar, 2020).
H3: Compatibility positively affects the SMEs to adopt social media.

SMEs show a tendency to embrace social media with confidence, as substantiated by Hung & Lai (2015). This tendency is notably contingent on several key factors, namely, the presence of adequately trained employees well-versed in social media usage, cost-effective internet infrastructure within the firm, and the absence of any resistance to the adoption of social media platforms. Moreover, the willingness of SMEs to adopt social media depends on the conducive nature of their operational environment (Chatterjee & Kar, 2020).
H4: Facilitating conditions positively affects the SMEs to adopt social media.

Evaluating trade-offs between advantages and opportunities is essential in estimating the associated costs (Sculpher et al., 2017). For SMEs seeking growth, costs represent a requisite technological investment (Chittenden & Ambler, 2015). In this context, the adoption of social media within SMEs faces a burden when the initial expenses are prohibitively high (Derham et al., 2016). Hence, it is essential to provide SMEs with affordable routes to connect with their clients (Zhang et al., 2019) through social media. In particular, social media appeared as a cost-effective technology, enabling SMEs to communicate with their customers while incurring minimal expenditures (Kaplan & Haenlein, 2010; Zhang et al., 2019). Therefore, it is likely that an enterprise will opt for SM adoption when the associated costs are reasonable. Furthermore, Orouji & Kafashan (2017) have observed that firms reporting numerous advantages over time, including cost-effectiveness and expanding their customer base, tend to engage in more extensive e-business operations. The cost-effectiveness of social media can be considered as one of the essential factors linked to its adoption within organizations (Tajudeen et al., 2018).
H5: Affordable cost positively affects the SMEs to adopt social media.

The adoption of social media results in some benefits for organizations, such as amplified revenue, fortified relationships, and cost and time savings (Apigian et al., 2005). Therefore, organizations that effectively leverage social media across various functions such as marketing, customer relations, and information retrieval are assured of experiencing favorable outcomes, including cost reductions, enhanced customer relationships, and augmented information accessibility (Tajudeen et al., 2018). Furthermore, social media empowers firms to readily pursue their brand presence, thereby enhancing their overall business operations (Walsh & Lipinski, 2009). This, in turn, offers valuable implications for improving the operational activities of SMEs (Harris et al., 2012). Previous studies have consistently confirmed the positive impact of social media adoption on SMEs' business (Chatterjee & Kar, 2020; Qalati et al., 2021; Tajudeen et al., 2018).

H6: Social media adoption has a positive impact on SMEs' business.

Methods

Measurement

To construct the measurement framework employed in this study, we drew upon insights from prior studies as sources. The resulting questionnaire encompasses a comprehensive set of 24 items developed to measure determinant variables, social media adoption, and the subsequent impact on business. These items were incorporated into the questionnaire utilized for data collection, proposing respondents with a series of close-ended statements that align with a 5-point Likert Scale (ranging from "Strongly disagree" as 1 to "Strongly agree" as 5). This approach facilitated the collection of pertinent responses, enabling a systematic quantification of the gathered feedback for further analysis. Table 1 summarizes the number of measurement items and their respective sources for developing the instrument within this study.

Table 1. Measurement Development

Variables	Number of Items	Sources
Perceived of Usefulness (PU)	4	Chatterjee & Kar, (2020); Dwivedi et al., (2015); Elbanna et al., (2019)
Perceived Ease of Use (PEOU)	5	Rana et al., (2019); Chatterjee & Kar, (2020); Chung et al., (2017).
Compatibility (COM)	2	Yoon & Cho (2016); Chatterjee & Kar, (2020); Dwivedi et al., 2015; Misirlis & Vlachopoulou, (2018).
Facilitating Condition (FCO)	4	Chatterjee & Kar (2020); Vekantesh et al. (2012); Ng et al., 2019
Cost (COS)	4	Dwivedi et al., 2015; Chatterjee & Kar (2020)
Social Media Adoption (SMA)	3	Dwivedi et al., 2015; Shareef et al., 2019; Chatterjee & Kar (2020)
Impact on Business (IOB)	4	Dwivedi et al., 2017; Chatterjee & Kar (2020)

Data Collection

Data collection was conducted through a survey encompassing 186 SMEs located in Banten Province. The selection of these SMEs was methodically undertaken employing a purposive sampling approach, focusing on businesses that had actively integrated social media into their operations for a minimum of six months. The survey was administered by disseminating online questionnaires to SME proprietors or managers, facilitated by the SME community platform in Banten Province.

Table 2 summarizes the respondent profiles incorporated in this study. First, concerning their social media usage, most SMEs (87.9%) have 1-3 years of experience integrating social media into their business operations. Moreover, regarding occupational roles, it is noteworthy that 70.9% of the respondents are owners of these SMEs. Furthermore, a breakdown of the SMEs' operational terms reveals that 53.3% have been in operation for less than two years, 42.3% fall within the 2-5 years, and the remaining 4.4% have sustained their operations for over five years. Also, a predominant portion of the SMEs in this study operates within the culinary sector (66.5%). In the context of gross income per year, a substantial 76.4% of the SMEs featured in this study reported having a gross income of less than IDR300 million per year.

Table 2. Respondents Profile

Demographics	%	Demographics	%
The use of SM		*Industry Types*	
1-3 years	87.9	Culinary	66.5
> 3 – 5 years	10.4	Fashion	15.9
> 5 years	1.6	Crafts and Souvenirs	3.3
Positions		Cosmetics	2.7
Owner & Manager	70.9	Others	11.6
Manager	29.1	*Revenue per year*	
SMEs Age		< IDR300 million	76.4
< 2 years	53.3	IDR300 million-IDR2,5 billion	14.8
2-5 years	42.3	> IDR2,5 billion	8.8
> 5 years	4.4		

Results

Measurement's Validity & Reliability

The data analysis process was conducted employing the SmartPLS application, encompassing a sequence of essential steps ranging from the validation and reliability assessments of the measurements to the hypothesis testing, ultimately culminating in evaluating this study's model explanatory power. A comprehensive summary of outer loading values necessary for the convergent validity examination is presented in Table 3. As observed in Table 3, each item within the measurement surpasses the threshold of 0.7, affirming their aptitude as robust indicators for their respective variables (Hair et al., 2022). This aspect extends to the assessment of convergent validity, where Table 4 shows that the Average Variance Extracted (AVE) for all variables consistently exceeds the 0.5 standard, affirming the fulfillment of convergent validity in this study's measurements. Moreover, the Fornell-Larcker criterion, denoted by the square root of the AVE values for each variable, indicates that these measurements exhibit stronger correlations within their respective variables compared to the inter-variable correlations, a substantial representation of discriminant validity (Hair et al., 2022). Additionally, the composite reliability values, as outlined in Table 4, show that all variables exceed the 0.7 threshold, confirming the instrument's reliability and consistency as a measurement instrument (Hair et al., 2022).

Table 3. The Outer Loadings of Measurements

Items	Outer Loadings	Items	Outer Loadings	Items	Outer Loadings
PU1	0.866	COM1	0.918	COS4	0.849
PU2	0.891	COM2	0.914	SMA1	0.877
PU3	0.877	FCO1	0.817	SMA2	0.768
PU4	0.729	FCO2	0.842	SMA3	0.904
PEOU1	0.770	FCO3	0.902	IOB1	0.921
PEOU2	0.753	FCO4	0.827	IOB2	0.898
PEOU3	0.763	COS1	0.882	IOB3	0.882
PEOU4	0.821	COS2	0.897	IOB4	0.823
PEOU5	0.739	COS3	0.825		

Table 4. Validity and Reliability Analysis

Variables	AVE	Fornell-Larcker	Composite Reliability
PU	0.711	0.843	0.907
PEOU	0.592	0.770	0.879
COM	0.839	0.916	0.912
FCO	0.719	0.848	0.922
COS	0.746	0.864	0.911
SMA	0.725	0.852	0.887
IOB	0.777	0.882	0.933

Table 5. Hypotheses Testing

H	Path	Path Coefficients	P-Value	Remarks	R^2
1	PU → SMA	0.267	0.047	Supported	
2	PEOU → SMA	0.285	0.017	Supported	
3	COM → SMA	0.211	0.052	Not supported	0.538
4	FCO → SMA	-0.024	0.740	Not supported	
5	COS → SMA	0.131	0.065	Not supported	
6	SMA → IOB	0.793	0.000	Supported	0.629

Table 5 briefly presents the results of the six hypotheses tested within this study. H1 and H2, investigating the effect of PU and PEOU on SMA, respectively, indicate positive path coefficient values, precisely 0.267 and 0.285, accompanied by p-values of 0.047 and 0.017. These results confirm the support for H1 and H2. On the contrary, H3 (the effect of COM towards SMA) and H5 (the effect of COS towards SMA) display positive path coefficients (0.211 and 0.131, respectively). However, the p-values for H3 and H5 exceed the 0.05 threshold, signifying that H3 and H4 are unsupported. Similarly, H4 (the effect of FCO towards SMA) has a negative path coefficient (-0.024), indicating that H4 is not supported either. However, the results of H6, which investigates the impact of SMA on SMEs' business, indicate a positive path coefficient of 0.793, accompanied by a p-value of 0.000, which strongly supports H6.

Discussion

The results show that the hypotheses formulated from the conception of TAM (Davis, 1989), which are the effect of PU towards SMA (H1) and the effect of PEOU towards SMA (H2), are found to have been supported through this empirical study. These two linkages have received support from earlier research studies (Patma et al., 2021; Chatterjee & Kar, 2020). Nevertheless, the results of this study reveal that the hypotheses stemming from technology acceptance theories outside of TAM (Davis, 1989), specifically UTAUT2 (Venkatesh et al., 2012) and the Diffusion of Innovation (Rogers, 1983), do not discover support. In nature, within the scope of this study, it becomes evident that TAM theory (Davis, 1989) possesses a superior capability in elucidating the dynamics of social media adoption among SMEs compared to the other two theories.

An additional significant outcome of this study lies in its success in uncovering the impact of social media on SMEs' business endeavors. The study provides convincing evidence that adopting social media exerts a significantly positive impact on SMEs' business, as indicated by an explanatory power (R^2) of 0.629. Furthermore, this finding accumulates support through empirical testing, aligning with prior research findings (Chatterjee & Kar, 2020; Qalati et al., 2021; Tajudeen et al., 2018). Therefore, SMEs' adoption of social media is empirically affirmed as an effective and advantageous strategy for enhancing SMEs' business performance.

Conclusion

This study provides pivotal empirical evidence that sheds light on the profound implications of social media adoption within SMEs in Indonesia. It clearly demonstrates that the adoption of social into SMEs' operations generates substantial net benefits, significantly enhancing their performance in terms of impact on business. It also found that the SMEs' behavior in adopting social media has relied on the perceived of usefulness and perceived of ease of use, which are derived from TAM theory (Davis, 1989).

Theoretical Implications

Our analysis reveals that variables rooted in the Technology Acceptance Model (TAM) theory stand out as robust drivers of adoption. This observation underscores the prominence of TAM within the context of SMEs in Indonesia, where these variables successfully stimulate and encourage social media integration into their business practices. Intriguingly, when we turn our attention to variables derived from alternative theoretical frameworks, such as the Diffusion of Innovation Theory (compatibility) and the UTAUT2 (facilitating conditions and costs), the results do not align with the prevailing trend observed in the case of TAM. These variables, while well-established in the literature, do not exhibit significant support within the unique context of Indonesian SMEs in the domain of social media adoption. This divergence in results prompts a deeper reflection on the nuanced nature of technology adoption within SMEs in Indonesia. It highlights the necessity of considering the specific theoretical lenses through which this phenomenon is understood.

Recommendations

Managerial Implications

The advantageous impact of social media adoption on SMEs' business emphasizes the significance of this factor for policymakers, encouraging them to prioritize and facilitate the adoption of social media among SMEs in Indonesia. Given the substantial and demonstrably positive effects that Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) have on social media adoption, policymakers must prioritize creating an environment in which employees of SMEs not only perceive the utility of incorporating social media into their business strategy but also find the process of adoption to be straightforward. Policymakers, specifically SME owners and managers, have a crucial role in cultivating an atmosphere where employees within SMEs not only acknowledge the utility of SM but also find the adoption process user-friendly. By addressing these essential aspects, policymakers can significantly increase SMM adoption among SMEs.

Limitations and Future Directions

Although this study has successfully achieved its research objectives, it is imperative to acknowledge the research limitations that have emerged, offering valuable opportunities for future investigations. First, the scope of our research was confined to a selective sample drawn only from Banten Province. It is essential to recognize that Indonesia encompasses a vast landscape comprising 38 provinces. Consequently, the external validity of this study may be constrained due to this regional focus. Hence, it is essential to extend future study attempts to encompass SMEs from a broader spectrum of Indonesian provinces. Secondly, our model has the explanation power of 62.9% for explaining the variance of impact on business. This study leaves considerable room for additional investigation. Hence, in future investigations, it is desirable to consider incorporating a more extensive array of research variables derived from other well-established technology acceptance theories. Integrating these additional variables can facilitate a more comprehensive understanding of the complicated dynamics in social media adoption by SMEs.

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Review of Graduate Theses Conducted in Turkey on the Use of Technology in Mathematics Teaching

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Abstract: As developments in technology progress, their use in education in general and in mathematics teaching specifically increases. The aim of this study is to explore the potential of technology use in mathematics lessons in the schools by examining prior research on the use of technology in mathematics teaching. Within the scope of the study, a literature review was conducted to examine a total of 46 graduate theses conducted in Turkey in the last two decades. Relevant studies were accessed using search keywords such as “mathematics teaching”, “geometry teaching”, “technology use”, and “computer supported education” through Turkish Higher Education Council’s online database of graduate dissertations. The gathered theses were read in detail and summarized using an annotation method. They were categorized according to their research problems and purposes in three main groups: studies investigating the effect of technology use on students’ math achievement and attitude, studies investigating consequences of technology use on students’ perceptions or opinions, and meta-analysis studies of technology use in mathematics education. They used mostly experimental research methods and focused mostly on achievement and attitude. Their findings reveal that the use of technology in teaching makes mathematics lessons more enjoyable, affects students’ attitudes positively, increases achievement and makes concepts more meaningful through visualization.

Keywords: Mathematics teaching, Technology use, Literature review, Graduate theses

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Introduction

Today’s education approach is mostly student-centered, and teachers act as guides to students by showing them the ways to access information and help them in their constructing knowledge process. Technology has a key role in this educational approach because computers have recently become a primary and even incomparable tool used in many areas such as accessing, sharing and storing information. It is now widely-accepted that using new technologies in the field of education enables students to appeal to more sense organs by visualizing teaching materials compared to traditional teaching methods and thus enabling more meaningful and permanent learning (Açikgöz & Akman, 2023; Akman & Açıkgöz, 2022; Cakir et al., 2019; Jonassen, Peck & Wilson, 1999; Ozturk, 2023). The use of technological materials has become essential to keep up with our age where education and technology are intertwined. In the literature review conducted by Koc (2005), it was revealed that the effective and efficient use of technology as a learning tool will show a noticeable improvements in students' achievements, interests and attitudes, communication skills, and higher-level thinking skills.

Mathematics, which has a very wide area of use, is defined as the common name of sciences such as arithmetic, algebra and geometry that examine the properties of quantities based on numbers and measurements (TDK, 2023). The science of mathematics is a symbolic language of the human mind, the transformation of abstract symbols into concrete ones. It involves processing information, generating information, making predictions, and solving problems using this language (MEB, 2018). The foundation of mathematics is based on logic and paves the way for rational thinking. According to Baykul (2003), mathematics is the tool used in daily life problems. The mathematics curriculum in Turkey aims for students to develop problem-solving skills, obtain mathematical thinking and application skills, use mathematics correctly, effectively and usefully, value mathematics and mathematics learning, and know the historical development of mathematics, the scientists who contributed to the development of mathematics and their works (MEB 2018).

Mathematics courses taught in the schools contains abstract concepts by nature. When the difficulty in perceiving abstract concepts arising from the characteristics of children's developmental levels is added to this situation, some prejudice against mathematics may occur. The integration of technology into the current school system can contribute to eliminating such prejudices that mostly due to anxiety and fear. Technology use in mathematics teaching is very important in terms of several reasons such increasing interest in mathematics lessons, reducing anxiety and fear, developing positive attitudes, increasing the success of the lesson, and more importantly, developing effective thinking habits such as analytical and critical thinking in students (Halat & Peker, 2011). With the use of new technologies, teaching mathematics may become fun, just like teaching every subject. Since the abstract concepts inherent in mathematics make teaching difficult, the desire to concretize and give meaning to these concepts has created the need to use technology in mathematics teaching. Technological tools facilitate the concretization of concepts and hence students' interest and motivation in the course increases, and teaching is facilitated by incorporating video and audio. Mathematics teaching is a very convenient field for the use of technological resources. In this context, it is important to reveal the implications that technology has for mathematics teaching in the schools.

Purpose of the Study

This study aims to analyze prior research conducted in Turkey on the use of technology in mathematics teaching in order to explore the potential of technology use in mathematics lessons in the schools, get familiar with the current research practices and trends, and make implications for future research in this field.

Method

The study was designed as a descriptive survey with document analysis as a data collection tool. The researchers conducted a literature review of master's and doctoral theses completed in Turkey in the last two decades. They accessed relevant theses through the National Thesis Center operated by the Turkish Council of Higher Education. This center regularly collects theses as an online database and makes them accessible to users via a search engine. Search keywords like "mathematics teaching", "geometry teaching", "technology use", and "computer supported education" were used to reach appropriate theses.

The researchers analyzed the theses returned from this online search through four-step content analysis. In the first step, they scanned the titles and abstracts of the theses for suitability with the scope. Then, they carefully read the full text of selected theses. Next, they created annotated summaries including research questions, method, sample, data, and results. Last, they categorized theses according to similarities and differences in their research purpose or questions under major groups.

Results

A total of 46 graduate theses were determined to be appropriate with the study purpose and included in the review. Of these, only three of them (7%) were doctoral dissertation while the rest (93%) were master's thesis. Figure 1 below presents the distribution of their years. As can be seen in the bar graph, the number of thesis tends to increase over the years with a remarkable jump as of 2010 and a fall as of 2020.

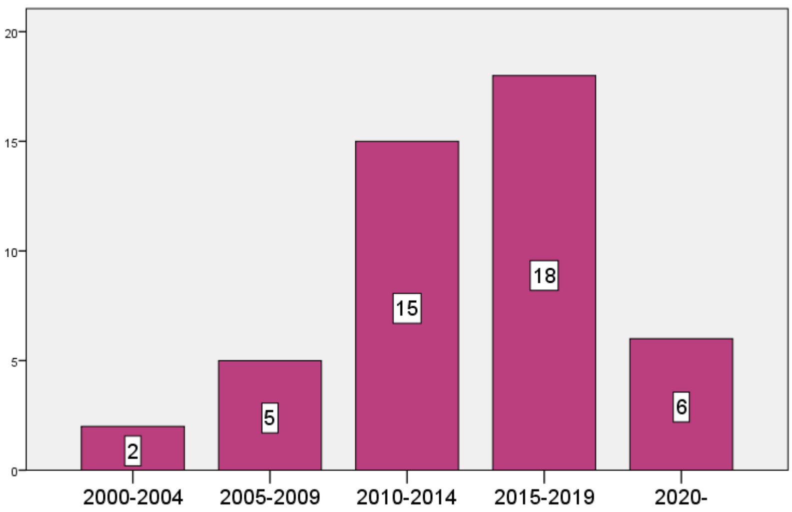

Figure 1. Years of Theses Reviewed

Regarding their research methods, the majority used experimental research design (83%), followed by survey (11%) and mixed method designs (6%). As far as their target population is concerned, most of the theses (71%) were conducted in middle schools with fifth to eighth grade students being the research participants. The rest of the theses were conducted in high schools with ninth to twelfth graders (19%), primary schools with first to fourth graders (5%) and universities with undergraduate students (5%). Figure 2 shows the sample sizes of the research studies conducted within the theses reviewed. They preferred small sample size as the majority of them (83%) were conducted with one hundred or fewer participants. The kinds of technological applications used or focused in theses were represented in Figure 3 below. Tutoring or math related software (61%) were the most used technologies followed by presentation tools (13%), drill-and-practice software (11%), educational games (9%), interactive board (4%), simulation (4%) and video (2%).

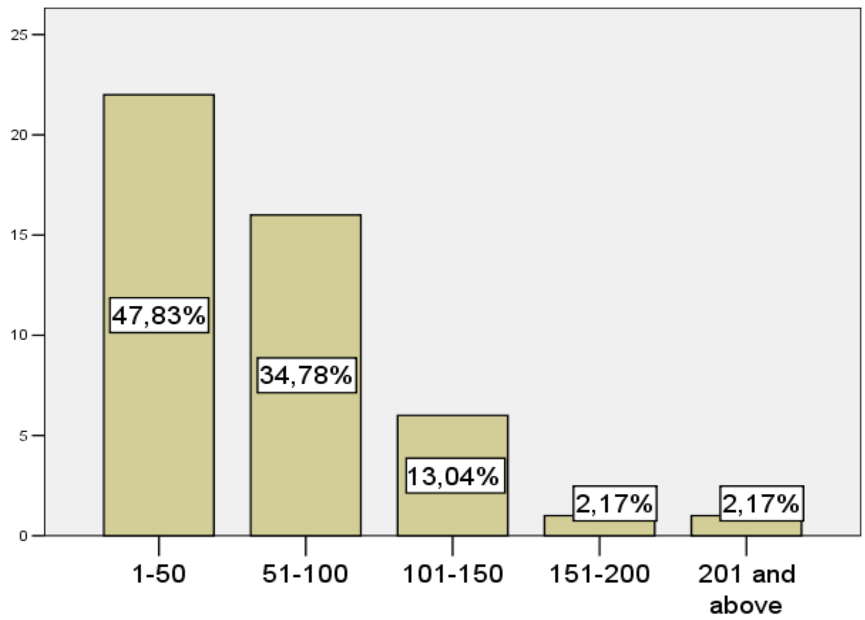

Figure 2. Sample Sizes Preferred in the Theses Reviewed

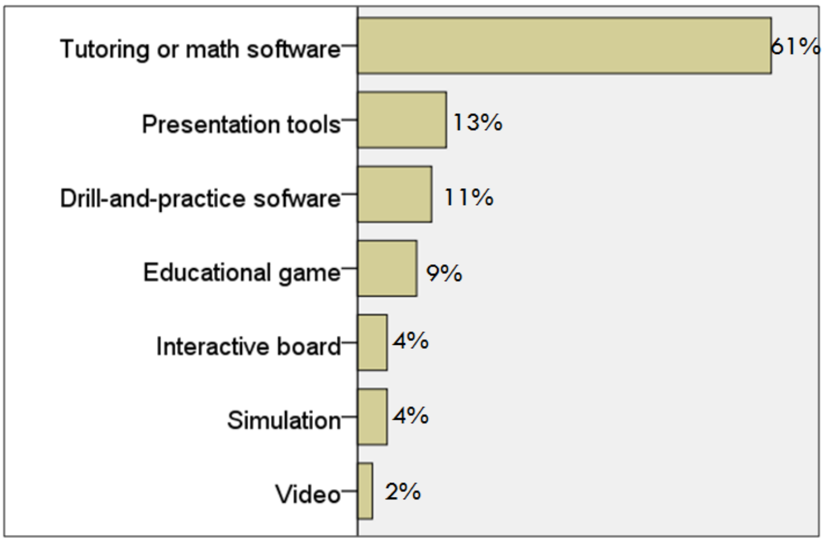

Figure 3. Technologies Employed or Focused in the Theses Reviewed

The data collection methods employed in the theses distribute as follows: tests (77%), scale (72%), interview

(22%), self-evaluation (2%) and worksheet (2%). Some of the theses used more than one of these methods together. They examined a number of variables as shown in Figure (4) including achievement (77%), attitude (46%), math anxiety (9%), self-efficacy (7%), mathematical or epistemological belief (7%), opinion (4%), reflective thinking (4%), motivation (4%), misconception about math concepts (2%), meta-cognition (2) and geometric thinking (2). Similar to data collection tools, some theses examined more than one of these variables within the same research.

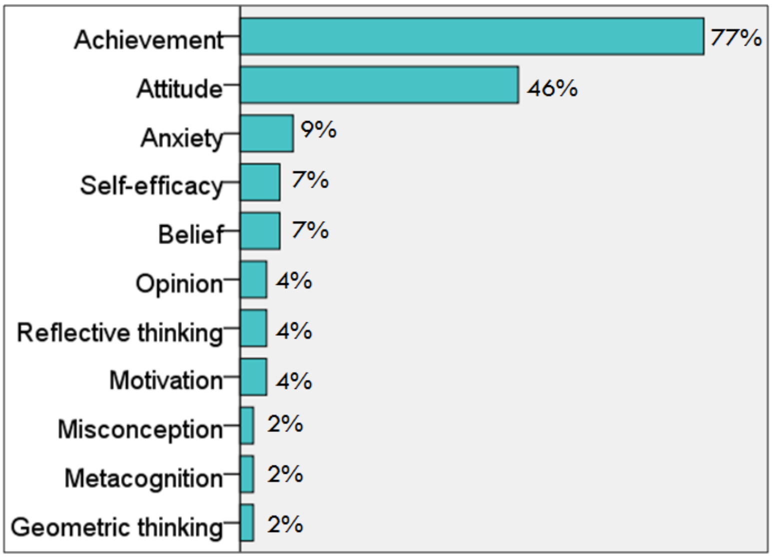

Figure 4. Variables Examined in the Theses Reviewed

The reviewed theses were categorized according to their problem statements or research questions in three groups. In the first one, there are 34 studies (74%) investigating the effect of technology use on students' cognitive and affective behaviors. The common aspect of these theses is to compare technology-supported instructions with the traditional ones in terms of various dependent variables. Thirty theses used achievement as the dependent variable and the majority (85%) reported positive effect (e.g., Acikgoz, 2018; Kuslu, 2015; Sevgi, 2020) whereas a few (15%) reported no significant effect (e.g., Bakar, 2018; Sabuncu, 2019; Tataroglu, 2009). Seventeen theses treated math attitude the dependent variable and around the half (53%) reported positive effect (e.g., Hot, 2019; Okuducu, 2020; Vahit, 2019) whereas others (47%) reported no significant effect (e.g., Sahin, 2016; Sataf, 2010; Yavuzkan, 2019). There are also some theses showing positive effect of technology use in math teaching on motivation or interest in math (e.g., Helvaci, 2010), math anxiety (e.g., Arslan, 2008), epistemological belief (e.g., Egelioglu, 2008), and geometric thinking (Ozcakir, 2013) while there are no theses showing negative effect or insignificant effect on these variables. On the other hand, few theses indicated no significant effect of technology usage in math teaching on self-efficacy (Erginbas, 2009) and metacognition (Dundar, 2015).

In the second group of the studies, there are 10 studies (22%) investigating students' perceptions or opinions about technology use in math instructions. They either revealed the current status of students' perspectives about the use technology in mathematic lessons or described students' reflections after participating in a technology-enhanced learning activity. Based on the findings of these theses, positive student views include supporting learning complex/abstract topics through visualization (e.g., Inam, 2014; Taslibeyaz, 2010), providing engaging and entertaining learning experience (e.g., Koysuren, 2018; Zengin, 2019), enhancing interest in mathematics (e.g., Cengiz, 2017; Unluturk Akcakin, 2016), increases drill-and-practice (e.g., Simsek, 2010), saving time and thus allowing for doing various/further activities (e.g., Bayturan, 2011; Hangul, 2010;) and promoting individual/personal learning styles (Simsek, 2010). On the other hand, negative student views albeit not much comprise disrupting classroom discipline (e.g., Zengin, 2019), belief of unsuitability of technology for some math topics such as factors, roots, and calculations (Hangul, 2010) and inefficiency of technology due to technical problems such as computer/internet issues (Zengin, 2019).

In the third group of the theses, there are 3 studies (6%) conducting meta-analysis of research studies on technology use in mathematics education. They determined the overall impact of technology-supported math instruction on some variables by combining the findings of prior studies including articles, proceedings and theses with meta-analysis/synthesis method. They indicate positive and medium to large effect of technology use in math teaching on academic achievement (mean effect sizes=.68 and .93) (Demir, 2013; Uyaniksoy, 2022), positive and medium effect on problem-solving skills (mean effect size=.58) (Gursoy, 2017) and positive and small effect on math attitude (mean effect size=.46) (Uyaniksoy, 2022).

Conclusion

This review of theses conducted on technology use in mathematics teaching in the last two decades in Turkey showed that the number of thesis increased after the initiation of FATIH project, a nation-wide technology integration reform, whereas it decreased due to the COVID-19 pandemic. The reviewed studies were designed by mostly quantitative research approaches and statistical data analyses. The majority of research evidence belonged to the population of middle and high school students and gathered from small samples. Most of the research focused on the use of software specifically designed for math subjects (e.g., GeoGebra, Mathematica). Student achievement and attitude towards mathematics were over-researched variables. It has been observed that using technology-supported activities, materials and educational games in mathematics teaching is very effective in increasing academic success and positively improves student attitudes towards mathematics lessons.

In addition, using technology in math courses has been shown to facilitate easier and meaningful student learning, develop positive student perceptions about mathematics, and motivate students to study mathematics. Based on the findings of this review, it is suggested for future researchers to use qualitative research methods for detailed understanding of the potential of technology use, focus on different student populations like university students, investigate variables other than achievement and attitude, keep up with new technologies and investigate their potential in math teaching, and conduct similar reviews on other research publications such as journal articles, proceedings and so on.

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Online Interactive Book Reading and Game Applications for Individuals with Autism: A Case Report

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Abstract: The aim of this study is to examine the implementation of online games and interactive book reading applications for individuals with autism with maternal participation. For this purpose, this case was studied with the support of mother participation with a 2-year-old child diagnosed with autism of a family living in the Netherlands who immigrated from Turkey. In the study, online interactive book reading and game applications were carried out under the leadership of an expert, and in this direction, the interventions with the participation of the mother were monitored by the expert. As a result of the study, the gains obtained in the final evaluation made on the child with autism show that online interactive book reading and game applications are effective in the development of the behavior and language skills of the child with autism.

Keywords: Autism, Online education, Interactive Reading, Early Childhood, Play.

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Introduction

The Internet is known as an opportunity presented to the world by the 21st century. With digitalization, access to information and everything digital has become easier thanks to the internet. Educational practices have also been affected by the opportunity of easy access with the developing technology. Today, online applications have started to be used to increase the effectiveness of educational activities. Especially in recent years, it has been seen that online education and teaching practices have been carried out at all levels of education (Sarıtaş & Barutçu, 2020). Online education is an education model that represents a process in which students and teachers do not have to be in the same physical environment (İşman, 2011) and offers lifelong education opportunities.

With the development of technology in recent years, online applications are preferred at all levels of education for different reasons (Nigam et al., 2021). Individuals' perspectives towards online education and their level of focus, course efficiency, and success levels show parallelism. In addition, online education environments organized by considering the needs of students are also effective in the success of online education (Usta, 2015). Rasmitadilla et al. (2020) also emphasized the need for teachers and parents to make a technological preparation before the lesson in order for online education to be successful. From this point of view, family participation in online education has been a remarkable issue. Because the support that parents provide at every stage of the children's learning process also contributes to their later lives. (Coley et al., 2020; Hanson & Pugliese, 2020). Bozkurt (2020) emphasized in his study that parents are more involved in learning and teaching processes in online education. This result reveals that the educational environments that parents share with their children are important in terms of quality and quantity (Zhang, 2020).

Special education is also among the fields of education conducted with online education applications. The home education process in special education tries to shape a norm with a broad perspective that meets both the needs of the individual with special needs and the educational needs of the family (Toseeb et al., 2020). The interactive book reading method is among the effective practices that provide support for the individual and the family together in the special education process and highlight the educational role of the family (Prince & Kalil, 2019). Interactive book reading method is one of the picture story book reading activities. While reading interactive books, children can actively participate in the reading process. The interactive book reading method is carried out in line with some determined strategies (Whitehurst, 1992). In the interactive book reading application, the child can move from the role of listening to the story to the role of telling the story, under the guidance of the adult. Thanks to this application, the child can communicate more actively, ask questions about the story and interpret the story. Therefore, interactive book reading is an application that supports the active learning of the child thanks to the active participant role it provides (Ergül et al., 2013; Ergül et al., 2015; Justice & Pullen, 2003; Lonigan et al., 1999). In addition, interactive book reading is a planned practice consisting of pre-reading, reading and post-reading (Akoğlu, 2016). When the researches on interactive book reading are examined, it is a method that improves children's reading comprehension skills, supports their language and social development, improves children's vocabulary and gives them print awareness, and contributes to their storytelling and illustration skills. (Efe & Temel, 2018; Ergül et al., 2017; Fettig et al., 2018; Fleury & Schwartz, 2016; Flores et al., 2014; Grolig et al., 2020; Holt & Asagbra, 2021; Karadoğan & Şahan, 2020; Kılınçcı et al vd., 2021; Simsek & Erdogan, 2015; Yılmaz et al., 2020). Interactive book reading program (IBRP) is among the early intervention programs for children with normal development. For this reason, it has been expressed in different studies that children support language and early literacy skills in the early intervention process (Lonigan et al., 1999; Justice & Ezell, 2002; Baydık, 2003; Akoğlu et al., 2014; Ergül et al., 2014; Ergül et al., 2015; Er, 2016). When the interactive book reading method is applied together with different educational methods, it produces more effective results. For example; Making use of game activities while making applications related to the interactive book reading program with children at risk contributes to the focus of the child (Ronimus et al., 2019). Play has a very important place in the development of individuals with special needs (Babik & Gardner, 2021). Play has an important role in providing individuals with special needs skills such as communicating in a social environment, working together, spending time with peers, and recognizing their individual characteristics (Küçük Alemdar, 2015). For this reason, individuals with special needs should create rich environmental stimuli in play environments, and this environment should be prepared in accordance with the type of special needs (MEB, 2014). In the play environments of individuals with special needs, first of all, care should be taken to have materials for their sensory development. Because as the learning experiences of individuals with special needs in play environments become different, their level of sensory development will also increase (Neaums, 2022). This research is important in terms of combining interactive book reading and play, which is an application that provides active participation of the child by strengthening the interaction with the child, with online education that supports the development of children in educational practices today. In line with these considerations, in this study, it was aimed to present a case study of a child with autism, living in the Netherlands, on online interactive book reading and play activities in cooperation with the mother and expert.

Case Report

R. is 2 years old and lives with his family in the Netherlands. After a normal pregnancy process, she was born with a normal delivery. His mother took care of him. He has an 8-year-old older sister. Both Dutch and Turkish are spoken at home. Mother and older sister mainly speak Dutch. Despite being two years old in August, the family applied to the hospital because he could not speak yet, could not do many of the skills that his peers did, and could not interact with the family. As a result of the medical diagnosis, it was learned that he was diagnosed with autism spectrum disorder. An application was made to a private education institution for the educational diagnosis of R. As a result of the application, a developmental evaluation was carried out by a child development specialist and the institution's guidance and psychological counselor. Since R. cried during the session and did not participate, his guidance and psychological counselor preferred AGTE to evaluate R. However, due to his negative behavior, the expert could not observe R. very much. As a result of AGTE, it was determined that there were developmental delays. Developmental practice suggestions were given to the family. The family has returned to the Netherlands. One month later, a telephone response was requested. The family did not make any communication for three months, and at the end of three months, they made a phone call back and stated that there was no progress. In the first online interview with the mother, all the details of how the child was raised from the pregnancy period to the present were discussed. It was questioned how family support was given to the child. It has been determined how much quality time the mother can spend with the child. In this direction, it was discussed about the conditions for the mother to carry out game activities and book reading practices. Then, due to the father's long working life, it was decided to conduct online games and interactive book reading activities with the mother. In the second online interview, the mother was first told about the interactive book reading program. Detailed information was given on how to implement the interactive book reading application. In the interactive book reading application, it was decided which book to read. In the third online interview, the trial of the interactive book reading application was carried out under expert guidance. Then, assuming that her child was in front of her, the mother made another application. In the fourth online interview, the expert explained to the mother how game-based practices were applied in the special education practices of the individual with special needs. How the teaching processes related to the concepts of color and number can be gamified was conveyed by the expert as a model. The basis of the practices that the mother will make with her child is formed in this way. As the interviews progressed with a focus on the child, additional interviews were conducted with the mother. Interim evaluations were made in these interviews. As a result of these evaluations, it was decided to carry out the process in online sessions and with mother interaction, if possible. With the support of the mother, it was decided to conduct an online developmental assessment with R. During the online evaluation, it was observed that R. was not even sitting on his mother's lap but was running away constantly. Thereupon, the evaluation was made with the mother, except for R.'s participation. A detailed anamnesis was taken. In the next session, the camera was set to show the entire room, and an environment arrangement was made in which the mother could communicate with the use of wireless headphones. In this prepared room, the game clock of R. and his mother was observed by the expert. A semi-structured observation was made. In order to evaluate some behaviors and skills, the mother was informed in advance and materials were provided. The mother was given instructions on how to perform the behavior desired to be observed. For example, “Get in front of R.,” “say his name,” etc. “If he doesn't look, shake the toy he likes and say his name”, etc. However, the behavior of the mother and R. during the game hour was also observed without any guidance. According to this observation result, it was observed that the mother gave too many instructions and long commands to R. In addition, it was observed that the mother gave R. the object she wanted by screaming, despite not making eye contact, and did everything R. wanted so that she would not cry. As a result of this observation, the first online session lasted 25 minutes with the decision taken jointly with the mother. Then, the time was increased according to the development of R. and the behaviors observed in the session. At the end of the lesson, after 10 minutes of lesson evaluation with the mother, the next online session was planned. In this way, nine sessions were conducted online. Later, the family came to Turkey. 12 face-to-face sessions were held at the institution. In this process, the session duration was increased to 40 minutes. A form has been created by the practitioners to follow the online sessions and plan the next lesson. In this form, there are titles such as long-term and short-term goals to be worked on in the session, an explanation about the skill being studied, the studies that attracted attention in the session, the materials to be used, the reinforcements to be used, and the notes for the next session. Thus, the process of evaluating the lesson and planning the next lesson was followed in a functional way. A face-to-face session was also held with the mother. In one of these sessions, the mother was informed about interactive game- based applications. In the face-to-face session, the play behaviors of the mother and R. were observed. It was observed that R. did not come into contact with his mother during the game. In addition, it was observed that he did not make eye contact, and that the mother wanted to take the toy she had picked up by screaming. It was observed that the mother constantly directed and interfered with R. In this intervention, it was seen that the mother was trying to attract R.'s attention with a toy other than the object she was playing. But despite the mother's best efforts, R. was playing on his own. R. did not include the mother in the game. In the other face-to- face session, the practitioner applied an interactive game to R. and the mother participated in the session as an observer. It was observed that R. wanted to play alone in the session and did not interact with the practitioner. It has been observed that R. tends towards kitchen toys. The practitioner sat opposite R. and observed R. When R. took the teapot and glass, the practitioner said, “R. He will drink tea, R. is pouring tea into the glass now," said he. It was observed that R. pretended to drink tea at this time. The practitioner also imitated R. by taking another glass. The practitioner continued his guiding statements by saying, "We are now drinking tea with R.". An interactive game was played by using reflective sentences in this and similar ways and allowing R. to be the leader in the game. The mother participated in all face-to-face sessions as an observer. The practitioner explained the important steps in the game to the mother. However, in each face-to-face session, interactive book reading was practiced with the practitioner, R., and the mother. It has been studied with books with thick covers, plain pictures, suitable for the 2 age group. The family was informed that after returning to the Netherlands, they will continue to work on interactive book reading in online sessions. The practitioner sitting opposite R. drew attention to the pictures and said the name of the picture R. was looking at. R. was allowed to take the book and turn the pages and examine the pictures. As a result of the face-to-face interview sessions, it was determined that R. learned seven of the objects in the game and interactive book reading, and when he saw it, he said his name while playing the game. Before returning to the Netherlands, the family was given a list of books, toys and materials related to R.'s development and age-appropriate skills to study. This list includes flash cards, matching toys, beads, string, children's picture and hardcover children's books, double puzzles, color and object cards, geometric shapes and toys. The duration of online sessions after the family returns to the Netherlands has been increased to 40 minutes. It has been observed that R.'s attention span and the duration of the game behavior increased. In order to support this development, eye contact was practiced in the online session to support mutual interaction with the mother in the game. The mother was asked to stick stickers on her face and take the stickers by looking at her face when she called R. A In addition, during the online session, the mother was directed by the practitioner to hold the mica plate to her face, R. to draw a picture on this plate, the mother to name the pictures R. drew, and to meet R.'s eyes. R. was reinforced each time eye contact was made with the mother. While each positive behavior was reinforced by using a fixed-rate reinforcement schedule at the beginning, a variable-rate reinforcement schedule was adopted as the behavior developed, and reinforcements were tried to be developed over time. As a reinforcer, the chocolates that R. loved were used by breaking them into very small pieces. Except for the session, these chocolates were not given to R. Activities were prepared by prioritizing the fact that the implemented program was game and interaction based by activating the senses. Homework was given to the family after each session, and they were asked to repeat the same session at least twice in a 40 minute session. As a result of all these sessions, it was observed that R. did imitation exercises with interactive play, recognized and started naming objects, and R. used words in the family's daily life. In order to increase the interaction of R. in the family, sessions were held with his older sister. The older sister often participated in the study as a model. For example, the mother first asked the older sister to show the object. Then he asked R. While the instruction was being studied, first the command to "take the toy" was given to the older sister and then the same command was given to R.. In order to improve the game interaction, sister and R. were asked to work together on activities such as playing dough and unconstrained painting. For example, the coloring pencils were placed away from R., near his sister. R. was allowed to ask his sister for the crayons. It was determined that he used many of these skills in his life, "for example, when he has something for dinner, he wants it by saying give it to his mother".

Along with game-based online applications, interactive book reading activities were first studied with the mother. Later, the work of mother and R. was followed by the practitioner in online sessions. In the selection of the book, attention was paid to determine a book containing the words R. was familiar with. Due to R.'s interest in animals, it was decided that the book to be used in interactive book reading should be about animals. The content of the story books prepared by the Ministry of National Education was examined and found suitable for interactive reading. Interactive book reading steps were explained to the mother. The first application was carried out online between the mother and the specialist. First of all, the expert read the book, the mother became the listener (child). Afterwards, the roles were changed and the mother became the reader and the expert listener (child). While the mother was applying, guidance and corrections were made where necessary. It is mentioned that by examining the cover of the book, it is possible to talk about the pictures on the cover. It was informed that R. could start to study from any page he wanted, and read any book he wanted, even if it was multiple times. The words aimed to be taught were determined by examining the book. Cards related to these words have been prepared. For example, the chapters in the book where the words are mentioned; After the sentence “per month, my dog” was read, “R. Look at this dog”, then the prepared card was shown and instructions were given such as “this dog, show the dog, the dog makes a sound like woof, come on, say the same”. R. was given the opportunity to speak, and the pictures on the page he examined were discussed. Unfamiliar objects were shown, their names were said, and R. was asked to repeat those words. After each repetition, feedback was given to R. After the words he said correctly, "well done, how well you said" etc. reinforced with sentences. The words learned during the reading period were repeated frequently. The studied words are associated with daily life. Ö for example; “We saw a dog in the park yesterday, it was making a 'woop woo' sound, remember?" dialogues such as. At the same time, sentence expansion applications were made by the mother after R. repeated the words. For example;

R. showed the dog picture, mother; "Yes, it's a dog, a cute little dog with soft fur," he said. R oller changed mother became a listener and repeated the pictures R. looked at and the words she said. After reading, the word cards that were aimed to be taught in the book were studied and repeated one by one. A brief summary of the book is often made. The heroes and words in the book are reminded. With the role-playing technique, Mother, R., Practitioner also took the role of mother. First of all, the words aimed to be acquired by the child were determined. Care has been taken to ensure that these words are words used in daily life. Afterwards, the book was held towards the mother and read in such a way that she could see the pictures. The determined words are shown through the pictures. For example, one of the words is “cat”. After the sentence containing the word cat was read, the picture of the cat was shown, then the mother was asked to show the cat in the book, and then R. was given the opportunity to make a sound by saying "the cat makes a meow sound, let's be a cat now". In order for the mother to make a meow sound, the mouth was shown and she was asked to imitate the sound by drawing attention with exaggerated lip movements. Showing a toy cat, he says "look at this cat" and commands "show the cat". It is verbally reinforced when the mother shows the cat or completes her name. The practitioner gave the book to the mother and allowed her to turn the pages. On the pages where he looked at his pictures, he asked the mother what kind of questions. Then, the mother was asked to perform the same application with R. Feedback and corrections were made during the implementation. The determined words were repeated continuously. The skill demonstrated by R. in the first and last session of the interactive book reading program has been prepared to be given to the school he will attend.

In this process, R. came of age to start school in the Netherlands. Since he cannot communicate by speaking Dutch, she must attend a language training program. Due to the long duration of the program to be implemented, as a result of a general evaluation with the family, it was decided to take a break from the online sessions for a while and focus on participation in the program in the Netherlands.

Discussion and Conclusion

The aim of this case report is; The aim of this study is to examine the effectiveness of online interactive book reading and play on a child with autism. It has been observed that the program conducted with online mother interaction has positive effects on the child's cognitive, receptive language skills and motor development. However, it was observed that expressive language skills showed a limited development. There are studies in the literature showing that interactive book reading improves children's language skills. In the compilation study of Towson, Akemoglu, Watkins, Zeng (2021); shows that interactive book reading is a viable intervention that positively affects the development of language skills for children with developmental delays or delays. In the study of Chow and McBride-Chang, (2003); shows that the 8-week interactive book reading intervention applied to kindergarten children has strong and direct effects on the language development of children. In the study of Akaoğlu, Ergül and Duman (2014); It has been shown that interactive book reading practices have positive effects on the expressive language skills of children aged 4-5 years in need of protection. Hargrave and Senechal, (2000), in their study; They state that the interactive book reading program applied to children with delayed speech improves children's expressive language skills. Lever and Senechal, (2011) in their study; It has been stated that 8 weeks of interactive book reading applied to 5-6 year old children expands the vocabulary of children. In the study of Dale, Crain-Thoreson, Notari-Syverson, and Cole, (1996), it was seen that the interactive book reading education given to the parents of children with delayed speech at the age of 3-6 improved the expressive language skills of the children. In the research conducted by Acar Şengül (2019); It has been concluded that interactive book reading applied to children with delayed speech between 29-36 months has positive effects on children's language development. In the study of Lonigan, Anthony, Bloomfield, Dyer, and Samwel (1999), it was seen that interactive reading had a positive effect on the language skills of pre-school children at risk. In the study of Er, Yıldız Bıçakçı and Aral (2018); It has been determined that the parents of 46-62 months old children have positive effects on the language development of the children when they read interactive stories. In the study of Kotaman (2008); It has been determined that the interactive book reading education given to the parents of preschool children improves the receptive vocabulary. It is known that the involvement of parents in the education process of children has a positive effect on the education process and the development of the child (Şeker, 2013; Turan, Koca & Uzuner,2019). In addition, the effectiveness of play-based intervention programs, which have an undeniable importance in the development of children, has also been proven by researches. In the study of Ekici, Yıldız Bıçakçı, Gürkan and Tatlı, (2019); It was emphasized that the parent-interactive neuroplay intervention method in a 28-month-old child diagnosed with autism spectrum disorder helped the autism findings of the case disappear. In the study of Beyazoğlu (2014); It has been stated that the practice of play therapy applied to a child with autism reduces the frequency of problem behaviors in the child. In the research conducted by Besler (2015); It has been seen that teaching with the video model presented with mother interaction improves children's game skills. In the research conducted by Ökcün (2008); It was emphasized that the practice of play activities with mother interaction improves the child's social interaction skills. Online programs, the frequency of use of which has increased with the pandemic process, is an alternative method. In the study of Kılıç and Arslan Kılıçoğlu (2021); It was stated that the program, which was carried out with an online application with mother interaction during the pandemic process, positively affected the development of the case with autism. In addition, studies show that online education with children with autism improves communication skills (Meadan, Snodgrass, Meyer, Fisher, Chung & Halle, 2016) and expressive language skills (Benson, Dimian, Elmquist, Simacek, McComas, & Symons, 2018). Based on the conclusion that this research supports the development of children with autism, it reveals that online education can be done in applications such as interactive book reading and games. Research is limited to a single case. In future studies, it may be recommended to study parent involvement and multiple case studies in children with similar development.

Notes

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The TOY Gamification Model: A Comprehensive Method to Effective Design

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Abstract: Gamification is an approach that solves real-life motivational problems with game design techniques by target a long-term behavioral change in participants. However, the application models in gamification design are limited and lack a holistic approach in scope. While existing models may seem sufficient on their own, they tend to focus on certain aspects of gamification design. Therefore, from a behavioral design perspective, managing sustained behavioral change requires gamification models to draw from different areas. The TOY Gamification Model utilizes existing previous models and present a more holistic approach. It consists of business objectives, targeted behaviors, personas, player's journey, core drives, game elements, rewards, technology, triggers and finally measurement phase. Each stage is described in the study in a way that can be understood by the reader. The TOY Gamification Model views each step as an iterative process and has structured the transition between the steps more flexibly. The study concludes with a brief evaluation.

Keywords: education, model, gamification, design

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Introduction

The emergence of gamification has brought about significant change in how we approach problem-solving, engagement, and motivation within various domains (Hamari, Koivisto, & Sarsa, 2014). In this context, the

Turkey Gamification Model (TOY) has been crafted to pioneer a comprehensive approach, encapsulating ten critical steps that guide the application of gamification strategies. This chapter delves into the rationale behind the development of this model and summarizes its fundamental components.

The TOY model has been meticulously crafted to respond to the evolving landscape of business objectives, user engagement, and the need for innovative, practical solutions. TOY gamification cards include many models in the literature such as the D6 Model (Hunter & Werbach, 2012), SAPS Framework (Zichermann & Cunningham, 2011), Player Type Framework (Marczewski, 2013), Flow Theory (Csikszentmihalyi, 2000), The Hook Model (Eyal, 2014). It aims not just to gamify experiences but to strategically align these gaming elements with defined business objectives, enhancing user engagement and performance (Figure 1).

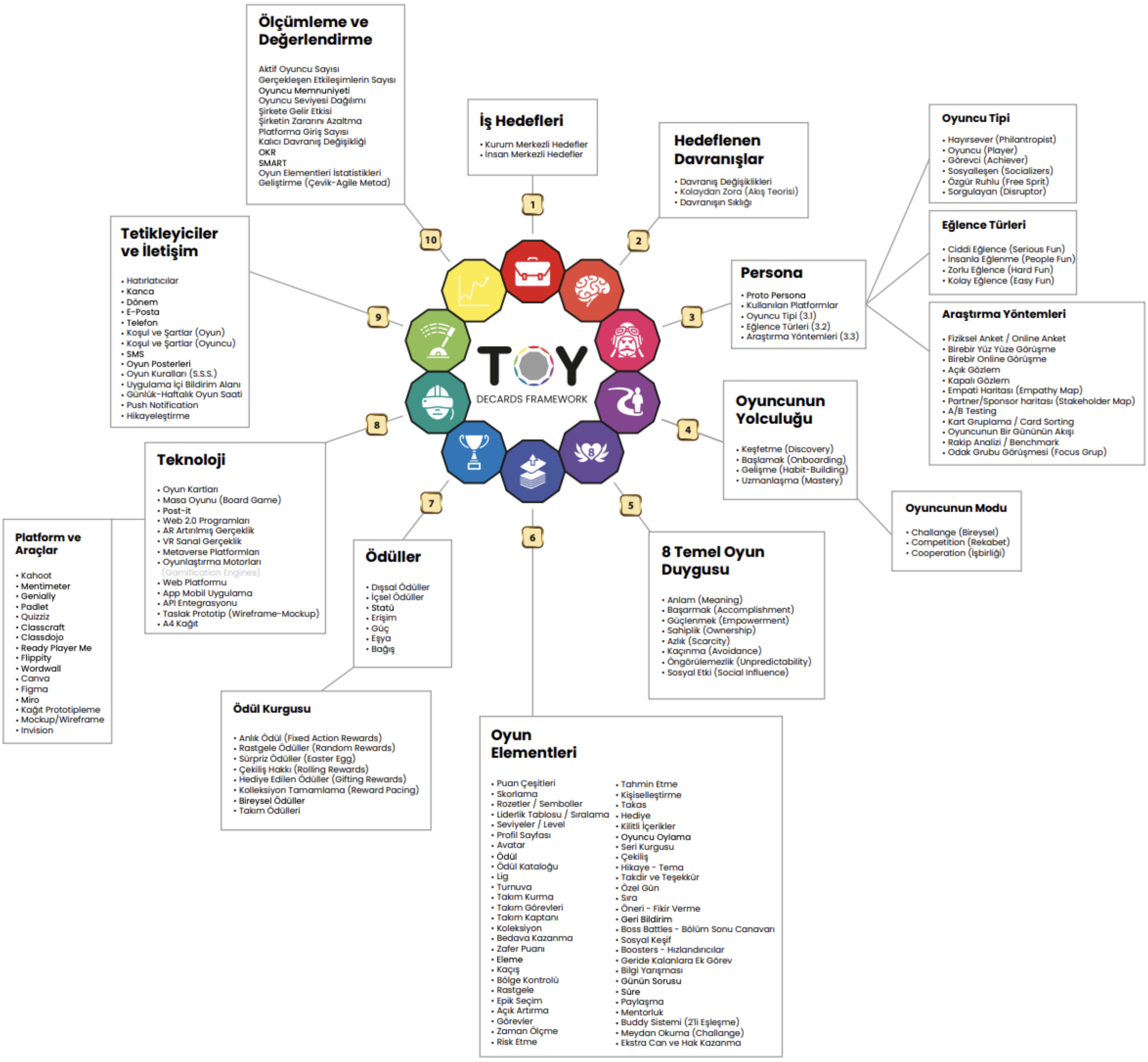

Figure 1. TOY Decards Framework

At the core of the TOY model lies a systematic ten-step process, each step contributing uniquely to the overall success of a gamification project. Before delving into the intricacies of the TOY model, it is crucial to establish the overarching goal of gamification through a concise sentence. This initial step helps to align the subsequent components of the model and kick-start gamification projects or initiatives effectively.

> *"We want to achieve the business goals of the institution by targeting the business goals of the institution with these determined behaviors, by taking the participants with this persona on this journey, by gamifying these measurement criteria with these game emotions suitable for the persona, with such rewards with these game elements, and with such triggers by using these technologies."*

In the TOY model, the first step to be considered in gamification designs is determining the business goal. The second step is to identify all the behaviors, good and bad, that lead to this business goal. After the behaviors are determined, the persona is selected in the third step. We can only make the same setup for some of the target audience. The journey in gamification fiction is different for everyone. Because gamification is human-centered, and people's motivations differ from each other. Therefore, in the persona step, personas are determined for the goals.

The player's journey is designed for the personas. Eight basic game emotions and game elements for these emotions are selected. There are 52 game elements in TOY gamification cards, but these are not limited to this number. Since all the elements in the model have been used and experienced in gamification designs made in Turkish companies/institutions, we included 52 of them in the framework. It is also imperative that the game elements are designed carefully. Although points are an effortless element, they can diversify into many things, such as experience points, reward points, and social points.

In designs, it is challenging to determine the purpose for which the score will be made and how it will be scored. Step 7 includes Rewards. In the literature, reward is among the game elements. However, in Turkey, gamification is frequently mentioned as a rewarding method. For this reason, we wanted to discuss the Award as a separate step. The technology in Step 8 refers to the technologies that will be considered in gamification designs. We covered various platforms and tools, from post-is to metaverse environments. In step 9, we present a framework comprising ten steps that address measurement methods and the Triggers and Communication step.

Figure 2. Hero Cards

TOY Gamification Decards include 10 Hero Cards featuring world-renowned gamification experts. Thanks to the links on these cards: BJ Fogg, designer of the Fogg Behavior Model; Mihaly Csikszentmihalyi, designer of Flow Theory; Andrzej Marczewski, designer of Player Types; Amy Jo Kim, designer of The Player's Journey, Octalysis Special thanks to Yu-Kai Chou, designer of the Model, Jesse Schell, author of The Art of Game Design, Gabe Zichermann, designer of the SAPS Model, Nicole Lazzaro, designer of the 4 Keys to Fun Model, You can reach the designer Nir Eyal and finally Roman Rackwitz, one of the Gamification Experts, on their work on gamification and consult our heroes (Figure 2).

10 Steps of TOY Gamification Decards

Step 1. Define Business Objectives

The first step of TOY gamification cards is to start with setting business objectives or defining relevant problems. Morschheuser et al. (2017), who reviewed many articles and interviewed different gamification experts, suggest starting the gamification process by identifying relevant problems and then deriving specific objectives to measure the success of the gamification project. Similarly, Werbach and Hunter (2012) emphasize the importance of clearly defining specific performance objectives when implementing gamification strategies. They explain that defining specific goals is critical for effective gamification as it helps to avoid potential failures. Based on the problem definition, the first step can be looked at from two perspectives (e.g., Birdi & Reid, 2013; Klever et al., 2016): Organizational goals and individual goals (human-centered).

From an organizational perspective, it highlights the first stage of conducting an organizational analysis to determine whether gamification is necessary to help an organization achieve its strategic goals. This stage involves gathering information about the current state of the organization to achieve strategic objectives and addressing key issues. This information can be obtained through objective performance records, feedback from others (benchmarking, customer surveys) or self-analysis by management teams. Gaps or deficiencies can be identified by comparing current performance with past performance, industry standards or desired levels (Birdi & Reid, 2013). Increasing sales, completing training and completing surveys are some examples of organizational goals.

On the other hand, individual analysis (Birdi & Reid, 2013) is a type of analysis that focuses on the goals of individuals suitable for gamification. Individual analysis can be to present the problem or listen to the goals from the employee's perspective when setting goals (Klever et al., 2016). Objectives such as an increase in the level of knowledge, socialization and change in the attitude of individuals are examples of individual objectives. Different methods such as tests, questionnaires and interviews can be used to determine this issue, which we will discuss in more detail in the following sections. These approaches increase the harmony between each individual and the organization.

The first step of TOY cards aims to identify both organizational and individual goals (human-centered goals) in the gamification process (Figure 3). At the end of the gamification process in an organization, employees may feel cheerful and enjoyable, but if gamification does not provide a benefit and create value for the organization, the effect of gamification will decrease. In essence, focusing only on the organization's interests or solely on individual goals may reduce the success of the gamification experience. For instance, while achieving sales targets represents the organizational goal, fostering social connection and increasing knowledge are individual goals. Therefore, it is important to establish both individual and organizational goals in gamification from the outset.

Figure 3. Business Target Cards

Step 2. Identify your Target Behaviors

Target behaviors mean specific actions or activities that are desired or encouraged within a gamified system. The second step in implementing gamification involves making the behaviors associated with the objectives measurable. Once the business objectives are set, the first thing to do is to identify target behaviors . It is important to identify measurable behaviors in order to rank them from easy to difficult and then determine how often they should occur.

Step 2.1. Define Measurable Target Behaviors

When designing a gamification system, it is important to focus on quantifiable metrics and desired player behaviors for creating a successful gameful experience (Chou, 2019; Werbach & Hunter, 2012).

We recommended establishing concrete and specific target behaviors, such as signing up for an account, posting comments, exercising, sharing information, visiting a restaurant, or making a purchase. These behaviors should align with the overall business objectives, even if the connection between them is indirect (Werbach & Hunter, 2012). A study including gameful design by Deterding et al.(2015) emphasizes the use of behavior chain analysis or similar methods to understand complex activities by breaking them down into chains of behaviors performed by different actors. By using this approach, activities such as weight loss can be deconstructed into supporting behaviors like healthy eating. The chain analysis reveals that healthy eating is influenced by factors such as avoiding unhealthy snacks, cooking healthy meals, planning meals, and purchasing healthy foods. These behaviors are interconnected and form a chain that contributes to the desired outcome (Figure 4).

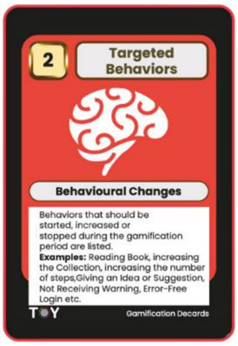

Figure 4. Behavioral Changes Card

Step 2.2. Adjusting Difficulties of Target Behaviors

Once you have defined the target behavior in gamification design, the next step is to determine the difficulty levels of target behaviors. For example, let’s consider the process of learning a foreign language, starting with vocabulary acquisition. It’s essential to sequence these target behaviors from the easiest to the most challenging. To assist this, TOY cards have benefited from Flow theory at this stage (Csikszentmihalyi, 2000) (Figure 5).

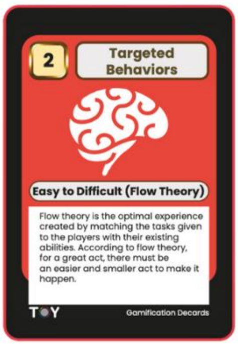

Figure 5. Easy to Difficult (Flow Theory) Card

Flow can be described as a psychological state characterized by intense focus, deep interest, and enjoyment. It represents a state of engagement that is not only satisfying but also inherently rewarding. This state of flow is achieved when an activity provides optimal stimulation, which in turn nurtures intrinsic motivation and lasting engagement for the user (Nakamura et al., 2019). The dynamic nature of this theory is defined by four distinct situations. When a user encounters a high challenge level along with a high skill level, it is called "flow." On the other hand, if the challenge is low and the user's skill is also low, it's described as "apathy." When the challenge is low, but the user's skill is high, the user tends to experience boredom or relaxation. Conversely, when the challenge faced by the user is high, but their skill level is low, it leads to feelings of anxiety (Csikszentmihalyi, 1988;2000).

Based on the flow principle in gamification design, users should have feasible behaviors. Therefore, the difficulty of the target behaviors should be based on the flow principle. That is, users should be at a level that will improve their skills while performing the target behaviors without feeling excessive difficulty. When users enter a state of flow, they can experience enjoyment, intrinsic motivation and a high sense of satisfaction (Csikszentmihalyi, 1990). Thus, basing the targeted behaviors in gamification designs on flow principles enriches the gamification experience and leads to more permanent behavior change.

Step 2.3. Mapping frequency of target Behaviors

To assess the likelihood of doing the target behaviors, we propose the Behavior Grid model developed by Fogg and Hreha (2010). Fogg's model is a framework they propose in behavior change studies and involves analyzing behavior changes based on time and categories (Figure 6).

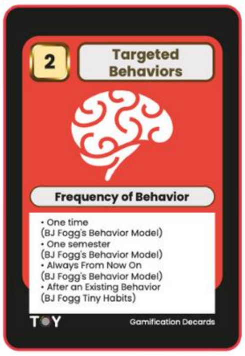

Figure 6. Frequency of Behavior Card

Fogg introduces a behavior grid that he associates with persuasive technologies for studying and designing human behavior. It determines whether the behavior is a one-time event, has a specific period (e.g., lasts for three months), or has developed into a persistent pattern (Daae & Boks, 2011; Fogg & Hreha, 2010). This card, which we proposed in gamification design, helps us to determine the frequency of the behavior (Figure 6). For example, the behavior of reading a book for a month shows a behavioral change in a certain period, while the behavior of eating healthy every day from today is a permanent and continuous behavior.

The model called the behavior wizard acknowledges the existence of more than one approach to change one's behavior. Fogg and Hreha (2010) stated that different strategies are necessary when trying to reduce behavior as opposed to increasing it. To use it effectively, you need a clear understanding of specific target behaviors and how to achieve them. When incorporating gamification, it is important to consider strategies such as performing measurable behaviors at one time, engaging in repetitive behaviors over time, or maintaining ongoing engagement.

The author makes this distinction to emphasize the importance of understanding categories of targeted behaviors based on time and intensity. For example, filling out a questionnaire at work may be a familiar behavior, while doing breathing exercises at work may be a new behavior. It is necessary to have knowledge about the type of behavior (new, familiar, frequency) before performing the new behavior. According to Fogg, the psychological and persuasive strategies behind engaging in a new behavior and engaging in a familiar behavior are different.

Step 3: Persona

Understanding the user is a fundamental concern when it comes to creating a meaningful gamification design (Nicholson, 2015). Gamification offers a unique experience for each individual because it is inherently human-centered, and people's motivations, objectives, and preferences vary significantly. Therefore, the third step in gamification design, which involves creating "Personas," holds exceptional importance. During this stage, the development of personalized profiles tailored to the specific objectives becomes imperative, as it enables a better understanding of the target audience's needs and allows for the customization of the gamification experience.

Each persona possesses a different set of motivations, goals, and preferences. This stage provides an in-depth insight into understanding users' expectations, needs, and behaviors. Thanks to the Persona card, you can categorize and name players motivationally and determine research methods. For instance, when a business is developing a gamification strategy, it can create different personas for young professionals, managers, or elderly individuals, allowing for the personalization of the design process and adapting to the requirements of diverse user groups. Consequently, numerous gamification designs have highlighted the significance of identifying personas or user types (Deterding et al.2015; Werbach and Hunter, 2014).

Step 3.1. Proto Persona

Personas play a crucial role in understanding and catering to our target audience. While traditional personas are typically based on extensive user research, there is another approach called proto personas. Proto personas differ from standard personas as they are based on stakeholder assumptions and validated with actual data, incorporating heuristics, market research, and intuition. Proto persona offers an opportunity to define the target audience, their needs, and behaviors (Jacobs, 2016). Proto personas are developed through brainstorming workshops and represent the organization’s beliefs about its users, serving as a starting point for evaluating products and services (Gothelf, 2012).

In the context of gamification, proto-personas are an important approach for user-centered work. Underlining this fact, we treated the proto persona as a separate card in TOY cards (Figure 7). While proto personas do not replace in-depth user research, they serve as a reference point in the UX process (Jacobs, 2016). Creating and naming three to four personas is important to gain a better understanding and frame tasks. Naming personas proves particularly beneficial in identifying player types and specific behavioral characteristics. For instance, assigning names like reward-seeker David or social butterfly Jasmine can be advantageous.

Figure 7. Proto Persona Card

Step 3.2. User types for Gamification

Gamification systems can be more effective when they are tailored to each user. Rather than a one-size-fits-all approach, gamified interactions that are designed to take into account each individual's personality, gender, persuasiveness, type of gamification, type of user and contextual/situational variables can increase the effectiveness of gamified interactions in promoting behavior change (Busch et al., 2015). Marczewski (2015) developed the Gamification User Types Hexad scale, based on human motivation (Pink, 2011) and his own experience with player profiles, to complement this need for users. Gamified user types have classified those interacting with gamification applications in different ways. These are, “Philanthropists,” “Socialisers”, 'Free Spirits,' 'Achievers,' and 'Players' (Tondello et al., 2019).

Marczewski (2015) argued that each type of gamification has different motivations and preferences. Socialisers are primarily interested in building relationships and joining groups and seek to fulfil their need for social relatedness. In contrast, "Free spirits" types” value personal autonomy and self-expression and seek their paths and strategies within the adaptation. "Achievers" on the other hand, are focused on scoring points and completing tasks and specializing on specific skills. "Philanthropists" might seek a sense of purpose or meaning to the application and, find fulfilment in making sacrifices and assisting others altruistically. For these “Player” types, rewards serve as their primary motivation.

Conducting persona studies in gamification design is a time-consuming process that is essential for understanding the user. Gaining insights into the players, their motivations, and their needs, enables designers to chart the right course in gamification and prevents them from losing their way. Designing gamification without a clear understanding of the player can impede the gameful experience.

The importance of the Player Type card in the 3.2 step of the TOY cards lies in recognizing the significant variations in motivations and preferences among users, as highlighted by Marczewski and other researchers. These cards serve the purpose of identifying distinct user types, each driven by unique sets of motivations (Figure 8). They provide a foundation for personalizing the gamification experience and increasing user motivation, in alignment with the findings of Marczewski. The Player Type cards offer a fundamental guide for crafting customized gamification strategies, acknowledging the diverse player types and their distinct preferences and motivations.

Figure 8. Player Type Card

Step 3.3. Types of Entertainment

Each persona seeks different entertainment for the activity. While one user's notion of entertainment may be driven by a sense of competition, for another user, it may be driven by a sense of cooperation and social interaction Therefore, gamification strategies must effectively attract a wide range of users, considering "entertainment." Gamification designs focusing on users' personal preferences and entertainment types can increase engagement and drive behavioral change. That's why we included the entertainment types of cards under the Persona step (Figure 9).

Figure 9. Types of Entertainment Card

Understanding player motivation is crucial aspect in gamification design and according to Lazzaro (2004;2009), there are four basic emotions behind player motivation. These are hard fun, easy fun, serious fun, and people fun.

Serious fun: It can create emotions that make users or players believe that they can change the way they think, feel, and behave, or that they can accomplish a serious task. This type of fun helps the user to experience emotions such as relaxation, excitement, increased self-confidence, and the satisfaction of a job well done

(Lazzaro, 2009).

Serious fun: this type of enjoyment evokes emotions that empower users or players to believe that they can change the way they think, feel and behave, or that they can accomplish a serious task. This type of fun helps the user to experience emotions such as relaxation, excitement, increased self-confidence, and the satisfaction of a job well done (Lazzaro, 2009). For instance, think of the exhilaration a person experiences while riding a roller coaster at an amusement park.

Hard Fun: In this category of entertainment and player motivation, players enjoy testing their skills and achieving their goals while playing the game. This type of game offers challenges and strategies for players. Thus, the sense of control, mastery, and completion that the player feels while playing the game is extremely satisfying (Lazzaro, 2004). This is akin to the “Development & Achievement” Core Drive developed by Chou (2019), which we will elucidate further. Users derive enjoyment from self-improvement, becoming experts or completing tasks. The foundation of this form of entertainment lies in a sense of competence (Ryan & Deci, 2000) and mastery (Pink, 2011).

Easy Fun: This type of fun, unlike hard fun, is not about winning, but about enjoying the game. The immersion effect makes the player curious about the game and player more immersed. This type of entertainment arouses more curiosity, mystery, and admiration in the player. Players who enjoy this type of game prefer to explore, solve puzzles, and wonder about the story (Lazzaro, 2004). Easy fun refers to games that the individual enjoys with curiosity and interest. These types of games are generally designed for individuals who relish exploration and leverage their creativity to evoke more curiosity in the game. Hypercasual games serve as an example of this fun category.

Social Fun: The social fun type emphasizes the importance of playing with other players. It is stated that players enjoy interacting with other players in and out of the game. Lazzaro (2004) explains in his studies that players not only enjoy spending time with their friends, but that humour, feelings of competition and cooperation, and teamwork play an important role. In this study, Social Entertainment type refers to the type of entertainment associated with elements such as relationship need, and team need. This, again, aligns with concepts of relatedness and social influence (Chou, 2019; Ryan & Deci, 2000), which will be discussed in the next section.

Understanding game-related emotions in gamification design is important in determining the path to be followed in your gamification design. For example, it is important to differentiate and consider a skill-based gamification design from one that encourages creativity for children. In summary, recognizing emotions is significant for designing effective gamification design.

Step 3.4. Research methods for Gamification

The research method is an important aspect often ignored in other gamification design approaches (Chou, 2019;

Werbach, 2015). Specifically, within gamification design, using research methods found in UX studies is recommended for a comprehensive exploration of both the context and the user. For example, in the context of a gameful model, the research method is recommended to break down activities into behavioral chains, to identify user motivations and barriers, and to assess whether the game design elements proposed to users are an appropriate strategy (Deterding, 2015).

Moreover, TOY Gamification Cards offers a range of alternative methods for analyzing both context and the user in gamification studies (Figure 10). These methodologies can encompass the development of attitude scales (e.g., intrinsic motivation), gameful experience scales (Högberg et al., 2019) or context-specific surveys. These surveys aim to identify users' emotional responses, behaviors, barriers, motivations, and needs.

Figure 10. Research Methods Card

Furthermore, one-on-one interviews constitute a significant method for acquiring insights that questionnaires alone cannot provide. This approach allows for an in-depth exploration of the situation, a deeper understanding of the user's experience and the provision of invaluable insights for gamification designers. Besides, we advise to incorporate methods from UX research such as observation, empathy maps, A/B testing, card grouping and benchmarking to effectively analyze gamification experiences.

The research method is an important aspect often ignored in other gamification design approaches (Chou, 2019; Werbach, 2015). Specifically, within gamification design, using research methods found in UX studies is recommended for a comprehensive exploration of both the context and the user. For example, in the context of a gameful model, the research method is recommended to break down activities into behavioral chains, to identify user motivations and barriers, and to assess whether the game design elements proposed to users are an appropriate strategy (Deterding, 2015).

Step 4: The Player's Journey

Every player has a unique journey in gamification. Player's Journey is a game design model that describes the process of a player's experience in games designed by Amy Jo Kim (Kim, 2018). In terms of motivation, the user's interaction and journey with a product is constantly evolving. The reason why a person uses a product on the first day is different from that person's goal and even the features they see when using the same product on the hundredth day. Csikzentmihalyi (2014) stated that the stages of the player's journey are important to provide the ideal flow experience for the players. The player journey consists of four stages (Kim, 2018).

- Discovery Phase; interaction with simple tasks and questions.
- Onboarding Phase (Start); small goals that he can achieve with his first actions.
- Habit-Building Phase: Habitual behaviours that require completing the task as well as starting it.
- Mastery Phase; tasks that can be done to help the game and the player.

Discovery Phase: This stage refers to the process where players begin to learn about the game and try to understand the basic concepts within the game. For example, if you are going to buy a car, taking part in its test drive takes place in this step. At this stage, players learn the control mechanisms of the game and try to understand its basic goals and progression mechanics. Players who are introduced to the basic elements of the game begin to become interested in the game and gain motivation to progress, which allows them to continue playing.

Onboarding Phase: We can call this stage a kind of acquaintance, self-discovery, or orientation stage. Players start to get into the game and play the game. Here, too, very small steps are needed, just like in games, so that the player says in the flow, "I can play this game!" so that he can say. The aim is for them to adapt to the game by approaching the difficulties they will encounter in the game step by step. During this process, the player should be allowed to explore his own experiences, and his experience should be supported by simple and understandable educational instructions. Since our primary goal is to attract the player's attention and get him into the flow, there should be no competition at this stage. Therefore, during the onboarding phase, students can be given simple individual tasks such as following instructions, watching videos, discussing, and making preliminary preparations.

Habit-Building Phase: At this stage, the player has been in the game for a certain time, knows everything and has mastered the process. Some of his behaviors started to occur spontaneously. At this stage, mechanics such as rewards, progression elements, daily quests, leaderboards, and challenges can be used to keep players connected to the game. Tasks may now become difficult, a competitive environment may arise, and behavioral cycles may be used. At this stage, players will form a habit and want to play the game regularly and ensure its continuity. Because the player will not want to break away from the flow and will look for ways to win even if he loses. At this stage, elements such as team tasks, creativity activities, problem-solving, research and reaching results, and quizzes can be used.

Mastery Phase: Mastery; This is the stage where we open the application when we need it, but we recommend it to other users and enjoy supporting them, not defeating them. At this stage, the player has achieved all the targeted gains, has solved all the fiction and design, and has become a part of this game and has reached the level of mastery. At this stage, players may be given tasks such as helping new players, making improvements within the system, sharing their experiences in the process, making presentations, criticizing the process, and creating products. Giving extra rewards to the player at the end of this stage will cause the player to want to experience the process again.

The player’s journey, developed by Amy Jo Kim (2018) emphasizes intrinsic rewards rather than extrinsic rewards to focus on designing an effective player in the game. Kim (2018) stated that "a good game takes the player on a journey towards mastery". Over time, players progress from novice to expert to master, as they move from newcomer to regular and finally enthusiast. When designing the player's journey, different techniques are used to meet the players' needs; content, activities and challenges need to be used.

In a well-designed game, each stage is connected to the others, and all individual design elements occur in a consistent and satisfying sequence of learning, practice, and mastery experiences. For example, in the early levels of a game, you may learn to walk, jump, and fly, only to discover that your only goal is to "move towards the light." Along the way you progress, encountering obstacles, solving puzzles, discovering intriguing backstories, and sometimes encountering other players in the desert. After completing the game, you are rewarded with an ambiguous, haunting, thought-provoking ending and are invited to play again and apply your newly acquired knowledge (Kim, 2018).

We introduced this step into the TOY gamification cards to design the actions that will guide each selected persona through the fourth stage, 3-mode journey (Figure 11). These cards align with the fundamental principles of the player journey as developed by Amy Jo Kim (Kim. 2018). By crafting customized experiences for each persona, we aim to enhance user motivation and make gamification strategies more effective. This approach encourages players to engage more with gamified experiences and drive behavior change.

Figure 11. The Player’s Journey Cards

Step 5: Eight Core Drive

For achieving a well-rounded emotional allocation within the gamification framework, it is imperative to integrate a spectrum of both affirmative and adverse emotions. Within the TOY framework, the discourse on gaming emotions is deliberated as the fifth step in correspondence with the Octalysis model (Chou, 2019).

(Figure 12).

Figure 12. 8 Basic Game Feeling Card

The Octalysis Model, on the other hand, is a robust framework that examines people's emotions, insecurities, reasons for wanting to do certain things, their emotions, motivations, and participation in gamification designs. Yukai Chou (2019) suggested an eight-core drive, “Octalysis Model”, in which there is a fundamental drive in each corner of the octagon to analyze strategies around the various systems that make a game fun and to explain the common point of successful games (Chou, 2019). Octalysis model includes eight core drives: These are

1. Epic Meaning & Calling
2. Development and Accomplishment
3. Empowerment of Creativity & Feedback
4. Ownership & Possession
5. Social Influence & Relatedness
6. Scarcity & Impatience
7. Unpredictability & Curiosity
8. Curiosity and Loss & Avoidance

It consists of 8 Basic Emotions, represented by the octagon shape (Figure 13).

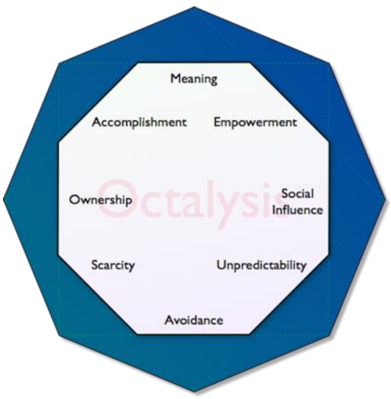

Figure 13. Octalysis Framework (

Core Drive 1: Epic Meaning and Call

“Epic Meaning and Calling” core drive is the core emotion in which players believe they serve a more significant meaning than themselves or have been "chosen" for a mission. This choice refers to individuals taking action to benefit as a part of a whole rather than directly benefiting themselves. Thus, individuals feel important and are motivated because they belong to a group. This emotion creates leads individuals to believe they have a unique power or are especially lucky within the game. Players play the game for a meaning they find. They feel this feeling when they think of themselves as heroes. The aim of saving the princess in the Super Mario game can be given as an example.

Core Drive 2: Development and Success

“Growth and Achievement” core drive refer to the inner drive to pushes individuals to progress, develop skills, and overcome challenges. Players are more motivated in the game when they feel they are improving, have mastered a subject, or have overcome a difficult situation. The word "challenge" is critical here because a badge or trophy is not very meaningful without a challenge. This is also the easiest core emotion to design and is where points, badges, and leaderboards focus.

Core Drive 3: Strengthening Creativity and Feedback

“Creativity Empowerment and Feedback” core drive is when users engage in a creative process where they must solve things repeatedly and try different combinations. Not only do people need ways to express their creativity, but they also need to see the results of their creativity, receive feedback, and respond. Thus, playing and painting with different materials and colors are fun in themselves and often become a mechanic where a game designer does not have to constantly add more content to keep the activity fresh and exciting.

Core Drive 4: Ownership

It is an internal drive by which individuals are self-motivated because they feel they have something. When he feels the feeling of owning something, he wants to make what he has from birth better and have even more. Besides being the primary drive to want to accumulate wealth, this deals with many virtual goods or virtual currencies within systems. Also, if a person customizes their profile or avatar, they automatically feel more ownership towards it.

Core Drive 5: Social Impact and Relevance

This drive includes all the social elements that direct people, such as cooperation, acceptance, social reactions, friendship, competition and jealousy, acceptance and acceptance, envy, and the master-apprentice relationship. When you see a friend who is fantastic in some skill or has something extraordinary, you are guided to reach the same level. There is a situation of being motivated by the influence of other individuals. For this reason, many companies' priorities optimizing their online social strategies. Individuals' motivation to carry out their actions, thanks to their social connections, supports this impulse. When you find a product that recalls memories of your childhood, a sense of nostalgia is likely to increase your likelihood of making purchase it.

Core Drive 6: Scarcity and Impatience

This drive can be defined as the motivation of individuals to take action to obtain something they cannot have, thanks to their desire for it. This can be a reward, points, status, title, or any tangible object. When individuals do not reach this desired thing, they make more effort with the motivation to achieve it. Many games have a dating dynamic (return in 2 hours to claim your reward) where people not getting anything right now motivates them to think about it all day long. Frauds such as "The campaign is limited to similarly, limitations such as countdown and time limit can be given as examples.

Core Drive 7: Unpredictability and Curiosity

The inner drive pushes user to perform the behavior with the feeling of curiosity and uncertainty arising from situations such as not knowing what will happen and not being able to predict the event's outcome. If you do not know what will happen, your brain is busy, and you think often. Many people watch movies or read novels because of this urge. The system motivates the individual by keeping their curiosity alive through variable intervals and surprise rewards. To transform this feeling into positive motivation, it is possible to benefit from situations such as luck factor, surprise prizes, random choices, and gift wheels.

Core Drive 8: Loss and Avoidance

This feeling is based on avoiding something negative from happening. On a small scale, it may be to avoid losing previous work. On a larger scale, it may be avoiding admitting that everything you've done up to this point has been useless. Additionally, lost opportunities trigger this emotion because people feel that if they do not act now, they will lose the opportunity to act forever. It causes us to take action to avoid encountering an undesirable situation, such as losing the game, not being able to advance a level, or not meeting the deadline for a study.

Eight core drive model for gamification developed by Yukai Chou (2019) and represented by the octagon shape, are indicators of the goals with which individuals play games (Chou, 2016). In this octagon.

- The three emotions at the top (Epic Meaning and Call, Development and Success, Creativity and Feedback Empowerment) are positive,
- The two emotions in the middle (Ownership, Social Influence) are neutral,
- The three emotions at the bottom (Scarcity and Impatience, Unpredictability and Curiosity, Loss, and

Avoidance) can be considered relatively negative.

A balanced use of emotions in gamification design will increase the power and sustainability of the gamification design by ensuring that the player remains motivated in the game for a longer time. By understanding and applying these emotions, designers can create engaging designs that drive intrinsic motivation and increase positive user experiences.

Step 6. Game Elements

The fifty-two game elements included in the TOY Model serve as a bridge between the behaviors targeted in gamification designs and user performance. Game elements require both participation and immersion, fostering a sense of presence. Presence provides more context to the information presented, such as visualization, sound, and touch and is similar to flow concept, some extent (Nakamura and Csikszentmihalyi, 2002). Flow is like presence, except that in addition to requiring concentration, it requires attention and enjoyment (Shernoff et al. 2003). However, from a learning perspective, game elements are necessary to create a state of both flow and presence state.

Gamification aims to provide intrinsic motivation. In this sense, it creates the need for autonomy in individuals. In the player journey designed in Step 4, it is stated that the more accessible the user, the more motivated he is for the targeted behavior. It is recommended to use game elements to ensure this autonomy in individuals.

Among the 52 game elements considered within the scope of the TOY Model, leaderboards, points, badges, levels, profile pages, tasks, feedback, rewards, and personalization are frequently used. In addition to these, elements such as team building, team mission, team captain, league, and tournament, including team setups; accelerators, catalog system, gifts, collections within the scope of in-game rewards; Elements such as bosses, serial fiction, quizzes, social discovery, and challenge are among the elements used in gamification fictions to increase competition (Figure 14).

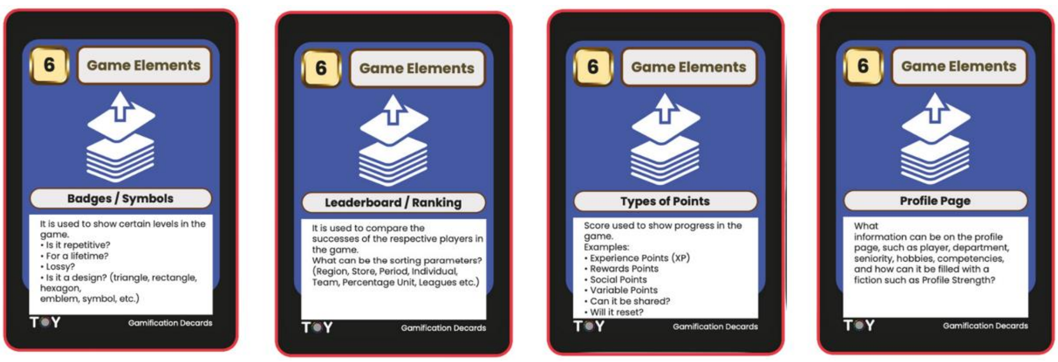

Figure 14. Game Elements Cards

Game elements have a parallel structure when motivational and behavioral models are considered. It supports individuals' motivation and development of behavior by finding meaning in gamification fiction. For example, scoring systems or rewards encourage people to put in more effort. This can help them repeat behaviors frequently and pursue goals more effectively. Likewise, offering personalization options can help attendees connect more. Progression and levels allow individuals to see and track themselves and become more motivated.

Step 7. Rewards

Rewards, which trigger intrinsic and extrinsic motivation and are suggested for gamification designs in the TOY model. The aim of gamification is for people to go on a journey from external motivation to internal motivation. For this reason, it is essential to create a balanced structure between the two motivations types. Gamification expert Gabe Zicherman developed the SAPS Reward Model (Zichermann & Cunningham, 2011) which is essential in gamification and motivation design. The four categories in the model are placed in a pyramid shape, from extrinsic motivation to intrinsic motivation. These categories are included in the TOY model (Figure 15).

Figure 15. Awards Cards

SAPS Reward Model:

Item: These are concrete objects that show achievements in the game and have no material value, such as mugs, badges, t-shirts, pens.

Power: Power rewards are rewards that give individuals more control or influence. These rewards relate to people's desire to participate in decision-making processes or gain more authority within an organization. For example, promotion to a higher position in an organization, the right to assign the next task to those who complete the task, etc.

Access: Access rewards give people access to more content, information, opportunities, or benefits. This allows people to stay motivated when they have easier access to things. For example, getting access to exclusive content or more resources, meeting the CEO, and managing the donation budget can be given as examples.

Status: Rewards that increase a person's position against others. A first name given to the person may be like Dr, Agile Coach.

In the TOY model, along with the SAPs categories, rewards such as random, instant rewards, surprise prizes, lottery gifts, collection completion, etc. are used in the reward catalogue. Individual and team rewards for the individual and teams are incorporate in this step. When designing rewards, it is important to carefully consider motivation models and evaluate the player type and characteristics of the group targeted by the gamification plan.

Step 8. Technology

Gamification aims to observe behavioral changes within individual or corporate goals, follow daily situations, keep information up-to-date, and increase user participation and motivation (Hamari, Koivisto, & Sarsa, 2014). It is possible to track these goals using different technological infrastructures suitable for the target audience within gamification design. We developed the TOY Gamification Cards to choose software or solutions that suit our needs in the gamification project (Figure 17). Within the technology step, there are many tools such as post-it notes, playing cards, web 2.0 tools, AR tools, metaverse platforms, gamification software's, web platforms, and applications that help designers for gamification design. Designer might use tools other than these in the gamification design. While developing this model, we included tools we had previously experienced.

Figure 17. Technology Cards

In situations where technology is limited/inaccessible or not preferred, paper, post-it notes, playing cards, or board games consisting of these cards can be used. In addition, there are gamification software, web platforms, web 2.0 tools, mobile applications, and gamification engines in which gamification elements are fully integrated (Shi et al., 2022). Gamification planning and design tools include Canva, Figma, Miro, Mockup/Framework, Invision, etc. applications can be given as examples (Hou, 2023). Technological platforms such as Filipity, Padlet, Quiziz, Classdojo, Mentimeter, Kahoot, Classcraft, Genially, and Wordwall can be included for gamification mechanics such as games that increase the sense of effective communication, collaboration, fun, or competition used in gamification design to increase the motivation of users (Garcia-Alonso et al. al., 2023).

Metaverse platforms, which are increasingly used, have started to take their place in gamification designs.

Metaverse offers users an immersive experience to socialize and interact, and these opportunities are integrated within the gamification framework. In the Metaverse, gamification delivers immersive emotions through extended reality that combines natural and virtual space, including augmented reality, virtual reality, and mixed reality (Tayal et al., 2022). Metaverse technologies will support users in feeling these emotions in the Octalysis Model. We developed the 9th step of TOY Gamification cards to choose software or solutions that suit our needs in the gamification project.

Step 9. Triggers and Communication

The Triggers and Communication step will guide in determining under what conditions the gamification setup will remind and how the trigger will occur (Figure 18). We took the Hook model and the behavior model as a basis when designing this step. According to Nir Eyal, new behaviors do not last long because most behaviors are done entirely out of habit. As a solution, Eyal recommends that the person/user go through a repetitive cycle by gradually creating the new behavior, thinking that the behavior should not dissipate. In the Hook Model, it starts with a trigger that an action by the user must follow. This should be simple and easy, like clicking on a link (based on Fogg's skill factor). In the next phase, the user should be rewarded for the action to increase the likelihood that the action will be repeated in the next cycle. The final stage of the cycle is investment. The more invested a user is in a system, the less likely they are to stop using it (Eyal, 2014).

Figure 18. Triggers and Communication Cards

Similarly, in Fogg's Behavior Model (FBM), he states that the three essential elements of behavior change are motivation, ability, and trigger. According to this model, for an individual to perform the behavior: (1) he/she must be sufficiently motivated; (2) it must be capable of performing the behavior, and (3) it must be triggered to perform the behavior. For behavior to occur, all three factors must be present simultaneously; otherwise, the behavior will not occur. FBM states that motivation and ability are like an exchange, but it will not stimulate a behavior without the trigger. Therefore, we can increase the person's ability by giving simple tasks or increasing the abilities of highly motivated people. Even if there is motivation and ability, the behavior will not occur because the vital piece is the trigger. Triggers are practical only when motivation and ability are above a certain level. When the user is below this level, a trigger will not produce the desired effect and may only cause frustration (Fogg, 2009).

Triggers used in gamification can be designed to enable personal communication with users (e-mail, text message, reminder, etc.) or with other users. Triggers such as "A player challenged you" and "The reward catalogue has updated its stock" are examples of triggers between players or between games. The timing of triggers is also very important. Triggers can be used to determine when to be in the application with daily or special day reminders, periodic or end-of-level reminders, and in-app notification areas. Different structures can be added to support communication, such as preparing documents with rules (preparing frequently asked questions, etc.), presenting posters to increase the feeling of excitement and curiosity, and storytelling.

Step 10. Measurement and Evaluation

Various methods determine how the gamification project will be measured and meet the success criteria when evaluating it alongside statistics. These procedures must be created under the TOY model's target behaviors and the company goals identified in its first phase. Surveys of users' views, contentment, and motivation regarding gamification components are evaluated in the literature (Hamari, Koivisto, & Sarsa, 2014; Oliveira et al., 2021). In addition, “Gamification Experience Scale (GAMEX), Game Motivation Scale, Motives for Online Gaming Questionnaire (MOGQ), Gaming Instinctual Motivation Scale (GIMS) (Demetrovics et al., 2011; Eppmann, Bekk, & Klein, 2018; Lafrenière, Verner-Filion, & Vallerand, 2012; Teoh et al., 2020) is used to evaluate the parameters of users' gamification designs.

Although no scales directly measure gamification designs, using more than one measurement tool will be helpful for evaluation since the target behavior scale is wide. Generally, "game element statistics, number of active players, interaction numbers, number of entries to the platform and determination of the level distribution of players/users (at which stages of the flow there is congestion)" can be used as evaluation criteria. In addition, specialized measurements such as business goals determined in SMART or OKR format, behavioral change targeted with pre-test and post-tests, and process improvement with agile goals throughout the gamification process can be included in the design (Fortes Tondello, Premsukh, & Nacke, 2018; Raehalme, 2019). Step 10 is not included in Werbach's D6 model. The TOY model guides users in measuring their gamification designs and what success criteria are used when evaluating them (Figure 19).

Figure 19. Measurement and Evaluation Cards

Conclusion

In conclusion, the TOY is an indication of the dynamic and evolving nature of gamification. Toy Gamification Cards serve as a comprehensive framework that not only gamifies experiences but also strategically aligns gaming elements with defined business objectives to improve user engagement and performance. Ten-step process, informed by international expertise, provides a structured approach to gamification design, ensuring a well-rounded and effective implementation of gamification strategies. The TOY model is a valuable tool in the arsenal of those seeking to harness the power of gamification for diverse applications as gamification continues to evolve.

It is crucial to conduct various studies and support these studies with literature to determine if a gamification model is effective in the real world. Supporting the research conducted to determine the effectiveness of the TOY gamification model with literature will help us better understand the value of the model in practice.

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Bibliometric Analysis of Research on Curriculum Alignment: A Web of Science Example

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Abstract: This study aims to examine the research published in the Web of Science database on Curriculum Alignment using the bibliometric analysis method. A bibliometric analysis of the studies included in the research was conducted on August 10, 2023. The "Web of Science Core Collection" was searched by entering the keyword "Curriculum Alignment." One hundred-five studies were included in the evaluation. VOSviewer package program was used for bibliometric analysis of article data. According to the general data of bibliometric analysis, 105 studies were published in 42 different sources, and the average number of citations per document was 11.21. When the distribution of articles according to publication years is examined, most articles were published in 2021. It was understood that there were more publications on Curriculum Alignment in the journals Chemical Education and Assessment in Education: Principles, Policy & Practice. It has been determined that studies on curriculum alignment are concentrated in the United States; The United States was followed by Australia, England, South Africa, Canada, and the People's Republic of China, respectively. It has been determined that topics such as learning outcomes, curriculum mapping, problem-based learning, analytical competencies, in-service teachers, enacted curriculum, curriculum change, collaboration, and assessment design are current issues discussed together with curriculum alignment. A limited number of studies have been conducted on Curriculum Alignment in Turkey. It may be recommended to conduct new studies on the subject.

Keywords: Curriculum alignment, Alignment, Assessment, Curriculum development, Learning outcomes

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Introduction

As a different approach from systematic literature review, bibliometric analysis is an analytical method for obtaining formal and quantitative data about the current state of a discipline. It makes it easier to track academic trends thanks to visualization software. This approach can be confused with bibliometric terms concepts such as webometrics, cybermetrics, and informetrics. The final goal of the bibliometrics approach is to obtain quantitative data and numerical measurement indicators on research performance. This approach provides researchers with important information about the intellectual and conceptual structure of the field, with the information it provides about periodicals, documents, authors, and concepts related to a specific field (Zupic &

Cater, 2015).

With bibliometrics, quantitative findings are obtained, such as the productivity of countries, authors, universities, and journals, strong and weak research areas, gaps in the literature, collaboration networks, potential opportunities, and the widespread effects of studies produced in a field. Despite all its limitations, bibliometrics, which can also be used as the initial stage of a systematic literature review, can be considered the first step of any research and can be counted among the reasons why it has received widespread attention today.

This research aims to conduct a bibliometric analysis of studies on "Curriculum alignment." The results to be obtained are essential in determining the direction of education research, monitoring developments, and shaping education policies. This type of analysis examines the curriculum, learning objectives, student success, and teaching in education. It can direct research to evaluate and improve the effectiveness of methods.

Curriculum Alignment

Curriculum alignment is an important concept that refers to the harmonious design and implementation of different components, goals, and contents within the education system. This process aims to consistently integrate learning objectives, teaching methods, measurement and evaluation tools, and curriculum. Curriculum alignment necessitates a robust correlation among objectives and assessments, objectives and instructional methods and resources, and assessments and instructional methods and resources. In simpler terms, it encompasses the broader idea of 'curriculum alignment,' which includes content validity, content coverage, and the availability of learning opportunities (Anderson, 2002). Curriculum alignment is the execution of the curriculum by the designed form as stakeholders (practitioners). Just as a vehicle works thanks to the harmony of all its parts, curriculum harmony can be explained by the harmonious operation of the desired products in the educational processes (Bay, 2016).

Curriculum alignment is a strategy to increase integrity and effectiveness in the educational system. This strategy aims to improve the suitability of training programs to specific goals and the process of achieving these goals. Fullan and Pomfret (1977) highlighted four critical factors to ensure the successful implementation of this strategy. First of all, practitioners must understand the innovations and changes targeted in the programs. Teachers' competence and willingness to implement these changes play a critical role in determining the impact of curriculum alignment.

In addition, schools must provide the necessary infrastructure support for implementation, and their organizational structures must be suitable to realize these innovations. These four factors support the successful implementation of curriculum alignment and increase the impact of changes in the education system. Curriculum alignment is important to promote educational improvements and increase student, teacher, and school success.

One of the critical concepts associated with curriculum alignment is the concept of curriculum fidelity. This concept refers to teachers implementing a new program or innovation as planned by program development experts (Pence et al., 2008). Examining adherence to the curriculum reveals the relationship between the program and its outcomes. It reduces the possibility of reaching incorrect conclusions about the program's effectiveness by providing information about the process (Bümen et al., 2014).

Curriculum alignment is considered an essential strategy in educational systems and positively affects student, school, and teacher success. These effects promote higher quality and success in education. Curriculum alignment helps optimize students' learning processes. Aligning educational materials and learning objectives allows students to understand lessons and learn information more effectively. Research shows that curriculum alignment increases student success and supports students in achieving higher exam scores (Porter, 2002). Through curriculum alignment, schools can design educational programs more consistently and effectively. This allows schools to monitor and improve student achievement (Anderson, 2002). Research shows that curriculum alignment increases school achievement and helps schools achieve better educational outcomes (Odden & Archibald, 2009).

Teachers have the opportunity to provide better instruction to students through curriculum alignment. A cohesive curriculum gives teachers more explicit goals and helps them select instructional materials more effectively (Crowell & Tissot, 1986). Research shows that curriculum alignment increases teacher effectiveness and contributes to teachers achieving better results (Marsh et al., 2018). These positive effects of curriculum alignment contribute to better performance of education systems and better preparation of students. For this reason, many countries and regions that shape education policies and practices adopt curriculum harmonization as an essential strategy (UNESCO, 2005). This approach is a necessary research and practice topic in the education field as it can potentially increase student, school, and teacher success.

Method

This research, which was conducted to examine the studies on curriculum alignment published in the Web of Science (WoS) database using the bibliometric analysis method, is of descriptive type. The research population consisted of 143 articles accessed by searching the WoS database with keywords. The research sample consisted of 142 research articles that met the inclusion criteria. To gather research data, an online search was performed on August 10, 2023. A data document was created for analysis. Data were collected by scanning the WoS database with the "curriculum alignment" keyword. In the first stage, 143 articles were reached. The articles retrieved were limited to "educational research" and "education scientific disciplines." Documents of 105 studies that met these limitations were created and downloaded in "Export Records to Tab Delimited File" format. Bibliometric analysis of the data was performed using the downloaded document VOSviewer program. The accessed data file was examined through author, citation, journal, and keyword analyses. Contents indexed in Web of Science were taken as criteria.

Results

Descriptive Analysis

According to the bibliometric data of 105 studies that met the inclusion criteria, it was observed that studies on "curriculum alignment" started in 1993 and were published in 42 different sources. A large proportion of the studies are in the article type. The average number of citations per document is 11.21. The total number of authors mentioned in the studies is 286. A large proportion of the studies are in English (Table 1).

Table 1. General Information About the Data

General information	
Time range	1993-2023
Type	
Article	80
Proceeding Paper	20
Book Chapters	3
Others	2
Average number of citations per document	11,21
Total number of authors	286
Publication language	
English	102
Spanish	3

It has been observed that studies on the subject have yet to be carried out at all in some years. It was determined that the most work was done in 2021, 2015, 2018 and 2019. The increase in the number of studies has led to an increase in citations. However, it is noticeable that the number of studies on the subject has decreased in recent years (Figure 1).

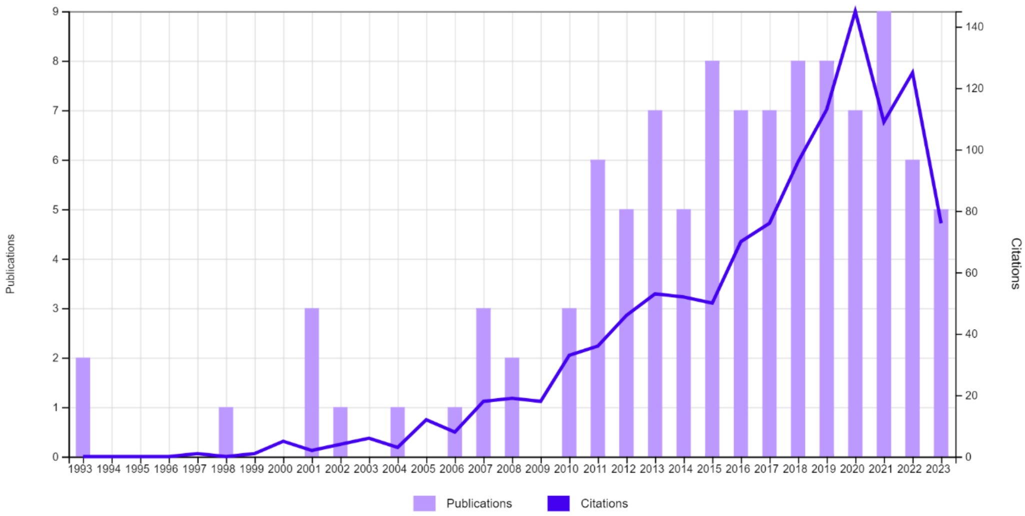

Figure 1. Distribution of Studies by Publication Years

It has been determined that studies on curriculum alignment are concentrated in the United States. The United States was followed by Australia, England, South Africa, Canada, and the People's Republic of China, respectively. In Turkey, it has been observed that studies on the subject have been carried out at a minimum (Figure 2).

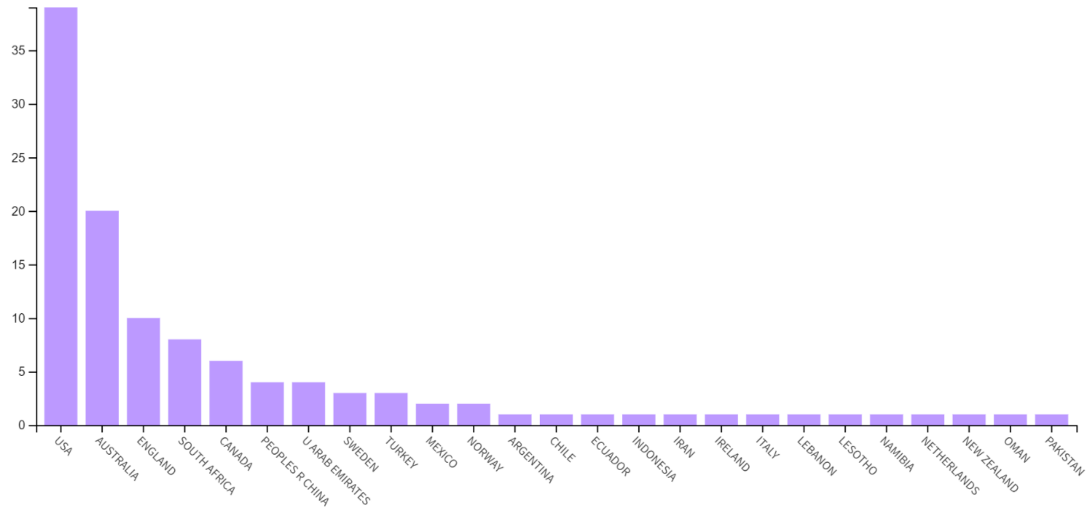

Figure 2. Distribution of Studies by Country

Review of Published Resources

The number of journals with at least one cited publication on the subject is 37 (see Figure 3).

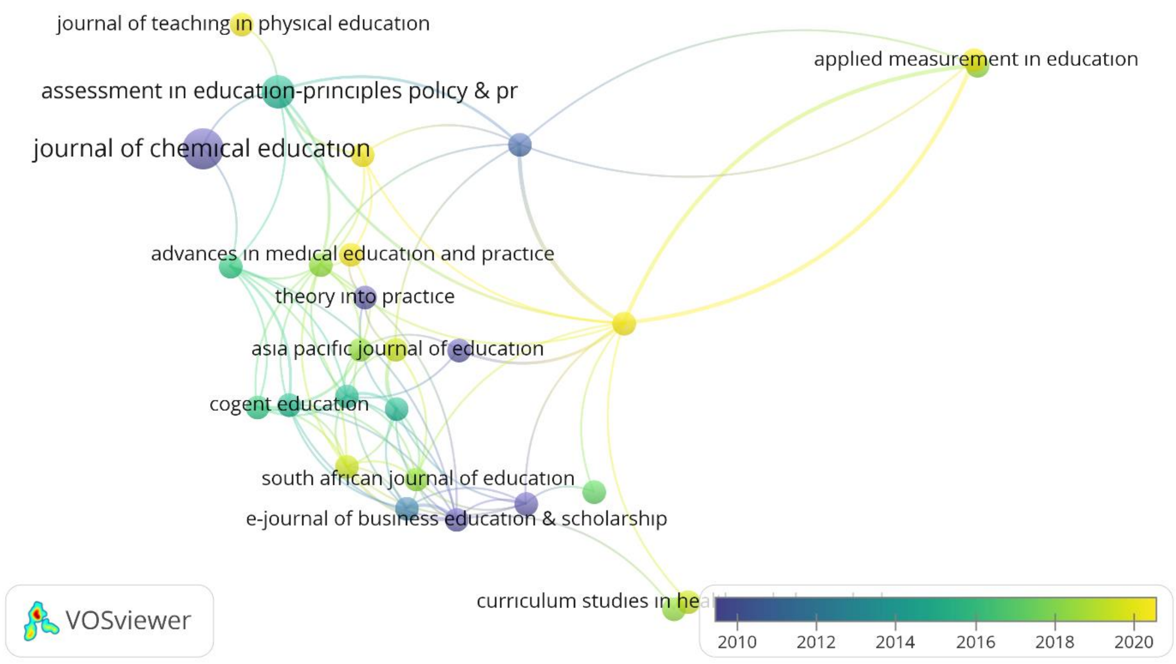

Figure 3. Distribution of Studies by Journals

The journals with the most publications are the Journal of Chemical Education (n=3) and Assessment in Education: Principles, Policy & Practice (n=3). However, the journals where the most cited studies were published are Educational Technology Research and Development, Asia-Pacific Journal of Cooperative Education, Educational Assessment, Evaluation and Accountability, International Journal for Academic Development, Journal of Physical Education, Recreation & Dance, Research in Learning Technology is the Journal of Curriculum Studies. It is a striking result that the number of studies on "Curriculum alignment" in the Journal of Curriculum Studies is low. "Curriculum alignment" is a current issue in journals such as the Australian Journal of Teachers and Applied Measurement in Education

Co-authorship of Authors

Some of the most cited authors are Theodore J. Kopcha, Howard Sullivan, Debra Coulson, and Marina Harvey. It is impossible to say there is an earnest collaboration between the authors. In the cluster where the most collaboration is observed, researchers such as William Schulz, Henry Brashan, Steven Danvar, Linda Gatlin, Linda Liltz, and Sheryl Kristensen (Figure 4).

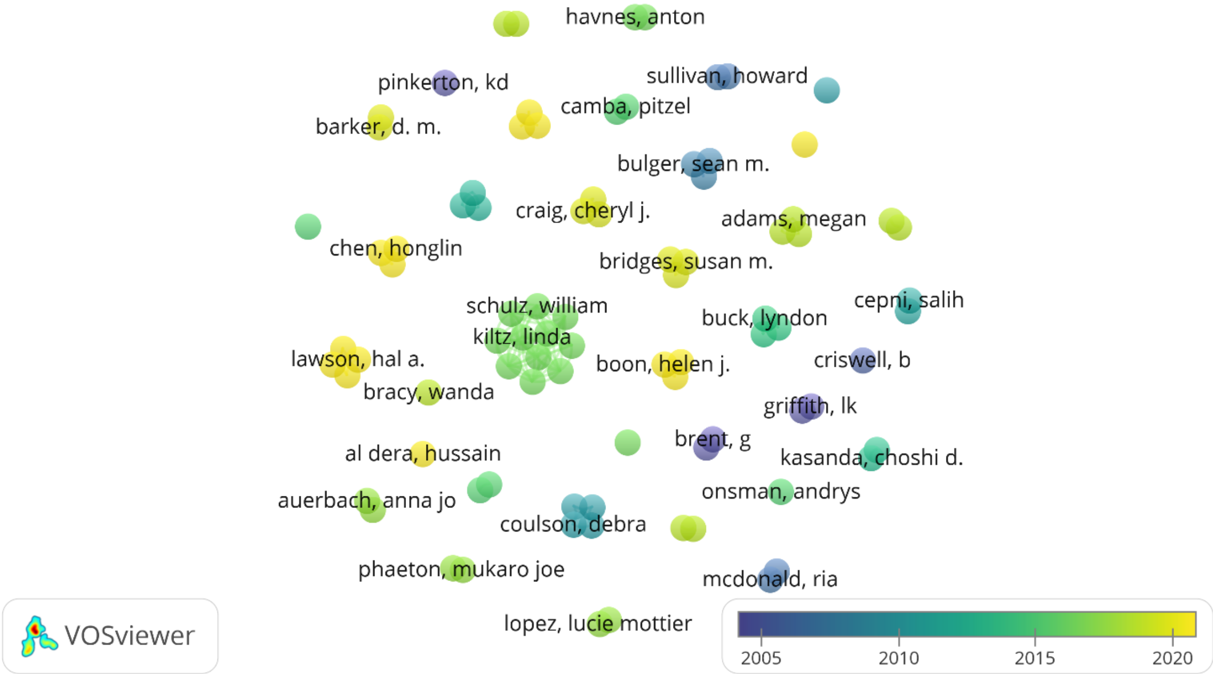

Figure 4. Co-authorship of Authors

Citation of Authors

Among the authors with the highest total connection strength are researchers such as Salih Cepni (n=5), Yilmaz Kara (n=5), Ria, Mcdonald (n=5), and Helen Van der Horst (n=5). Notably, researchers such as Sigrid Merx and Leoniek Wijngaards-de Meij have higher citation numbers and total connection strengths (Figure 5).

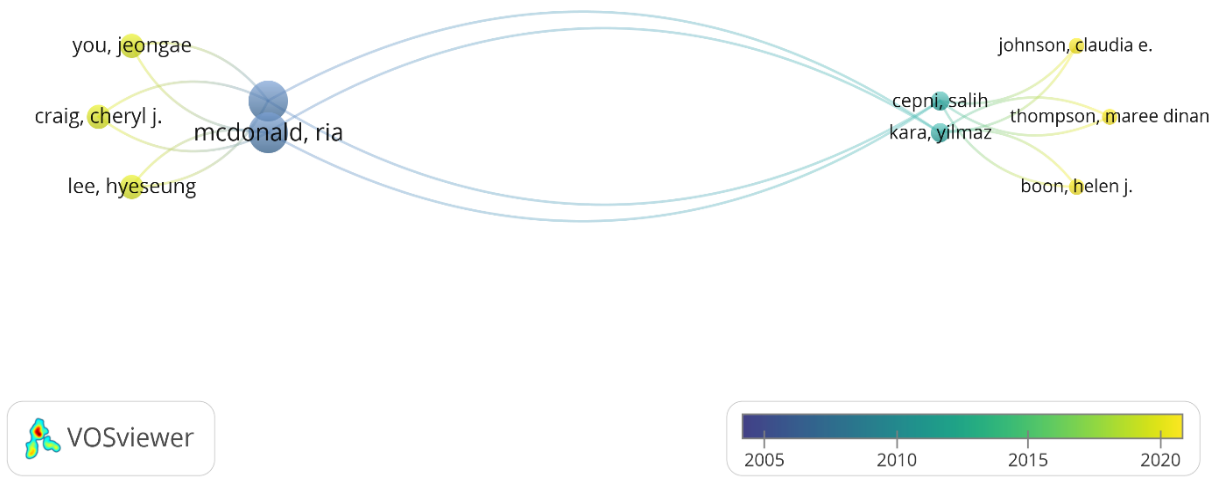

Figure 5. Citation of Authors

Keyword Analysis

The most used keywords include Curriculum alignment (n=27), assessment (n=5), alignment (n=4), curriculum (n=4), curriculum development (n=3), and learning outcomes (n=2). There are the words Professional development (n=2) and pedagogy (n=2). The keywords with the highest total link strength are listed as Curriculum alignment (n=96), assessment (n=18), curriculum (n=16), alignment (n=11), and curriculum development (n=10) (Figure 6). It has been determined that topics such as learning outcomes, curriculum mapping, problem-based learning, analytical competencies, in-service teachers, enacted curriculum, curriculum change, collaboration, and assessment design are current issues discussed together with "Curriculum alignment."

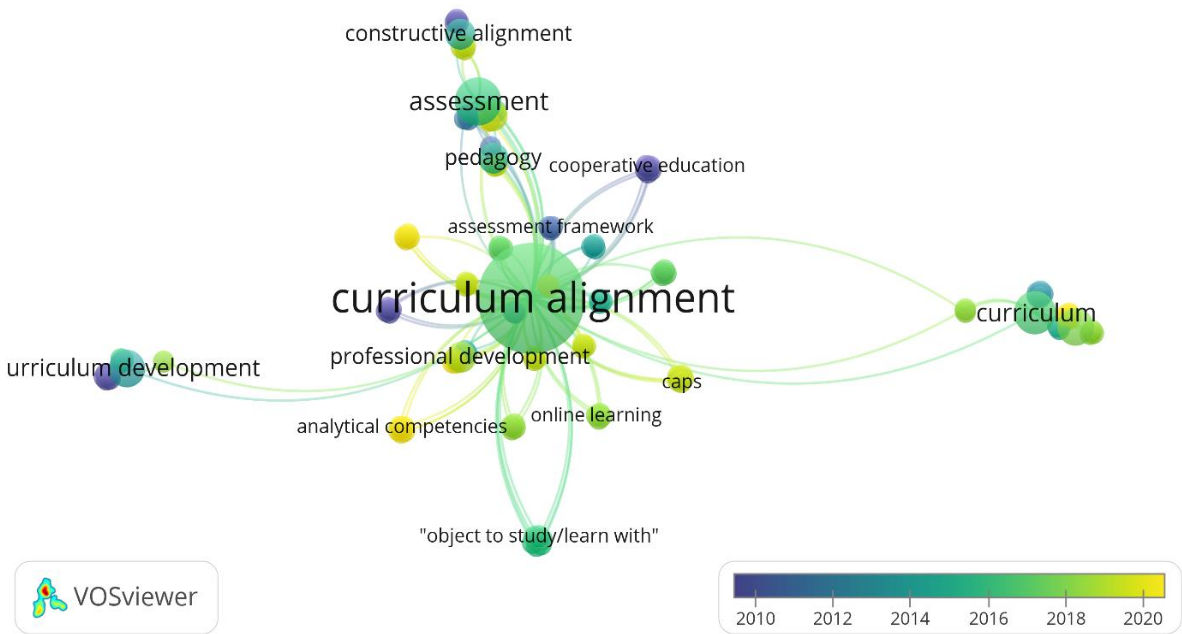

Figure 6. Keyword Analysis

Discussion

This study presents a bibliometric analysis of research on Curriculum Alignment in the Web of Science database. The results obtained show the importance and development of research in this field. The results show that interest in Curriculum Alignment has increased, and research in this field has spread rapidly. An average number of citations of 11.21 can be considered as an indicator that these studies are accepted in the academic community.

Additionally, it was observed that most of the studies in this field were published in 2021. This shows that Curriculum Alignment has recently gained importance, and more research is being done in this area. Journals such as Chemical Education and Assessment in Education: Principles, Policy & Practice have become an essential platform for studies on this subject. It is a striking result that the number of studies on "Curriculum alignment" in the Journal of Curriculum Studies is low.

Notably, the United States is a leader in research in this field. Other countries, particularly Australia, the United Kingdom, South Africa, Canada, and the People's Republic of China, are making significant contributions. This shows that the issue of Curriculum Alignment is of international importance.

The research conducted on the subject shows that important issues such as learning outcomes, curriculum mapping, problem-based learning, analytical competencies, in-service teachers, enacted curriculum, curriculum change, collaboration, and assessment design are discussed. These topics have come to the fore as current concepts at the center of Curriculum Alignment. However, it has been determined that studies in this field in Turkey are limited. Therefore, researchers and educational institutions in Turkey should be encouraged to conduct more studies on Curriculum Alignment.

Anderson (2002) underscores the significance of curriculum alignment by delineating four fundamental reasons. First and foremost, curriculum alignment assumes a pivotal role as it necessitates a robust interconnection among teachers' objectives, assessments, instructional activities, and materials. These interrelationships form an integral part of the broader framework known as "curriculum alignment," encompassing pivotal curriculum components such as relevance, content comprehensiveness, and the provision of ample learning opportunities. This holistic alignment ensures that educational components harmoniously coexist, contributing to a coherent and effective curriculum. Secondly, proper curriculum alignment serves as a catalyst for comprehending the disparities in the impact of schooling on student achievement. In essence, a cohesive curriculum facilitates a more discerning analysis of the various factors influencing student achievement. This comprehensive understanding enables educators and policymakers to tailor instructional strategies and resources more effectively to enhance educational outcomes. Thirdly, the repercussions of inadequately aligned curricula are not to be underestimated, as they may lead to a miscalculation of the instructional impact on student learning. Regardless of the proficiency and dedication of educators, the effectiveness of teaching can be further amplified when the curriculum is aligned with state standards and assessments. This underscores the critical importance of curriculum alignment in optimizing the learning experience. Lastly, the imperative for curriculum alignment is underscored by the contemporary emphasis on educational accountability. Over the years, the responsibility for ensuring accountability in education has transitioned from students and their home backgrounds to educational institutions. Irrespective of the focal point, curriculum alignment remains pivotal to the success of accountability initiatives. It provides a solid foundation for evaluating educational progress, facilitating data-driven decision-making, and ultimately enhancing the overall quality of education.

In essence, Anderson's (2002) insights highlight that curriculum alignment is not merely an administrative necessity but an essential driver of educational efficacy, ensuring that teaching and learning processes align seamlessly with intended goals and outcomes. However, there are limited studies about curriculum alignment in the Web of Science database in Turkey (Kara & Cepni, 2011; Tekir, 2021; Yılmaz & Sunkur, 2021). This limited number of studies limits our understanding of how curriculum alignment affects students, schools, teachers, and the education system. Further research may help us better understand the effects of curriculum alignment on the Turkish education system.

Conclusion

This study presented a bibliometric analysis of research on Curriculum Alignment and revealed various results. The results of the research can be summarized under the following main headings:

- The number of research conducted in the field of Curriculum Alignment and the number of citations are increasing. This shows that the subject has become essential in the academic community.
- The increase in the number of studies conducted in 2021 shows that Curriculum Alignment has received increasing attention in recent years.
- Journals such as Chemical Education and Assessment in Education: Principles, Policy & Practice are important sources where research in Curriculum Alignment is published. Additionally, it is a striking result that the number of studies on "Curriculum alignment" in the Journal of Curriculum Studies is low.
- The United States is a country where research in this field is concentrated and follows other countries.
- Issues such as learning outcomes, curriculum mapping, and problem-based learning are central to Curriculum Alignment.
- Research in Turkey is limited, and more work needs to be done in this field.

Recommendations

Based on the results of this study, some suggestions can be made for future research on Curriculum Alignment:

- International cooperation should be encouraged, and information sharing between researchers in different countries should be increased. This can enrich knowledge in the field.

- Support should be given to researchers and educational institutions to increase research on Curriculum Alignment in Turkey.
- New and innovative Curriculum Alignment methods should be developed, and the effectiveness of these methods should be investigated.
- Research on Curriculum Alignment should be conducted to encourage the participation of researchers from different disciplines.
- How research in this field can contribute to education policies should be examined in more detail.

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Prospective Social Studies Teachers' Views on School Environments Outside the Classroom

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Abstract: Out-of-class learning activities are educational activities that enable students to have learning experiences outside the classroom, beyond the traditional classroom environment. These activities can help students make learning more effective, develop their interests and increase their skills. The aim of the study is to examine the effect of social studies teacher candidates' out-of-class learning environments on their school achievement. Nineteen pre-service social studies teachers studying at Süleyman Demirel University Faculty of Education participated in the study which was designed based on qualitative research approach. The research data were collected through semi-structured interviews and analyzed through descriptive analysis. According to the results obtained, it was concluded that out-of-class learning environments increase student motivation and achievement as well as help students to control the learning process more and develop independent learning skills. It was suggested that educators can make the best use of this potential by organizing and supporting activities suitable for students' interests and that integrating out-of-class activities with in-class teaching can help students have deeper and more lasting learning experiences.

Keywords: Social Studies, Learning Outside the Classroom.

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Introduction

Education should not be limited to classroom learning activities. School environments outside the classroom are also of great importance to enrich and deepen students' education. Pre-service social studies teachers play an important role in providing such experiences for students (Akşit, 2011). This article aims to examine pre-service social studies teachers' views on out-of-class school environments and their role in education (Algan & Uslu, 2009). Social studies teachers are responsible for providing students with important learning experiences not only in the classroom but also in out-of-class school settings (Çengelci, 2013; Takahashi, 1999). Therefore, examining pre-service social studies teachers' views of out-of-class school settings can help us understand how future teachers evaluate and utilize such experiences (Erdoğan, 2009). Out-of-class school settings offer students the opportunity to have out-of-book experiences and transform learning into practice (Miller, Tichota, & White, 2009; (Tarman, Ergür & Eryıldız, 2012). Such environments give students a chance to put their theoretical knowledge into practice, experience social interactions and experiment with different learning styles (New Jersey School Outdoor Area Working Group, 2007). In the social studies course, students can experience social issues and historical events in real-world contexts outside the classroom through museum visits, field studies, social service projects, and many other methods (Skinner & Chi, 2012; (Yılmaz & Tepebaş, 2011). Understanding how pre-service social studies teachers approach such out-of-class experiences can influence their professional development and how they teach their future students (Sönmez, 2010).

Out-of-class School Environments and Education

Out-of-class school environments offer students the opportunity to put theoretical knowledge into practice. These environments can enrich students' learning experiences and help them develop a deeper understanding of topics. Social studies teachers can introduce topics such as history, geography, politics, economics, and culture to students in out-of-class settings to encourage them to develop interest and understanding in these areas. Understanding pre-service social studies teachers' views on school environments outside the classroom can help us understand how we can shape the educational process for these teachers. Research shows that pre-service social studies teachers recognize the importance of out-of-class environments in education. They believe that such activities can increase students' motivation, provide real-world experiences, and make social studies topics more engaging.

The aim of the study is to examine in depth the views of pre-service social studies teachers on out-of-class school environments. In line with this purpose, answers to the following sub-headings were sought:

How do you think out-of-class school activities contribute to students' social studies learning?
Which skills do you think out-of-class experiences can provide students with?
How do you associate out-of-class school activities with in-class learning experiences?

Method

This research was prepared using the content analysis technique from qualitative research methods. The study group of the research was carried out with 19 pre-service social studies teachers studying at Süleyman Demirel University Faculty of Education. The data were collected through a structured interview form. The collected data were subjected to content analysis.

Results

According to the results of the study, the majority of pre-service social studies teachers believe that out-of-class school environments play an important role in education. They emphasized that such activities encourage deep learning, increase students' sense of social responsibility, and make the course material more concrete. In addition, pre-service social studies teachers reported some challenges in organizing and managing out-of-class school environments. Financial constraints, security concerns, and logistical issues can make it difficult to implement such activities.

Conclusion

Examining pre-service social studies teachers' views on out-of-class school environments is an important step in developing educational innovations and effective teaching strategies. These pre-service teachers are aware of the role of out-of-class activities in education and are eager to provide such experiences for their students. However, the challenges they face in organizing and managing such activities should also be taken into consideration. Educational institutions and teacher training programs can provide support to overcome these challenges and make out-of-class school environments more effective.

Understanding the views of pre-service social studies teachers on this issue is an important step towards using out-of-class school environments more effectively to increase students' interest in social studies topics and encourage deeper learning. Such research can provide an important foundation for continuous improvements in education. Examining pre-service social studies teachers' views of school environments outside the classroom can help us understand the impact of these experiences on student learning. Research results can provide important clues about how teacher education programs and classroom teaching practice can integrate such experiences. This type of research can contribute to the effective and student-centered teaching of social studies teachers.

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Investigation of Inclusive Education for Refugees in Social Studies Course

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Abstract: Refugees refer to people around the world who have been forced to leave their country and settle in a new society due to human rights violations, conflicts or forced migration. Refugee children are often a special group that needs to be integrated into education systems. Social Studies can be used as a part of inclusive education for refugees. The purpose of this study is to examine the practices of inclusive education for refugees in Social Studies, to evaluate the effects of this education and to understand the experiences of teachers, students and refugees. The research was conducted with the content analysis technique, one of the qualitative research methods. The data were interpreted with descriptive analysis technique. According to the data obtained; it shows the presence of teachers who develop inclusive course content for refugees in Social Studies courses. This can include stories about the refugee experience, visual materials and activities to develop social awareness. Inclusive education for refugees supports students to understand and empathize with the challenges faced by refugees. This is seen to contribute to raising social awareness. It is important that teachers need training and support to improve their inclusive education practices for refugees. It is important to train teachers more in this area and facilitate their access to resources. It is thought that the participation of refugees in Social Studies lessons will help them feel more integrated and adapt to the new society. Teachers need to be supported to develop and implement this training. There is also a need for further research and resource development to understand the experiences of refugee children and support their integration process.

Keywords: Refugee, Social Studies, Education.

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Introduction

Millions of people around the world have become refugees, leaving their homes due to wars, natural disasters, political difficulties or economic reasons (Gindling & Poggio, 2012). Refugees have become an important component of societies and education systems. In this context, education for refugees is of great international importance (Harding & Wigglesworth, 2005). The social studies course plays an important role in providing students with the skills to understand and evaluate social issues. In this article, the importance and effects of inclusive education for refugees in social studies courses will be analyzed and the possible studies on this subject will be focused (Taylor & Sidhu, 2012).

Refugee Problem and Education

The refugee problem is a global issue, not just a problem of specific countries. Refugee children often live under harsh conditions and face various barriers to accessing their right to education (Stewart, 2012). Therefore, access to education for refugee children and promoting inclusion in education is critical for inter-communal cohesion and long-term success.

Refugees are individuals in need of protection who have been forced to flee their countries due to humanitarian crises, wars, natural disasters and other emergencies around the world. Education for refugees is critical for their integration into new societies and rebuilding their lives. As social studies is a subject that provides students with the opportunity to understand social issues, cultures, histories, and human rights, it is important to examine how inclusive education for refugees is addressed within this subject (Johnson et al., 2022; Naidoo, 2015; Schreder et al., 2023).

Social Studies Lesson and Refugee Problem

The social studies course aims to equip students with the skills to better understand and influence their society and the world. Understanding and solving the refugee problem should be a core component of the social studies course. By addressing the refugee issue, social studies can benefit students in the following areas: (Sidhu & Taylor, 2007).

1. Empathy and Human Rights: Students who are informed about the challenges faced by refugees can be more sensitive to developing empathy and respect for human rights (Short & Boyson, 2012).

2. Cultural Diversity and Social Cohesion: Understanding the cultural contexts from which refugee students come can promote respect for cultural diversity and enhance social cohesion (Naidoo, 2013).

3. Active Citizenship: Students who are aware of the refugee issue can adopt an active citizenship as future leaders.

The Importance of Inclusive Education for Refugees

1. Human Rights Awareness: The social studies course addresses fundamental issues such as human rights and justice. Inclusive education for refugees teaches students to respect human rights and empathize with different cultures (Mthethwa-Sommers & Kisiara, 2015).

2. Social Sensitivity: Refugee crises are social problems. The social studies course provides students with the skills to understand and solve such problems (Harushimana Ikpeze, & Mthethwa-Sommers, 2013).

3. Respect for Cultural Differences: Refugees are individuals from different cultures. Social studies teaches students to appreciate cultural diversity and to live harmoniously with different cultures (Mthethwa-Sommers & Kisiara, 2015).

Inclusive Education and Social Studies Lesson

Inclusive education for refugees in social studies aims to respect the learning needs of each student and cater to different groups of learners (Harding, & Wigglesworth, 2005). This kind of education encourages refugee students and other students to learn together. Inclusive education can be integrated into the social studies classroom in the following ways: (Naidoo, 2013).

1. Sensitization and Awareness: Teachers can incorporate examples of the refugee issue and the difficulties in accessing education for refugee children into lesson materials.

2. Interactive Learning: Students can be provided with interactive learning opportunities, such as group projects and discussions, to better understand the refugee issue (Naidoo, 2013).

3. Resources and Support: Providing additional resources and support for refugee students can help them succeed in social studies lessons (Harding, & Wigglesworth, 2005).

Method

This research was prepared using content analysis technique, one of the qualitative research methods. The study group of the research was carried out with 13 pre-service social studies teachers studying at Süleyman Demirel University Faculty of Education. The data were collected through a structured interview form. The collected data were subjected to content analysis.

Results

1. Curriculum Arrangements: The social studies curriculum can include a special section or topic on refugees. This creates an opportunity to present refugee issues and refugee stories to students.

2. Refugee Guest Speakers: Schools can invite refugees to share their experiences with students. This helps students develop empathy by hearing real life stories of refugees.

3. Classroom Activities: Social studies lessons provide opportunities for students to examine refugee stories, discuss human rights issues and engage with key concepts such as freedom, equality and justice.

4. Development of Social Consciousness: Giving students the opportunity to understand the challenges and discrimination faced by refugees helps them develop their social consciousness.

Conclusion

Social studies can be an important component of inclusive education for refugees. Such education can help students to understand the refugee problem, develop empathy and respect for human rights. It can also help refugee students to participate more effectively in social studies lessons. Educators can make positive changes in education for refugees by conducting more research on this issue and developing inclusive education practices. The refugee issue is an important opportunity for social responsibility and equality, and social studies can guide students in this regard. Inclusive education for refugees contributes to the development of students' awareness of being a citizen of the world and raises individuals who are more sensitive to the solution of social problems. Therefore, more research and studies should be conducted on the importance and applicability of inclusive education for refugees in the social studies course.

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A Descriptive Study of Turkish University Students' Awareness of Ergonomic Computer Usage

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Abstract: Although computers have many benefits for people, long-term continuous and non-ergonomic usage may lead to a number of health problems, especially vision and posture disorders. Therefore, it is crucial for students to learn and implement ergonomic usage principals. Perhaps, university students are the most at risk users as their access to computer technologies increase due to various technological facilities offered by universities as well as increased free time uncontrolled by parents or relatives. This study aims to explore university students' awareness level of ergonomic computer use. It was designed as a descriptive survey research on a sample of 144 university students attending at a major southwestern university in Turkey. Data were collected through the questionnaire form measuring some demographic characteristics and knowledge about the healthy use of computers. The findings revealed that participating students spent an average of almost two and half hours daily for computer use and most had their own computer. Their knowledge regarding ergonomic computer use was at moderate level on average and significantly higher among those who owned a computer than who did not. On the other hand, it was found to be independent of gender, age and daily time spent on using computer.

Keywords: Computer, Ergonomic use, University students, Demographics, Survey

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Introduction

The use of information and computer technologies (ICT) has been increasing steadily in Turkey for the last 10 years. According to the latest data regularly collected by the Turkish Statistical Institution (TUIK), in 2023, the proportion of households with access to the Internet from home increased by 1.4 points compared to the previous year and reached 95.5% and the internet usage rate among individuals in the 16-74 age group was 87.1%, which was 85.0% in 2022 (TUIK, 2023). Individuals interact with these technologies for a significant part of the day. There are different opinions and scientific research findings about the consequences of such an exposure and usage and indicating that these technologies can turn into threats or opportunities in terms of physical, cognitive and psychosocial health depending on how they are used (Akbulut, 2013).

The related literature suggests that especially long-term continuous and non-ergonomic usage (e.g., sitting and posture conditions) may lead to a number of health problems including musculoskeletal system disorders and vision and posture problems. For example, Kuzu et al. (2008) showed that physiological problems in a family increased as the time and frequency of Internet use increased and included eye fatigue/eye redness; back/neck pain, headache, joint/muscle pain, fatigue and insomnia. Bayrakcioglu (2018) examined ergonomic working conditions of 197 Turkish high school students who use computers and showed that 52% of the students felt pain, itching or stinging in their eyes and 39% felt pain in wrists, arms and back during long-term computer work. Some studies focused on office workers whose work primarily required using computers. For instance, Temiz Bektas (2020) examined ten Turkish office workers' equipments and related consequences based on their usage using ROSA (Rapid Office Strain Assessment) method and concluded that two workers were found highly at risk and suggested making or changing equipment and sub-components in accordance with ergonomics, reducing exposure times by increasing break time and focusing on ergonomics training. In his doctoral dissertation, Baydur (2011) revealed that training and risk assessment implemented using the participatory ergonomics method reduced the likelihood of musculoskeletal complaints in office workers using computers and improves protective behavior practices and work environment suitability. Using a descriptive survey study in a western city of Turkey, Ozvurmaz (2013) found that the neck and shoulder areas were most frequently affected in bank employees who work using computers.

Purpose of the Study

Studies in this issue indicate that long-term continuous and non-ergonomic usage may lead to a number of health problems. Therefore, it is crucial for students to learn and implement ergonomic usage principals. Perhaps, university students are the most at risk users as their access to computer technologies increase due to various technological facilities offered by universities as well as increased free time uncontrolled by parents or relatives. This study aims to explore university students' awareness level of ergonomic computer use.

Method

This study was designed with the survey model, one of the descriptive research methods based on the quantitative research paradigm. The survey model is a research approach that aims to describe a past or present situation within its own natural context (Mertens, 1999). The situation under investigation in the present study is the awareness level of Turkish university students and its relationship with some demographic characteristics. Using a convenience sampling method, the researchers recruited 144 students attending at a major southwestern university in Turkey, who were volunteer to participate in this research study. Data were collected through paper-and-pencil questionnaire form. The form began asking questions about participants' personal information including gender and age as well as computer usage profiles such as computer ownership and time spent at computing on a day. It continued with items related to knowledge and skills for ergonomic principles of computer usage. These items were adapted from the related literature and previously-developed similar measurements. Participants were asked to rate the level of their agreement with these items on a 5-point Likert-scale where 1 indicates strongly disagree and 5 indicates strongly agree. The questionnaire was conducted in the 2018 Spring semester.

Results

Of the 144 participants, 62 (43%) were male and 82 (57%) were female students. Their age varied from 18 to 32 and the mean age was 21.67 years (SD=2.43). More than half (67%) of the students had their own computer whereas the remaining (33%) has no personal computer. They were asked to write how much time they spend at computing on a day and the answers ranged from zero to 11 hours with mean time of 2.41 hours (SD=2.43).

Descriptive statistics were calculated for the ergonomic computer usage items and the results are presented in Table 1 below. As far as the average scores are concerned, students agree with the statements like "I know the health problems that may occur as a result of computer misuse" (Mean=3.65, SD=1.22), "I know that using a computer in a dark environment may damage my eyes" (Mean=3.33, SD=1.35), "I know how to stand at the computer" (Mean=3.22, SD=1.30), "I adjust the computer and eye level appropriately" (Mean=3.22, SD=1.25), and "I take breaks at regular intervals while spending time in front of the computer" (Mean=3.11, SD=1.39). On the other hand, they seem to be undecided about the statements like "I take care to stand upright while sitting on a chair in front of the computer" (Mean=2.92, SD=1.34), "I know what ergonomic sitting is and I try to apply it" (Mean=2.70, SD=1.40), and "I exercise at regular intervals while using the computer" (Mean=2.47, SD=1.33).

Table 1. Participants' Awareness Level of Ergonomic Computer Usage

Item	Mean	SD
I know the health problems that may occur as a result of computer misuse	3.65	1.22
I know that using a computer in a dark environment may damage my eyes	3.33	1.35
I know how to stand at the computer	3.22	1.30
I adjust the computer and eye level appropriately	3.22	1.25
I take breaks at regular intervals while spending time in front of the computer	3.11	1.39
I take care to stand upright while sitting on a chair in front of the computer	2.92	1.34
I know what ergonomic sitting is and I try to apply it	2.70	1.40
I exercise at regular intervals while using the computer	2.47	1.33

The researchers conducted an exploratory factor analysis on these items to determine their factorial structure as well as to form a composite so that they could investigate whether the students' awareness level differed according to demographic variables. The suitability of the data for factor analysis was evaluated before the principle component analysis. The Kaiser-Meyer-Oklin value was .74, exceeding the recommended value of .60 and Bartlett's test of sphericity reached statistical significance (Chi-Square=190,47, df=28, p<.01), supporting the factorability of the correlation matrix (Pallant, 2007). An inspection of the screeplot (Figure 1) revealed a clear break after the first component, suggesting a one-factor solution explaining a total of 34% of the variance. All items were remained in the single factor as their absolute factor loadings values, which varied between .45 and .64, were greater than the common cutoff score of .30 in the literature. Based on the factor analysis findings, all items were summed to create a composite variable to represent students' overall awareness level of ergonomic computer usage (Mean=24.60, SD=6.11) and to use in the further analyses.

The researchers conducted an independent samples t-test (Table 2) to investigate whether students' awareness level differs according to gender. The results showed no significant differences [$t_{(142)}$=-.38, p>.05] in awareness level between male (Mean=24.82, SD=6.01) and female students (Mean=24.43, SD=6.22).

Table 2. Comparison of Ergonomic Computer Use Awareness by Gender

Gender	N	Mean	SD	t	p
Male	62	24.82	6.01	-.38	.70
Female	82	24.43	6.22		

The researchers conducted another independent samples t-test (Table 3) to investigate whether students' awareness level differs according to computer ownership. The results showed that [$t_{(142)}$=3.54, p<.01] those who owned a computer (Mean=25.80, SD=6.21) had more awareness that those without personal computer (Mean=22.11, SD=5.14).

Table 3. Comparison of Ergonomic Computer Use Awareness by Computer Ownership

Computer ownership	N	Mean	SD	t	p
Yes	97	25.80	6.21	3.54	.001
No	47	22.11	5.14		

Since age and time spent t computing were measured as a continuous variable, theirs relationship to students' awareness level were inspected using Pearson product-moment correlation coefficient. The results revealed that students awareness level of ergonomic computer use was not significantly associated with their age (r=.02, p>.05) and time spent at computing on a day (r=.05, p>.05).

Conclusion

In conclusion, this survey shows that participating university students' knowledge regarding ergonomic computer use is at moderate level on average. They are aware of most of the risks due to non-ergonomic usage and have the knowledge of related principals of ergonomic usage. However, their knowledge about ergonomic sitting/stand positions as well as regular exercising is not adequate and thus calls for educational activities for improvement. Regarding demographic and computer profiles, students with their own computer have significantly more knowledge about ergonomic computer usage than those without personal computer. This is an expected finding because having a computer always ready to use can encourage individuals to learn more aspects of it including its negative consequences and thus try to use it more carefully. On the other hand, the awareness level is not related to gender, age and daily time spent on using computer. This suggests that students independent of their demographic characteristic consider the health issues germane to computer usage and take necessary precautions.

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Students' Perceptions of Learning in Blended Education: A Case Study of A Dutch University

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Abstract: The pandemic underscores the need for a blended approach, combining in-person and online education post-crisis. The lessons gleaned from the experience of pandemic-era education highlight the importance of emphasizing blended education in the post-pandemic context, which combines both in-person and online educational approaches. Effective use of blended education requires a clear understanding of students' perceptions of learning in such education and their needs for support. Therefore, in this study, we aim to explore what are the students' perceptions of learning and what are the source of support when students seek help in blended education. This exploratory study was carried out at a Dutch university, involving 537 students. Students' data regarding their perceptions of learning and their sources of help in blended education were collected through an online survey. The analysis of data regarding students' perceptions of learning in blended education revealed that, overall, a majority of students reported experiencing a high perception of learning in blended education compared to the previous academic year with mainly online education. In addition, a majority of students often search for answers in online resources when they seek help in blended education contexts. The results can provide insights into the effective implementation of blended education in higher education.

Keywords: Blended education, educational support, learning perceptions, seek for help, students

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Introduction

Advances in technology play a crucial role in the field of education, especially after the Covid-19 pandemic where technology has shown a great potential to support education (Badali et al., 2022; Banihashem et al., 2022, 2023a; Farrokhnia et al., 2023; van Puffelen et al. 2022). The existing literature discussing the future of education in a post-pandemic world suggests that blended education is a promising approach. Blended education has seen as a balanced and flexible form of learning that combines online and face-to-face (F2F) instruction to address the challenges posed by online education in the post-pandemic era (Karimi et al., 2023; Stevens et al., 2023). Blended education is regarded as a well-balanced and adaptable form of learning, seamlessly combining online and face-to-face instruction to effectively tackle the challenges arising from the widespread transition to online education in the post-pandemic era. The fusion of these modalities not only offers students greater flexibility but also maintains the value of in-person interaction, thereby creating a holistic learning experience that accommodates the diverse needs of learners in this rapidly changing educational landscape (see Noroozi & Sahin, 2022, 2023; Van der Spoel et al., 2020).

Blended education is described as a pedagogically thoughtful combination of online and F2F teaching and learning elements (Vo et al., 2020). This approach leverages technology and online tools to mediate interactions among teachers, students, and learning resources (Bliuc et al., 2007). Effective blended education not only merges learning activities but also fosters opportunities for socialization to enhance the social and cognitive presence of both teachers and students (Singh et al., 2022; Dziuban et al., 2018). It is important to note that online resources and activities in blended education are not meant to replace in-person activities but rather to provide additional learning opportunities (Alammary et al., 2014).

Sharma and Shree's (2023) study, examined the impact of various education modes (online, F2F, and blended) in higher education after the pandemic. They discovered that facilitation, such as program structure, active participation, and feedback, was notably higher in blended education compared to online and F2F formats. Students found blended education more manageable and effective for their learning. In another study, Singh et al. (2022) conducted a SWOT analysis on different educational approaches post-pandemic, ultimately recommending a focus on building a suitable pedagogical and technical infrastructure for blended education. Other studies, like those by Al-Fodeh et al. (2021) and Munir (2022), echo similar recommendations. Tahir et al. (2022) found that blended education offers advantages like learner flexibility, content consolidation, and real-world knowledge application. In summary, these studies collectively suggest that blended education is likely to become the new norm in the post-pandemic era (Banihashem et al., 2023b). This underscores the efficacy of a blended approach in providing a more enriched and engaging learning environment. The students' collective perception reinforces this, as they express a preference for blended education, citing its manageability and effectiveness in meeting their learning needs. These findings collectively advocate for the continued exploration and integration of blended education as a pivotal and responsive model in the ongoing evolution of higher education post-pandemic.

Research indicates that blended education offers a flexible learning environment and can enhance students' performance, persistence, self-efficacy, self-awareness, and self-paced learning (Li et al., 2022; Prifti, 2022; Singh et al., 2022). However, it also comes with challenges related to acceptance and implementation due to its more complex design compared to F2F and online education, including aspects like students' perceptions of learning in blended education and their needs for support in this context (Banihashem et al., 2023b). Students often have limited experience with blended education, further emphasizing the need to explore how they perceive their learning and what are the sources for support when they seek for help. Such investigations can provide valuable insights into the factors contributing to its wider acceptance and effective implementation in the post-pandemic era (Sharma & Shree, 2023).

In summary, the wealth of research highlights the manifold benefits associated with blended education, ranging from fostering a flexible learning environment to enhancing crucial aspects of students' academic experiences such as performance, persistence, self-efficacy, self-awareness, and self-paced learning. However, the journey towards its adoption is not without hurdles, with challenges arising from the intricate design of blended education in contrast to more conventional face-to-face and online models. Understanding students' perceptions and their specific needs for support in this context is crucial, as illuminated by studies such as Banihashem et al. (2023b). Given that students often have limited exposure to blended education, continued exploration into their perceptions and the identification of support mechanisms becomes imperative. This deeper investigation serves as a valuable avenue for unraveling the complexities associated with acceptance and implementation. As we move forward into the post-pandemic era, scientific research outcomes are needed to serve as a roadmap for leveraging these insights to enhance the wider acceptance and effective implementation of blended education, ensuring its continued relevance and success in the evolving landscape of education. Therefore, this study was conducted to further explore and address these issues by answering the following research question:

RQ1. What are the students' perceptions of learning in a blended education environment?
RQ2. What are the sources of support that students utilize when seeking help in a blended education environment?

Method

Participants

This exploratory study took place at a Dutch university renowned for its focus on life sciences. In this study, a total of 537 students took part. Among the student participants, the majority were female (N=328, 61%). Importantly, there was a well-balanced representation of students from both bachelor's and master's levels, with

253 (47%) at the bachelor's level and 267 (50%) at the master's level. Furthermore, a significant portion of the students held Dutch nationality (N=356, 67%). Considering the diversity observed among the participants in terms of gender and nationality, it can be reasonably concluded that the sample was reflective of the university's overall student population.

Measurements

Students' perceptions of learning within the context of blended education were assessed using a five-point Likert scale, which spanned from 'strongly disagree' to 'strongly agree' and consisted of five items. These items encompassed aspects such as learning performance, motivation, engagement/participation, feedback from teachers, and collaborative learning among students. Similarly, the sources of help to students in the context of blended education were evaluated using a five-point Likert scale, ranging from 'strongly disagree' to 'strongly agree,' and were based on three items. These items inquired about students' tendencies to seek help from teachers, and fellow students, or to independently search for answers in (online) resources when encountering difficulties in understanding a topic or assignment.

Analysis

A descriptive analysis was conducted to provide an overview of students' perceptions on blended education and their sources of assistance in this educational approach.

Results

RQ1. What are the students' perceptions of learning in a blended education environment?

The findings regarding students' perceptions of learning in blended education revealed that, overall, a majority of students reported experiencing a high perception of learning in blended education compared to the previous academic year with mainly online education (N=149, 28%) (see Table 1).

Table 1. Students' perceptions of learning in a blended education context

Item	Mean	SD	Agreement no. (%)[b]	Disagreement no. (%)[c]	Neutral no. (%)	NM no. (%)
My learning performance is	4.40	0.96	156 (29%)	54 (10%)	127 (24%)	197 (37%)
My motivation is	4.22	0.85	147 (27%)	86 (16%)	105 (20%)	196 (37%)
My engagement/participation is	4.37	0.90	166 (31%)	68 (13%)	103 (19%)	197 (37%)
The feedback of teachers to me is	4.30	0.89	133 (25%)	64 (12%)	127 (24%)	210 (39%)
The collaborative learning among students is	4.20	0.72	142 (27%)	99 (18%)	86 (16%)	207 (39%)
Overall	4.30	0.86	149 (28%)	74 (14%)	109 (20%)	202 (38%)

[a] Based on a 5-point Likert scale (Strongly disagree, disagree, neutral, agree, and strongly agree); [b] Agreement = Agree, and strongly agree; [c] Disagreement = Strongly disagree, disagree; NM = Not Mention

RQ2. What are the sources of support that students utilize when seeking help in a blended education environment?

The findings regarding sources of help for students in blended education revealed that, overall, a majority of students often search for answers in (online) resources when they have trouble understanding a topic or assignment (N=288, 54%) (see Table 2).

Table 1. Students' source of support when seeking help in blended education

Item	Mean	SD	Agreement no. (%)[b]	Disagreement no. (%)[c]	Neutral no. (%)	NM no. (%)
I often ask teachers for help when I have trouble understanding a topic or assignment	3.93	1.19	137 (26%)	144 (27%)	94 (17%)	159 (30%)
I often ask fellow students for help when I have trouble understanding a topic or assignment	4.30	1.20	188 (35%)	99 (19%)	92 (17%)	155 (29%)
I often search in (online) resources myself for answers when I have trouble understanding a topic or assignment	4.99	0.97	288 (54%)	29 (5%)	68 (13%)	149 (28%)

[a] Based on a 5-point Likert scale (Strongly disagree, disagree, neutral, agree, and strongly agree); [b] Agreement = Agree, and strongly agree; [c] Disagreement = Strongly disagree, disagree; NM = Not Mention

Discussion and Implications for Practice

In this study, the primary focus was on investigating students' perceptions of learning and their preferred sources of support in the context of blended education within higher education. The findings can be summarized as follows: [a] "*High Level of Learning Perception*": The majority of students expressed a high level of satisfaction and perceived learning within the blended education content. This suggests that the blended approach, which combines both online and in-person elements, resonated positively with the students, leading to a favorable learning experience. [b] "*Online Resources as Preferred Support*": Another key finding was that most students indicated a preference for online resources as their primary source of support in the blended education setting. This signifies that students are increasingly relying on digital materials and resources to complement their learning experience and enhance their understanding of course materials. The results of this study have implications for practice as follows:

1. **Optimize Blended Learning Environments:** Based on the positive perceptions of learning in blended education, higher education institutions should continue to develop and optimize blended learning environments. This includes ensuring that the mix of online and in-person components is well-balanced and effectively designed to engage and support students.
2. **Emphasize Online Resource Availability:** Given that students are leaning towards online resources as their preferred source of support, educators and institutions should make a concerted effort to provide

easily accessible and high-quality online materials. This might include digitized lecture notes, supplementary readings, and interactive online platforms for discussion and collaboration.

3. **Faculty Training and Support:** Faculty members should receive training and support in designing and delivering effective blended education. This training should emphasize the integration of online resources and technology to enhance the learning experience. Institutions must invest in robust teacher training programs that provide ongoing support and resources. This investment not only benefits individual teachers but also contributes to the overall success of educational institutions in preparing students for a rapidly evolving, technology-driven world. Ultimately, the need for teacher training in implementing education is not just a response to technological advancements; it is a strategic investment in the quality and relevance of education in the 21st century (see Masoumi & Noroozi, 2023).
4. **Student Guidance:** Higher education institutions should provide guidance and training to students on how to make the best use of online resources. This can help students navigate the vast array of digital materials effectively and make the most of their blended learning experience.

Conclusion

This study's results highlight the positive perceptions of students regarding blended education within the higher education context. The majority of students reported a high level of learning satisfaction, indicating the effectiveness of the blended approach. Additionally, the preference for online resources as a source of support underscores the evolving role of technology in education. To ensure the continued success of blended education, institutions should focus on optimizing the design of blended learning environments, making high-quality online resources readily available, providing support and training to faculty and students, and guiding students in the effective use of digital materials. As technology continues to shape the landscape of education, these efforts will be instrumental in enhancing the learning experience and meeting the evolving needs of students.

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Exploring Students' Perceived Learning Outcomes and Satisfaction in a Supported Online Peer Feedback Module

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Abstract: The aim of this study was to explore how students perceive their learning outcomes and satisfaction during an online peer feedback activity in the context of argumentative essays. In this study, 135 undergraduate students participated. A module called "*Argumentative Essay Writing*" was developed and embedded into the course on the Brightspace platform. In this module, students wrote an argumentative essay for the first session, and they provided peer feedback based on the guidelines for the second session. In the third session, students revised their essays based on the received feedback. In the end, students were asked to fill out a survey about their perceived learning outcomes and satisfaction. The results showed that students perceived domain-specific or general learning outcomes and learning satisfaction were high. These insights could guide educators and institutions in developing more effective online learning strategies, ultimately fostering improved student learning outcomes and satisfaction in the digital age.

Keywords: Learning outcomes, learning satisfaction, online learning environment, peer feedback

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Introduction

The integration of technology in education especially for feedback purposes has shown great potential to support feedback (Akbari et al., 2023; Banihashem et al., 2022). One paramount advantage lies in the expeditious delivery of feedback. Digital platforms empower educators to swiftly assess and respond to student performances, fostering a real-time interaction crucial for effective learning. Beyond speed, technology allows for tailored feedback, accommodating diverse learning styles. Adaptive learning tools analyze individual progress, delivering personalized guidance that aligns with students' unique needs and preferences (Banihashem et al., 2022). Accessibility and flexibility are elevated through the incorporation of digital feedback mechanisms. Students can engage with feedback at their own pace and from any location, transcending the constraints of traditional classrooms. This proves particularly valuable in the realm of remote and online learning, where flexibility becomes paramount.

The collaborative dimension is accentuated as technology facilitates peer feedback systems. Virtual platforms enable students to review and comment on each other's work, fostering a collaborative spirit and providing varied perspectives. This not only refines the quality of feedback but also nurtures critical thinking and communication skills. Educational technology's impact extends to the realm of data-driven insights. Analytical tools offer educators a panoramic view of student performance, unveiling patterns and identifying areas of strength and weakness. This wealth of data empowers educators to fine-tune their instructional strategies, tailoring approaches to meet the evolving needs of their students (Banihashem et al., 2022).

In the context of peer feedback, the utilization of online peer feedback as an effective instructional strategy in education, particularly in large class settings, is rapidly gaining attention due to the heavy workload faced by educators when providing individualized feedback (Noroozi & De Waver, 2023; Noroozi et al., 2022; 2023). Previous research has consistently demonstrated the positive impact of employing peer feedback in higher education on various aspects of students' learning processes and outcomes (Gielen et al., 2010; Valero Haro et al., 2022, 2023), enhancement of argumentative writing skills (Latifi & Hatami, 2021; Latifi, Noroozi, & Talaee, 2021, 2023; Latifi et al., 2021; Taghizadeh Kerman et al., 2022a, 2022b, 2023a, 2023b), and overall satisfaction with the learning experience (Taghizadeh Kerman et al., 2022b; Noroozi et al., 2022). Nonetheless, within the specific context of argumentative essay writing, there exists a gap in the literature where further investigation is warranted.

The design and development of modules incorporating peer feedback, offering students engaging learning opportunities, present a promising approach to motivate students to integrate such digital learning modules into their regular coursework. Receiving feedback from peers who share similar motivational needs and engaging in reciprocal feedback constitute critical components of the learning process (Bayerlein, 2014; Crisp, 2007).

Effective feedback serves as a tool for helping students acknowledge the disparity between their current status and their desired goals, while also offering guidance on what areas need improvement and how to effect those improvements (Noroozi et al., 2023). The incorporation of peer feedback is identified as a pivotal element in the learning process. This approach is particularly impactful when students sharing similar motivational needs engage in reciprocal feedback. Such an exchange not only builds a sense of community among learners but also addresses individual learning goals.

Effective feedback, as emphasized by Noroozi et al. (2023), serves as a valuable tool in the educational toolkit. It acts as a mirror, allowing students to reflect on the gap between their current status and their desired objectives. Furthermore, it offers actionable insights by providing guidance on specific areas that require improvement and suggesting ways to effect those improvements. In essence, these feedback-rich modules not only motivate students but also empower them with the knowledge and direction needed to enhance their overall academic performance.

Despite the existing literature emphasizing the significance of feedback for learning and the attributes of high-quality feedback (Bayerlein, 2014; DeNisi & Kluger, 2000), students in collaborative settings often encounter challenges in providing high-quality feedback (Bayat et al., 2022; Noroozi et al., 2016; 2020; 2022). This may not always result in effective learning outcomes. Therefore, there is a clear need for additional support to facilitate students' willingness to provide critical yet constructive feedback in digital learning modules with a high level of satisfaction. Current literature also falls short in addressing how students perceive their learning outcomes and satisfaction with online peer feedback activities. This gap in the literature leaves unexplored insights into students' perceptions of learning and satisfaction when engaging in online peer feedback activities.
The purpose of this study is to investigate how students perceive their learning outcomes in two sections including perceptions of obtaining domain-specific knowledge and domain-general knowledge, as well as their satisfaction with the supported online peer feedback activities in the context of argumentative essay writing. The following research questions are formulated based on this purpose:

1. How do students perceive their learning outcomes in terms of domain-specific knowledge in their supported online peer feedback activities in the context of argumentative essay writing?
2. How do students perceive their learning outcomes in terms of domain-general knowledge in their supported online peer feedback activities in the context of argumentative essay writing?
3. How do students perceive their satisfaction with their supported online peer feedback activities in the context of argumentative essay writing?

Method

Participants

This experimental study is part of a larger project conducted at Wageningen University and Research in the Netherlands during the academic year 2020-2021. The participants included 135 undergraduate students who had enrolled in an environmental science course. However, data from only 101 students who completed the module were included in this study. Of the participants, approximately 69% were female (N = 70), and about 31% were male (N = 31). The mean age of the participants was 20 years.

Procedure

To run this study, a course module called "*Argumentative Essay Writing*" was designed and embedded in the course within the Brightspace platform. The module was followed by the students in three consecutive weeks and for each week they were asked to complete specific task. In the first week, students were provided with introductory instructions on how to write an argumentative essay, they were asked to fill out an online survey about their demographic data, and write an argumentative essay on one of the three provided topics. In the second week, students were asked to review two of their peers' argumentative essays and provide comments on them (30 to 50 words for each element) on peers' essay performance based on the given criteria embedded in the FeedbackFruits app within the Brightspace platform. In the third week, students were asked to revise their essays according to the two review sets they received from their learning peers and submit the revised version of the essay on the platform. At the end of the module, students filled out the surveys regarding learning satisfaction and perceived learning outcomes.

Measurements and Analysis

A questionnaire designed by Noroozi et al., (2022) was designed to assess students' learning satisfaction with the learning experiences. This questionnaire consisted of two main sections and 11 items in total on a five-point Likert scale ranging from "*almost never true = 1," "rarely true = 2," "occasionally true = 3," "often true = 4"* through to *"almost always true = 5*." The first section (5 items) assessed students' perceived effects of the domain-specific learning outcomes. The second section (6 items) assessed students' perceived effects of the domain-general learning outcomes. The reliability coefficient was high for all two scales of this instrument (Cronbach α = 0.84 and 0.84). Descriptive analysis was used to answer the research questions.

Results

RQ1. How do students perceive their learning outcomes in terms of domain-specific knowledge in their supported online peer feedback activities in the context of argumentative essay writing?

The average score for students' perceived effects on domain-specific learning outcomes was sufficiently high (3.58). The results of this study showed that students had a high perception of domain-specific learning outcomes (see Table 1).

Table 1. Students' perceived domain-specific learning outcomes

Perceived effects on the domain-specific learning outcomes	Mean	SD
The module was useful for learning about different perspectives on the controversial issue	3.46	0.84
The module broadened my knowledge on the topic	3.73	0.90
The module deepened my knowledge on the topic	3.62	0.96
The module helped me learn pros and cons of various arguments for and against the topic	3.59	0.94
I am satisfied with my learning with this module	3.53	0.84

RQ2: How do students perceive their learning outcomes in terms of domain-general knowledge in their supported online peer feedback activities in the context of argumentative essay writing?

The average score for students' perceived effects on domain-general learning outcomes was 3.43. The results indicated that students had a high perception of domain-general learning outcomes (see Table 2).

Table 2. Students' perceived domain-general learning outcomes

Perceived effects on the domain-general learning outcomes	Mean	SD
The module helped me learn how to elaborate on various pros and cons of the topic	3.40	0.98
The module helped me learn how to defend and support my opinion on the topic	3.41	1.06
The module helped me learn how to integrate various perspectives on the topic	3.26	0.92
The module helped me learn how to write a structured argumentative essay	3.36	0.98
The module helped me learn how to offer argumentative peer feedback	3.84	0.93
The module helped me learn essential elements of a sound argumentative essay	3.31	0.95

RQ3: How do students perceive their satisfaction with their supported online peer feedback activities in the context of argumentative essay writing?

The average score for students' learning satisfaction was 3.65. The results indicated that students' learning satisfaction was high.

Discussion and Implications for Practice

The results of this study indicate that students were able to attain both domain-specific and domain-general learning following the implementation of a digital learning module. This finding aligns with previous research emphasizing the positive benefits of various representational tools, such as textual and graphical content in digital learning modules, on students' learning and knowledge acquisition (Latifi et al., 2023; Vale Haro et al., 2023). The step-by-step instructions and recommendations provided within the digital learning module appeared to assist students in acquiring prior knowledge about the pros and cons of the contentious topic, enabling them to elaborate on it during the peer feedback process.

The digital learning module was designed to facilitate deep cognitive processing for learning and to uncover complementary knowledge from the two other group members based on their awareness of each other's specialized expertise (Noroozi et al., 2016; Schellens et al., 2007). In this study, students benefited from their partners' knowledge and skills by reviewing the feedback on the topic provided by two other group members. Assessing and providing feedback on their peers' argumentative essays enhanced students' awareness of the topic (see Latifi & Hatami, 2021; Latifi, Noroozi, & Talaee, 2021, 2023; Latifi et al., 2021). As evidenced by the post-test assessment of their perceived domain-specific and domain-general learning, students' knowledge awareness improved, and the importance of group knowledge awareness in fostering knowledge construction was evident (Noroozi, 2018, 2022; Noroozi & Hatami, 2019; Taghizadeh Kerman et al., 2023).

Students found the digital module, with its textual and graphical representations of information and supported peer feedback, to be highly valuable in creating well-structured argumentative essays and developing domain-specific expertise. Engaging with a digital module for learning and knowledge sharing proved to be a challenging yet enjoyable experience for undergraduate students. It encouraged them to deepen their understanding of the topic, express agreement or disagreement with the arguments of their peers, and incorporate multiple perspectives through the supported peer feedback throughout the module. The digital module appeared to provide students with a safe and respectful learning environment where they could practice argumentation, critical thinking, and reasoning skills. Students quickly grasped the many functions of this digital module, as evident from their survey responses. Overall, the module's user-friendliness, design, and supported peer feedback had a positive impact on students' perceived domain-specific and domain-general learning, as well as their satisfaction. Last but not least, for future research we suggest employing new technological innovations such as Artificial Intelligence and learning analytics (Banihashem et al., 2023) for supporting online peer feedback activities. It would be also interesting to explore the role of culture in such online settings to understand the extent to which the outcomes of this study can be applied in different cultural settings (see Ranjbaran et al., 2023)

Conclusion

In summary, this research delved into the impact of different elements within the digital learning module, with a specific focus on peer feedback, on key dependent variables. These variables included perceived domain-specific learning, perceived domain-general learning, and overall learning satisfaction. The outcomes of this study significantly contribute to advancing our comprehension of the efficacy of peer feedback modules within online learning environments, with a particular emphasis on learner satisfaction and perceived learning, as highlighted by Taghizadeh Kerman et al. (2022a).

The study revealed that peer feedback modules play a crucial role not only in enhancing learning satisfaction but also in influencing broader aspects of overall learning effectiveness, as underscored by the insights from Noroozi et al. (2023). The significant influence of peer feedback emerged as a common thread across various dimensions, emphasizing its multifaceted impact on the online learning experience. This research sheds light on the importance of incorporating peer feedback strategies within digital learning modules to optimize learner satisfaction and enrich the learning experience in both domain-specific and domain-general contexts.

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Developing Speaking Board Game of Descriptive Text for Senior High School English Learners

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Abstract: The aim of this study is to develop a learning media on teaching Descriptive Text for first grader of Senior High School. This study was conducted with Research & Development (R&D) design. The source of the data are the students of one of Islamic senior high schools in Indonesia which consists of thirty-two students. To collect the data, online questionnaire for the students was administered to obtain the students' needs of learning media to learn descriptive text in the classroom and an interview with the classroom teacher was also conducted. Several procedures were conducted to develop the learning media as follows: Evaluation and Needs Analysis, Learning Media Design, Learning Media Development, Validation by Experts, Revision and Final Product. After accomplishing the Evaluation and Needs Analysis, it was found that the existing learning media used in the classroom to teach Descriptive Text was not interesting for most students and unable to enhance their ability especially in Speaking skills. It can be shown from the result of the questionnaire that 87.5 % of students need a learning media to help them in improving their ability in English especially in descriptive text topic, and 46.9 % of students prefer Speaking Board Game as their learning media. The product has been validatedbyexperts respectively an English lecturer and an English teacher. The product result is Speaking Board Game which is the modified version of Snake and Ladder game acclimated with the basic competence of K13. The result of experts' validation showed that the learning media produced classified as an appropriate media to be used on speaking descriptive text by obtaining the average percentage 95.1% or categorized as excellent.

Keywords: Research and development, Learning media, Descriptive ext, Speaking board game

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Introduction

English as a language has four competencies to learn consisting of two major language skills which are productive skills and receptive skills. the skills that are included into productive skills are speaking and writing;

and the receptive skills are reading and listening. In order toachieve the fluency of English the students must be able to do those four skills well. As the matter of fact,still many teachers only focus on certain skills in teaching English to the students. For instance, in Indonesia many teachers only focus on reading and listening because those two skills are examined in thenational examination. Therefore, the teachers leave those two other skills and only focus on reading and listening. The phenomenon has made the students become passive in English. The students' speaking skills is not improving since they have no space to explore their speaking skills.

Teaching English in the classroom is not easy yet important, because no matter what language that is learned the goal of the language itself is to make the students are able to communicate and express their thoughts, feelings and opinions to the people. A teacher has to make English as a habit in order to stimulate the students' motivation and encouragement to learn English more. Because, learning English is still considered as a hard and not enjoyable thing to do for most students in Indonesia. Consequently, a teacher must put English into a communicative and enjoyable learning process that will enhance the students' motivation that at the end will be improving their English skills especially Speaking.

There are several factors that can cause this happening such as the teaching delivery done by the teacher that too focus on certain skills e.g reading or listening, the learning materials or the learning media that the teacher provides. For instance, when teaching Descriptive Text the teacher tends to set the materials to focus on the reading and writing skills only without integrating the other two skills which are listening and speaking. This has made the students only understand the generic structure and linguistic feature of the Descriptive Text and not ableto communicate that in their daily life.

In this research, the focus of the study is the learning media that the teacher uses in teaching Descriptive Text. Because based on Li-Ling Kuo states that a medium is called the educational medium when the medium transfers message for teaching (Li-Ling. 1996). He adds that the use of media is important and it is impossible to coordinate teaching with learning without using media (Li- Ling.1996). Media are flexible because they can be used for all level of students and in all subjects. Teaching media also can encourage students to take more responsibility for and control over their own learning, engage in joint planning of the syllabus, and take longer-term perspectives on their own learning (Masterman. 1999). Since media give many advantages, a teacher should consider a medium to be used in teaching- learning process.

As the matter of fact, still there are many teachers are lack of creativity to design a good learning media that is able to enhance the students’ speaking skills. Especially in teaching Descriptive Text as what has been mentioned above.

The paragraph above is evidenced by the achievement of the students in English speaking activity especially in speaking decsriptive text. The table below demonstrates that only a half of the population who succeed the teaching and learning process. The table below shows the sixteen out of thirty two students who obtained the score under determined KKM (Minimum Mastery Criteria). The speaking activity is measured by these following criteria : pronunciation, intonation, fluency and accuracy. The highest score for each criteria is twenty five. Based on the syllabus the score range is as follow : 86-100 (Excellent), 71-85 (Good), 56-70 (Fair), and <55 (Poor).

Table.1 Students' Study Report

		Indicator					
No	**Name**					**Total**	**Predicate**
		Pronunciation	**Intonation**	**Fluency**	**Accuracy**		
1	S-1	15	15	10	10	50	Poor
2	S-2	20	20	15	15	70	Fair
3	S-3	12	12	10	10	54	Poor
4	S-4	18	15	15	15	63	Fair
5	S-5	15	15	10	10	50	Poor
6	S-6	16	16	17	17	66	Fair
7	S-7	12	12	10	10	54	Poor
8	S-8	16	15	10	10	51	Poor
9	S-9	15	15	10	10	50	Poor
10	S-10	20	20	15	15	70	Fair
11	S-11	20	20	15	15	70	Fair
12	S-12	15	15	10	10	50	Poor
13	S-13	15	15	15	15	60	Poor
14	S-14	18	18	17	17	70	Fair
15	S-15	18	15	15	15	63	Fair
16	S-16	16	16	17	17	66	Fair

The table above has led this study to the urgency of the development of a new media which enables to facilitate and improve the students' ability in speaking descriptive text since a half of the population still achieve the score in the range below the KKM (Minimum Mastery Criteria). Additionally, a teaching and learning process can beconsidered as success if the results of the study canreach 75% of the population. Based on what is statedby Syaiful Bahri Djamarah and Aswan Zain (2006:107), if the teaching and learning process reaches lessthan 60% of the population, it is considered as poor.

The learning media in this study namely "Speaking Board Game" is developed based on the students' needs and the preliminary data obtained from the achievement of students' learning in speaking descriptive text as mentioned above.

The media used by the teacher in teaching is called "Realia', where the teacher displays some pictures about tourist attractions and historical places and ask the students to mention some words related to the places displayed. It is proven ineffective based on the learning result. Additionally, the students still experience difficulties in describing the places, therefore, they need a learning media which enables to assist them in describing the topic in more fun in interesting way that in turn will activate their English.

The media developed in this study provides a different learning exposure that the students will be assisted to actively use English by the clues (words hints, pictures), and the media is in a form of game that must be challenging rather than individually asked to describe something with only seeing a picture. This game is also divided into two main sections which are the speak louder section and what did your hear section. Those will not only activate the students speaking skills, but also the listening skills; since there are also some audios provided for them to listen and write what they hear. While doing the game, the teacher can also correct the pronunciation and other aspects of speaking as stated on the table above that will lead to the fluency and the learning achievement.

The problems mentioned above have led the researcher to develop an English learning media to teach descriptive text. The development of the learning media will be discussed further.

The research findings will be beneficial for the students, teachers and other researchers as follows : (1) For the students. By using Speaking Board Game, the students will have sufficient and effective media to train their speaking skills. On the other hand, learning English will be so much fun and motivating for them by using games as their learning media. (2) For the teachers. The teachers will have an efficient learning media that also can improve and motivate the students to love studying English. (3) For the researchers. The results of this research can be a reference for other researchers to conduct the other related research.

Method

Participants

The participants of the research were students of first grade (class X MIA 10) of MAN 1 Medan in Academic Year 2020/2021. The participants were 32 students. Acting as the collaborator to observe the teaching media from teacher's point of view, the researcher obtained some aid from the English teacher, Nikmah Fadilah Nasution, S.Pd.

Instrument

The instruments of this research consisted of questionnaire and interview. The questionnaire was distributed online to obtain the data of students' needs and learning exposure or experience and the interview was conducted to the teacher in order to obtain the data of the existing learning media used in the classroom in teaching descriptive text.

Procedure of the Research

This research was conducted based on Educational Research and Development (R & D) Research. This research was proposed by Borg and Gall. The aim of this research was to create new product in several stages to improve previous products by using the existing data before (Borg & Gall, 2003:569).

Educational research and development (R & D) is a process used to develop and validate educational products. The steps of this process are usually referred to as the R & D cycle, which consists of studying research findings pertinent to the product to be developed, developing the product based on the finding, field testing it in the setting where it wil be used eventually, and revising it to correct the deficiencies found in the field testing stage. In indicate that product meets its behaviorally defined objectives.

This modification supported by Dirgeyasa (2011) explains that the procedures of development and research implementation are not strict steps that is followed; every researcher could execute and determine the proper procedures for him/her based on the condition faced during the process of development.

Therefore; in this study, the steps conducted as follows : (1) Evaluation and Needs Analysis, (2) Learning Media Design, (3) Learning Media Development, (4) Validation By Experts, (5) Revision, and (6) Final Product.

(1) Evaluation and Needs Analysis

The evaluation was done in order to know how the existing learning media affected the students' ability in speaking specifically when studying descriptive text. The need analysis was done in order to know the needs of the students in the sake of improving their speaking ability.

(2) Learning Media Design

In this stage the construction of the form of the learning media for descriptive text was designed. The learning media must cover all of the skills needed to master English such as listening, reading, writing and speaking skills.

(3) Learning Media Development

The learning media of grade tenth students was designed and developed based on the data provided in evaluation and needs analysis.

(4) Validation By Experts

In this stage, the expert judgment was used. The learning media "Speaking Board Game to teach descriptive text" was validated in terms of learning media relavancy to the syllabus or lesson plan, the learning media content (linguistic aspect), and the layout of the learningmedia.

(5) Revision

After the learning media produced, the learning media was validated by expert judgment; it wasthen revised in order to find out the good, reliable and valid in terms of theoretical standards.

(6) Final Product

In this stage, the learning media was delivered inthe classroom to be tested and used by the students during the learning activity ofdescriptive text.

Results

In developing speaking media, there were sixsteps need to be taken, namely (1) Gathering data and information, (2) Need analysis, (3) Media design, (4) Validating to experts, (5) Revising, and (6) Final product.

Gathering data and information

The data and information were firstly derived from the primary observation done before doing the research. The fact showed that the media researcher really not interesting and it is evidenced by the study report mentioned in the background of study (take a look at the Table 1. Students' Study Report). Additionally, the interview was also conducted to the classroom teacher in order to know the existing media usedin teaching descriptive text.

Table 2. Teacher's Interview Response

No.	Questions	Answers
1.	Have you ever taught Descriptive Text in your class?	Yes, I have ever taught Descriptive Text in my class.
2.	According to you, what is the main objective of learning descriptive text?	The main purpose of learning Descriptive Text is to make the students are able to describe and explain the things around them. Therefore, they are able to explain andinform that to others.
3.	When teaching Descriptive Text, do you find any difficulties in teaching your students?	Basically, all students can understandthe materials given easily. But, it is a problem to them in arranging the sentences due to the lack of vocabulary mastery.

4.	How students' attitude towards the learningprocess in the class especially in the topic ofDescriptive Text?	They seem enjoying the learning. I givethem slide containing some pictures such as countries abroad, or others. When I display the slides, I will ask them to mention some words relatedto the pictures. Then I lead them to make a sentence.
5.	What is the most important skills in learningDescriptive Text?	In my opinion, the most important skills in Descriptive Text is writing, since in my concern when a student is

Need Analysis

The second step researcher doing the need analysis. The needs must be analyzed before developing the new media. The need analysis researcher done by distributing online questionnaire via Google Form to the students of Grade ten at MAN 1 Medan. The questionnaire researcher given to thirtytwo students of grade X in MAN 1 Medan. Hutchinson and waters (1987) stated that in orderto do the need analysis, there are three catagoriesof questions which should be covered, namely necessities, lacks and wants. The following tablesshow the students' necessities, lacks and wants for descriptive text learning media.

Table 3. Students' Necessities Analysis

No.	Question	Options	N	F	Percentages
1	Do you learn speaking in genre descriptive text at class?	Yes			81.3%
		No			18.8%
2	Is speaking skills important in English?	Yes			86.6%
		No			34.4%
3	Have you ever got some difficulties in learning speaking in genre descriptive text?	Yes			78.1%
		No			21.9%
4	Does your English teacher teach all skills (reading, writing, listening and speaking) in the learning of descriptive text?	Yes			34.4%
		No			65.6%
5	Does your English teacher use such media while teaching speaking in descriptive text genre?	Yes			93.8%
		No			6.3%

6	Do you know what Speaking Board is?	Yes			96.6%
		No			3.1%
7	Why do you learn descriptive text?	Yes			59.4%
		No			40.6%
8	Do you need media to help you while learning speaking descriptive text?	Yes			87.5%
		No			12.5%

Table 4. Students' Lacks Analysis

No.	Question	Options	N	F	Percentages
1	You can write Descriptive Text well, but you can't describe something well. Is this statement true?	Yes			81.3%
		No			18.8%
2	In English you tend tobe.....	Yes			86.6%
		No			34.4%

Based on the above table it can be inferred that most students tend to be passive in English; therefore, they are able to write descriptive text well. based on the structure and linguistic features which descriptive text has. But, they are unable to communicate it.

Table 5. Students' Wants Anal

No.	Question	Options	N	F	Percentages
1	İn learning speaking descriptive text, I want the learning media as.....	PPT	32	7	81.3%
		Video	32	10	18.8%
		Board Game	32	15	46.9%
2	To me, if the learning media in the form of Speaking Board Game, it will be...	Interesting	32	31	96.9%
		Boring	32	1	3.1%
3	I prefer learning media in the form of...	Pictures	32	3	9.4%
		Game	32	17	53.1%
		Text	32	2	6.3%
		Video	32	10	31.3%
4	Wil I use Speaking Board Game as my learning media to learn descriptive text?	Yes	32	22	68.8%
		No	32	10	31.3%

3	I expect Speaking Board Game can help improving my skill in....	Speaking	32	10	31.3%
		Writing	32	2	6.3%
		Reading	32	1	3.1%
		Listening	32	2	6.3%
		All skills	32	17	53.1%

Developing Speaking Board Game to Teach Descriptive Text

Some stages were conducted by researcher toobtain a good result of product and the stages wouldbe described as follow.

1. Designing the layout of the Speaking Board Game

The researcher designs the layout manually by considering the squares required on the board. There will be thirty-five squares that will contain one instruction each. The visual will be as follow :

Figure 1. Speaking Board Game Layout

The layout is designed by using Corel Draw, the amount of squares is considered to the students' needs and skill distribution in each squares. There is one start square and one finish square to indicate that the student has completed the game. In each square, there is also an illustration in a form of picture of the object being described. The color chosen is as attractive as it can be in order to motivate the students' enthusiasm in learning. In doing this game, the students will have worksheets to do during the game. The worksheets are in the form of tables to be filled by the students. The worksheets function to give final score at the end of the game.

2. Using the Product Based on Lesson Plan

Product design researcher done by reffering to the students' need analysis. The students need an interesting learning media which can help them in speaking especially in the topic of descriptive text which the goal in the syllabus is to be able to describe tourist attractions and historical places.

3. Validating by Experts

The developed media that had already been arranged by researcher were validated by experts. Experts used the questionnaire sheet to measure the appropriateness of the media developed by researcher. The measure researcher intended to know whether the developed media researcher useable or not.

The questionnaire that researcher proposed to the validator researcher made based on rating scale. Moreover, the scale could be described as followed excellent (90), good (80), fair (70), less (60), very less (50). The questionnaire researcher filled by experts Indra Hartoyo, S.Pd, M.Hum (English Lecturer in Medan State University) and Nikmah Fadillah Nasution, S.Pd (English Teacher in MAN 1 Medan). Media validation included three aspects, they were: indicator aspect, linguistic aspect, and layout aspect. For the first expert researcher English Lecturer in State University of Medan Indra Hartoyo, S.Pd, M.Hum and the second expert researcher Nikmah Fadillah Nasution, SPd. The results can be seen as follow:

Table 6. Experts' Validation of Indicator Aspect

Item Assessed	Expert		Percentages (%)	Criteria
	I	II		
The curriculum competence of speaking board game fulfills the learning needs	5	5	100	Excellent
Speaking board game is easy to use	4	4	80	Good
The instructions applied in speaking board game are in line with the syllabus	4	5	90	Excellent
Learning media contains topic which supports students' oral competence	5	5	100	Excellent
The materials given can support students to learn more effeciently and effectively	4	5	90	Excellent
Speaking board game is relevant to use in accordance to the learning objectives	5	5	100	Excellent
Overall assessment	27	34	93.3	Excellent

The first aspect researcher conducted to identify whether the learning media already fulfilled the basic competencies and learning objectives of descriptive text in the syllabus or not. The data above presented that average percentage of experts' validation toward indicator aspect researcher 93.3% and categorized as excellent. In conclusion, the media especially in indicator aspect has been impressive. In addition, the competencies based on students' needs, the material and syllabus correlation, topic, material and learning objectives of the media were also categorized as excellent. Meanwhile, the practicality of learning media use is categorized as good. Based on those criteria, the speaking board game can be categorized as an appropriate media for tenth grade students to learn speaking descriptive text.

Table 7. Experts' Validation of Linguistics Aspect

Item Assessed	Expert		Percentages (%)	Criteria
	I	II		
İnstructions provided are easy to follow	5	5	100	Excellent
Speaking board game encourages students to use English actively	5	5	100	Excellent
İntonation and articulation of listening audio	5	5	100	Excellent
The clarity of listening audios	5	5	100	Excellent
The efficiency of listening audios	4	5	90	Excellent
Overall assessment	24	25	98	Excellent

The second aspect researcher conducted to identify whether the learning media already fulfilled the linguistics standard to be used in speaking descriptive text for the tenth grade students or not. The data above demonstrated that average percentage of experts' validation toward linguistic aspect researcher 98% and categorized as excellent. As the result, the media especially in linguistic aspect has been understandable. Additionally, all of the items assessed above were categorized as excellent. Basedon those criteria, the *Speaking Board Game* is an appropriate learning media which is understandable, motivating, efficient and effective in the descriptive text teaching and learning.

Table 8. Experts' Validation of Layout Aspect

Item Assessed	Expert		Percentages (%)	Criteria
	I	II		
Media's apperance is appealing.	5	5	100	Excellent
Fonts and colors are readable	4	5	90	Excellent
Letter variations used are descent	4	5	90	Excellent
Pictures and instructions given are relevant.	5	5	100	Excellent
Pictures and illustrations used are aesthetic and functional	4	5	90	Excellent
Overall assessment	24	25	94	Excellent

The last aspect researcher used to identify the relevancy of the layout, including the fonts (size, color), background, color used and pictures or illustrations used in the media whether the pictures are in line with the tourist attractions or historical buildings being described. As the result, the percentages of validating the layout aspect for the media researcher categorized as excellent (94%).

Table 9. Experts' Validation Recap Assessment of Speaking Board Game

No	Item Assessed	Validity (%)	Criteria
1	Indicator	93.3	Excellent
2	Linguistics	98	Excellent
3	Layout	94	Excellent
	Overall assessment	95.1	Excellent

The above table presented that the average percentage of the experts' validation is 95.1% which is categorized as excellent. Based on the result, it can be stated that Speaking Board Game is an appropriate.

4. Revising

There were some revisions as suggested by experts.

a) Indra Hartoyo, S.Pd., M.Hum suggested asfollow;
"The overall aspects of a good learning media has been well fulfilled. The learning media encounters the students' needs in learning descriptive text. I suggest you to make the clues for the places the students might not know to anticipate if they are not familiar with the place in the speaking board game."

b) Nikmah Fadillah Nasution, S.Pd suggested as follow;
"The learning media you have designed is highly relevant with the syllabus especially the learning objectives the students are about to achieve in descriptive text material. I suggest you to produce more speaking board game and promote this to more English teachers to help them conditioning an interractive teaching and learning activity."

5. Final Product

After revising the media, then the final product had been released based on the students' need. This media had been tested and admitted by the experts as an appropriate media to learn speaking descriptive text. It can increase the students' motivation to speak and help them to describe the tourist attractions and historical buildings more easily. Furthermore, this media can be a sustainable asset in comprehending descriptive text for the students.

Discussion

As stated earlier, the aim of this study is to develop a learning media namely Speaking Board Game based on the students' need that will be an appropriate media in improving students' ability in speaking descriptive text. This study researcher conducted because the absence of fascinating learning media in the school especially for the tenth grade students. By this reason, many students have less motivation and confident to speak especially in descriptive text material. In developing Speaking Board Game, the researcher had followed some stages proposed by Borg and Gall (2003). The stages consisted of gathering the information needed, analyzing the students need, designing the media, validating to experts, revising the media and releasing the final product. All of the steps were successfully done and getting the final product. The final product is based on the students' need and syllabus and appropriate to learn speaking descriptive text. It enables the students to describe the tourist attractions and historical places and increase their knowledge about decsriptive text.

The developed media in this study are relevant with some previous studies. The previous studies also proved that speaking board game can increase the students' motivation in learning English especially speaking skill. Based on the research conducted in 2017 in SMPN 2 Wungu where this research aimed at improving the speaking learning process of the eighth graders of SMP Negeri 2 Wungu through Board Game "Snake and Ladder" in the academic year of 2016/2017 resulted in a significant result. It is concluded that speaking board game can make students improve their speaking skill. With this game, the students can make a descriptive text orally. The students also feel confident when they come forwards in front of the class and able to speak up in front of the class confidently. Moreover, Susanti and Amri (2016) also stated some following advantages of speaking board game to teach descriptive text such as the students have good respond to the teacher. Second of all, the game makes the students feel joy because the game in Board Game "Snake and Ladder" is easy to play. Third, using Board Game "Snake and Ladder" researcher easy to implement in the class. This game makes the lesson understood well by the students. This means that by using Board Game media helps the students to comprehend the material clearly and easily because the media facilitate the students to catch the content well. Fourth, using Board Game "Snake and Ladder" makes students more active to speak up. It means that by using Board Game "Snake and Ladder" in teaching speaking make the students active to follow the teaching and learning process

In measuring the validity media, there were two experts who involved in this study as an English lecturer of Medan State University and an English teacher from the school. The validation result consisted of three aspects, there are indicator aspect, linguistic aspect and layout aspect. Based on those aspects, the experts had validated the media which is categorized excellent in which the average percentage of those aspects is 95.1%. By seeing the percentage, it can be concluded that overall the Speaking Board Game has fulfilled some standards and students' need on speaking descriptive text for tenth grade of students.
However, the media si not perfect enough. There are several things should be improved. Moreover, there are also suggestions by experts about the learning media. The experts suggested that the places clues added in order

to anticipate the students get unfamiliar with the tourist attractions or historical buildings in the speaking board game. Therefore, there will be no problem when playing the game and ease the students to describe the places.

At the final, this study is purposed to remind the teacher that the use of media is highly important to attract the students' attention to learn and help them comprehend the material easily. In this case, Speaking Board Game can be an alternative media to support the teaching and learning process of descriptive text material in the classroom. Kamaludin (2009) stated that media is facilities, resources or toold used by people to produce message or information. It can be any components that students used to convey messages in order to build their motivation to learn.

Conclusion

After analyzing the data taken from the research conducted in the school, the conclusions can be drawn as follow:

1. The existing learning media used in the teaching of descriptive text by the teacher is not interesting and not contributing toward students' speaking ability. It can be shown from the result of teacher interview that the teacher only used Realia (a kind of miniature) or by showing slides containing thepicture of tourist attractions and historical placesto teach descriptive text.
2. The learning media in this study is developed based on the students' needs and following the design of Research and Development (R & D). It is concluded that the tenth-grade students faced some problems in descriptive textthat the students are unable to speak thedescriptive text. Additionally, the teaching and learning process is not supported by an interesting learning media to motivate the students to be more confident in speaking descriptive text. Therefore, the students need a learning media to help them in the form of game.In this case, speaking board game is expected by most students of tenth grade as their learning media in speaking descriptive text. It is assumed that speaking board game is the solution for the students' learning problem. Developing Speaking Board Game as a media inlearning speaking descriptive text followed the R& D phases by Borg and Gall (2007) which is simplified into, (1) Gathering Data and

Information; (2) Need Analysis; (3) Design Media; (4) Validate by Experts; (5) Revision; (6)Final Product. The average percentage of validating the media to the experts is 95.1% which is categorized as relevant media. It means that Speaking Board Game is valid and appropriate to be used as a media in teaching speaking descriptive text for the tenth-grade students.

Recommendation

Future researchers are suggested by implementing more samples so that the generalization of the findings can be achieved.

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Descriptions of Vikings in the Works of Marten Eskil Winge and Nils Blommer in the Context of Scandinavian Mythology

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Abstract: Scandinavian and Viking mythologies have played an important role throughout history, reflecting the imagination, beliefs and cultural heritage of the societies to which they belong. These mythological systems deeply influenced the historical and cultural fabric of northern Europe and inspired many works of art. This research focuses on how Scandinavian and Viking mythology is reflected in painting. In order to examine the relationship of painting with Scandinavian and Viking mythology, the works of Marten Eskil Winge and Nils Blommer were examined as a visual representation of Scandinavian mythology and Viking legends. These two artists masterfully depicted mythological figures, heroes and epic stories and conveyed this rich cultural heritage to the audience. Additionally, the use of runic inscriptions and the role of Edda texts were also discussed in the research. Runic inscriptions are a characteristic writing system used in the Viking period and have attracted attention as a frequently seen element in works of art. The Edda texts are important works considered to be the sources of Scandinavian mythology and are frequently referenced by artists. In the research, the use of inscriptions and texts in works of art was examined.

Keywords: Scandinavian Mythology, Viking Mythology, Marten Eskil Winge, Nils Blommer

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Introduction

About the Scandinavians

Pre-Viking Scandinavia covers the period between the 8th and 11th centuries AD. Scandinavians, that is, the northern people, consist of Nordic countries such as Denmark, Norway, Sweden, Finland, Iceland, Faroe Islands, Aland Islands and Greenland. They are called Geats, Svear, Danes, Norwegians, Götalanders, Södermanlanders and others.

Viking Mythology and the Eddas

In Viking Mythology, natural events are explained with mythological stories. It is obvious that the Vikings associated the natural events they observed around them with various gods. Gods and Goddesses control the universe with certain powers. Sometimes the cause of extreme natural events is attributed to the struggle between two divine powers. Wars, destruction or disasters are thus given a divine appearance. Natural structures that they see around them and have difficulty understanding, or events that may seem normal to today's people, are attributed to a mythological causality. Viking Mythology has been compared with the mythologies of many Indo-European peoples, especially Germanic and Slavic mythologies, and its origins have been investigated (Puhvel , 1989, p. 189; Mallory , 2005, p. 128; Lindow , 2001, p. 29; Simek , 2007, p. .85).

Edda is used to describe two Icelandic manuscripts transcribed and compiled in the 13th century. These two manuscripts are the principal source of Norse mythology and skaldic poetry, linked to the religion, cosmogony and history of the Norse and proto -Germanic tribes. 'These texts, written in the Norse language , which forms the northern wing of the Germanic branch of the Indo-European language family, were spoken in Scandinavia throughout the Middle Ages, and later became localized with Christianization and divided into today's Scandinavian languages. Icelandic is considered the closest since it is the last language to diverge from its Norse roots. The Eddas were already written down in Iceland and have survived to the present day (Özkan, 2018, pp. 67-84).

Stones have a very important place in human life. Being a part of nature is seen in many places, from shelter to birth and death. We also learn history from stones. Apart from worship, amulets, talismans, etc. We know that he uses it as. Runes are also known as double stones. It is learned from sources that the first runes erected were erected for the Vikings who died overseas. Obelisks also appear in daily life. But it is generally thought that the inscriptions erected in the Scandinavian regions were erected in memory of someone.

Results

Art and Mythology

Art and mythology are two different fields in which objective reality is reinterpreted within an imaginary narrative language. The imaginary space they create for their perceivers by directing the audiences they reach to think in a metaphorical context through images; It presents reflections of a common language, albeit indirectly. While myths are rearranged in art, both commentators and viewers are aware that it is an illusion (Thomson, 1987: 85).

Artists depict mythological stories and figures, visualizing their powerful images and symbols. Many elements of mythological stories have been used repeatedly in different forms of art and these elements have become mythological symbols. Painting is an important tool for telling mythological stories. Mythological stories and figures provide an endless resource for the creative use of art. The art and cultures of the North, that is, Scandinavian, have their own aesthetic understanding. We see early examples of northern art starting from the 4th century. We can see this process from the end of the Viking age to the movements of Scandinavian artists influenced by their mythology and history. They dealt with animal figures, gods and the benefits of mythology. From the everyday items they used in daily life to the tombstones they erected after the dead, they were even influenced by Gothicismus, a movement to reclaim Norsemen as heroic ancestors under the influence of national romanticism. We encounter a dualistic relationship between man and animal, a recurring theme in Old Norse texts. The pagan stories on the limestones collected under the name of runic stones, called painting stones, are about Northern mythology; Scenes carved with a wide variety of subjects such as armed warriors, heroes, ships, fishermen, and ironworks attract attention as archaic forms of Northern art. The style of knitting decoration, which is the dominant style of Northern Europe, dates back especially to B.C. It was widely used in the 10th century and later formed the basis of Gothic art. Scandinavian decorative art, on the other hand, has created a unique form with the determining influence of environmental conditions in the Scandinavian geography, where harsh natural conditions prevail. This style is inspired by natural elements and includes elements such as geometric shapes, animal motifs and plant elements. Scandinavian decorative art used during the Viking period reflected Viking culture, beliefs and daily life. In later periods, the Gothic art approach was influenced by Scandinavian decorative art and adopted the use of natural elements and detailed workmanship. For this reason, Scandinavian decorative art has an important place in European art history and is still used today.

Marten Eskil Winge

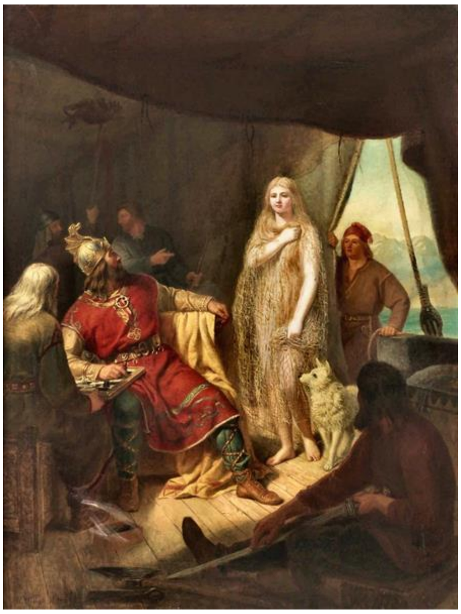

Figure 1. Ragnar Lodbrog Meets Kraka (National Museum Stockholm Archive, January, 2023)

Marten Eskil Winge painted the work with oil painting technique and completed it in 1861. The work is exhibited in the Swedish National Museum. In the work, Ragnar , one of the famous characters of Scandinavian mythology, Lodbrog and Kraka are depicted. ragnar Lodbrog is a Norse hero whose historical authenticity cannot be fully proven. According to legends, he was a warrior, pirate, and leader who was expelled from the kingdom. Kraka is another legendary character and Ragnar She is known as Lodbrog's second or third wife. In the work, It is implied that Lodbrog and Kraka are romantically linked. Winge, Ragnar in the work It depicted Lodbrog in his battle clothes and helmet. Kraka is standing in a garment that looks like a fishing net. In the work, Kraka, Ragnar As she stands in front of Lodbrog and looks at him, Ragnar responds with a smile. The details, drawing of the figures and colors in the work reflect Winge's technical competence. Winge painted the figures in detail, paying attention to their anatomy and clothing. There are 7 figures and one animal figure in the work. Colors have also been used effectively to highlight Kraka's blonde hair, using vibrant and bright tones. The animal depicted next to Kraka is thought to be a wolf in Norse mythology. Wolves play an important role in Norse mythology and are often associated with war, death, heroism and destiny. Of the venue it is perceived to be a ship. Since maritime was very important in Viking and Scandinavian societies, choosing the place in this way ensures that it is in flow. Additionally, the details and perspective in the landscape accurately reflect Scandinavian nature. It is still considered a popular work among Norse mythology and history enthusiasts. Winge paid attention to the details in the work. For example, the color choices in the figures' clothes point to symbolic meanings in Scandinavian culture. Kraka's hair is a symbol of the beauty of Scandinavian women.

Figure 2. Loke and Sigyn 1863 (National Museum Stockholm Archive, January, 2023)

The work by Marten Eskil Winge has a subject based on Scandinavian mythology and epics. The work tells the story of Loke , an important character in Norse mythology, and his wife Sigyn . Loke is a character in Norse mythology who serves as a bridge between gods and giants. However, Loke is also known for negative traits such as deceit, intrigue, and deceit. Loki and his children will be on the side of Ragnarok, the end of everything, and will not fight on the side of the gods of Asgard (Gaiman, 2017).

Loke's wife, Sigyn, is a devoted wife and one of Loke's biggest supporters. The work shows a scene depicting Loke and Sigyn together. While Loke is depicted tied to chains, Sigyn stands next to him to support him. In the work, Loke's facial expression is full of sadness and condemnation, while Sigyn looks at Loki with an expression of love and sadness. Loki lies naked and chained under a felled tree where a poisonous snake is coiled. According to legend, it was Loki's wife Sigy who collected the snake's poison in a silver container. Despite Loki's evil actions, Sigyn remained loyal to him. He catches the snake's venom so that it does not drip on his face. Snake venom was a punishment for Loki's evil. Loki broke his chains and the whole world shook as a few drops of poison hit him. Marten Eskil Winge His work Loke and Sigyn depicts this mythological story pictorially.

Figure 3. Krakow 1862 (National Museum Stockholm Archive, January, 2023)

Marten Eskil's work titled Kraka depicts the character Kraka from Scandinavian mythology. The subject of the work is that Kraka successfully passes the difficult test he took during his meeting with King Ragnar . When King Ragnar sees Kraka for the first time, he puts him to a test. He wanted Kraka to appear neither clothed nor naked, neither hungry nor full, neither alone nor with a friend. Kraka passes this test dressed in a net, accompanied by a dog, and according to legend, he has an onion in his mouth. However, in Marten Eskil's painting, Kraka's onion is shown fallen to the ground.

Ragnar in the background in the drawing Lodbrok 's ship appears. The wise Kraka, also known as Aslög, solves the task by wearing fishnets and with a dog next to him. Aslög, sitting on a red cloth on the rocks, is looking at the sea with her dog. The animal figure next to the character Kraka is interpreted as a dog or a wolf, varying from source to source. We see a male and a female figure in the background.

The picture in which we clearly see the nature of Scandinavia reflects a gloomy atmosphere to us. The importance of hair in Scandinavian and Viking mythology is clearly explained in both their stories and paintings. In this picture, the figure's hair is detailed. Kraka's presence in the mesh net and accompanied by the dog represents the difficult test of the story. Additionally, the fallen onion is a symbol emphasizing Kraka's success and courage.

Figure 4. Thor's fight with the Giants 1872 (National Museum Archive, January, 2022)

According to Norse mythology, thunder and lightning occur when the Aesir god Thor becomes angry, and he goes hunting for evil in the form of Ettins in his chariot drawn by the goats Tanngnjóstr and Tanngrisnir . In his fight against this giant race, he wields his hammer Mjöllnir and unleashes its power. The belt of increasing power attracts Megingjörð. According to Mårten Eskil Winge's interpretation, Thor is strong, blonde, determined and fearless. The painting was published at the National Museum in 1872, when Norse mythology and the gods were very popular. It was extremely well received when it was first exhibited at the Museum. Winge was one of many Scandinavian artists who painted gods in the 1870s. And their paintings and statues still influence our ideas about Vikings and Aesir gods today. Winge's original viewers interpreted the painting as a general depiction of good fighting evil. In modern times, Thor's battle with giants has been perceived as an expression of Nationalist or Fascist ideals. Blonde-haired Thor is seen as a defender of the Norse ideal, which is threatened by dark-haired giants. The swastika on Thor's belt of power undoubtedly helped popularize the painting among various far-right groups. For Winge and his contemporaries, the swastika was an ancient decorative symbol of the sun, appearing in architectural decoration and various logos (https://www.nationalmuseum.se/en).

Nils Blommer

Figure 5. Freyja is Looking for Her Husband(National Museum Stockholm Archive, December, 2022)

Freyja, accompanied by elves in their wagon pulled by two cats, searches for her husband, who has disappeared. Freyja is best known as the goddess of love. There is a runic inscription on the stick he holds in his hand. It has a very detailed and rich composition. Freyja, the goddess of love and fertility, set out in a chariot pulled by two cats, accompanied by elves, sitting on a chariot. A very romantic atmosphere is created with the mystical light surrounding the surroundings and the integrity of the details and colors in the picture.

Freyja herself is depicted wearing a red dress, her golden hair and delicate features reminiscent of Raphael's Madonna. The elves in the picture are represented with clothes compatible with nature and colorful wings. Around the figure, there are 7 child figures with wings that we can interpret as angel figures. One of the figures is holding Freyja's arm and the other is holding the ropes of the chariot.

Figure 6. Idun and Brage (National Museum Stockholm Archive, December, 2022)

Nils Blommér's best-known works are based on Norse mythology and folklore. This painting depicts two Norse gods with their attributes. Idun is the goddess of spring or rejuvenation among the Norse gods. He is always equipped with apples that give eternal youth to the gods. Her husband, Brage, is the god of poetry, eloquence and patron of skalds. Brage engraved runes and was a favorite god of artists. He is represented as an old man with long hair and a beard and holds a golden harp from which his fingers can draw such magical tones. The painting has a central composition. Idun holds a basket in her hand while standing gracefully. The basket contains golden apples. Idun's apples are magical fruits that help gods and goddesses preserve their youth and immortality. Brage stands next to Idun and looks at her with compassion.

Idun's apples is an important event in Norse mythology and is told in this work. This work, Nils It is one of Blommér's best-known works, based on Norse mythology and folklore. It has a composition that pictorially reflects the themes of beauty, mythology, youth and immortality. While it is emphasized that Idun is the symbol of youth and life with her elegant stance and the basket in her hand, the symbol of art and intellectual power is represented by Brage's figure associated with wisdom and poetry. The story of the apples being stolen is an important event in Scandinavian mythology. The story of Idun's stolen apples: Idun is the goddess of youth and immortality who lives with Odin and other gods in Asgard, the land of the gods. Idun has a special mission: to grow and preserve magical apples. These apples are powerful fruits that help the gods maintain their youth and immortality. One day, the god Loki comes to Idun with his cunning and approaches her by acting trustworthy.

Loki convinces Idun to leave Asgard and go somewhere else with her special apples. Idun believes the words of Loki, whom she trusts, and takes the apples and leaves Asgard with Loki. However, when Idun and her apples leave Asgard , the god Loki shows his true face. Loki reveals his true purpose and steals Idun's magical apples. This act of stealing threatens the youth and immortality of the gods. Idun cannot return to Asgard without taking back the apples, and the gods begin to age rapidly. Their strength decreases, their energy runs out and they begin to show signs of old age. As the gods wait for Idun to return and bring the apples, they begin to remember their own mortal nature. In the end, the gods make a desperate effort to bring back Idun and the apples. Idun , on the other hand, gathers courage to see that the gods are aging and to help them. Idun tricks and convinces Loki to bring back the essence of the apples. Loki takes Idun and the apples back to Asgard and the gods regain their youth and immortality. This story describes the theft of Idun's precious apples and their return. The theft of the apples causes the gods to experience the fear of old age and mortality and eventually regain them. Idun's importance is further emphasized by this event, and the gods feel grateful to her. This story is considered an allegory describing the nature of youth, immortality, and aging in Norse mythology. Stealing apples allows the gods to grow old and remember their mortality. Idun's role is to help re-empower the gods as a symbol of youth and immortality. At the same time, the story also contains a moral message. Idun's naive and trusting nature leads her to be deceived by someone with evil intentions.

Figure 7. Heimdall Returns to Brisingamen (National Museum Stockholm, January, 2023)

The painting depicts an event based on Norse mythology. In the painting, the focal point, Freyja, is represented as an important goddess in Norse mythology. Brisingamen, Freyja's necklace, is a valuable and powerful object. However, according to the story, it was stolen by the god Loki. In the picture, Freyja can be seen standing with a sad and worried expression. Standing next to Freyja is the god Heimdall, guardian of the Rainbow Bridge Bifrost, who answered Freyja's call for help. Heimdall took a strong and determined stance and fought Loki to take back Brisingamen. A moment is highlighted in the painting that represents Freyja retrieving her necklace.

Freyja has a slight look of hope and relief on her face because Heimdall has brought the necklace back. Nils Jacob Blommér is an artist known for his works based on Norse mythology and folklore. Heimdall, Brisingamen His painting Returns to Freyja visually brings the mythological story to life. Nils Jacob Blommér's best-known works are based on Norse mythology and folklore. With this work he won the 1846 award of the Royal Swedish Academy of Arts.

Figure 8. Meadow Fairies (National Museum Stockholm, June, 2023)

Blommér often used mythological and fantastic elements in his paintings, and this work reflects this style. Fairies, as mythological beings, are connected to nature and are associated with natural beauties. In this work, Blommér tried to capture the magic and mysticism of nature by combining fairies with the beauty of the lawn. The colors and composition in the work help the painting create a fairy-tale atmosphere. With attention to detail, Blommér portrayed the rich vegetation of the lawn and the graceful figures of the fairies. It bears the influence of Romantic period art. Themes such as nature, mythology and imagination are subjects that Romantic artists frequently deal with. Here Blommér painted fairies dancing in the meadow at dusk. In the background of the romantic landscape we see Gripsholm Castle. The painting was intended to be one of a series of four paintings depicting the four seasons.

Conclusion

Interest in Norse mythology began to increase from the early 19th century, causing many artists to produce works depicting Norsemen culture. This movement was known as Gothcsmus and had a huge impact on Swedish painting. The Gothcsmus movement advocated the revival of Norse mythology and history by Swedish artists. This movement played an important role in increasing interest in Norsemen culture and shaping Sweden's identity. In addition to nature and human figures, artists also used Viking ships, war scenes and mythological creatures in their paintings. These artists produced Norse and Viking-themed paintings, mostly in the late 19th century. Scandinavian mythology, history and culture were very popular during this period, and these artists increased interest in Scandinavian culture by dealing with these themes. The works of these artists, Marten Eskil Winge , Nils Blommér are Swedish painters who stood out with their paintings on Viking and Norse mythology in the 19th century. There are differences. Art languages and techniques are different for each artist. Marten Eskil Winge adopted a realistic approach in historical paintings and worked with detailed figures. Nils Blommér created a more dreamlike atmosphere in his paintings and highlighted mystical elements. These differences may be linked to the artists' own interests and artistic goals. As for the narration of mythological stories, even the same mythological stories can be reflected in their paintings from a different perspective. This study emphasizes the influence and importance of Norse mythology and Viking mythology on works of art. This study reminds us of the importance of preserving and understanding this mythological heritage for future generations.

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Sourcing, Transforming and Exploiting Knowledge for Innovation: A Comparison Between Indonesia and UK Firms

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Abstract: This study compares innovation value chain (IVC) that consists of knowledge sourcing, transformation, and exploitation stages performed by Indonesia and the UK manufacturing firms. In the first link of the IVC, a simple approach of single equation Probit model is used. In the second link of IVC, Logit regression is used to test the impact different types of sourced knowledge on different types of innovation. Tobit regression is employed when the dependent variable is innovation success. In the last link of IVC, OLS regression is used to measure the impact of innovation output on firms' productivity. This study provides essential insights that firms need a broader portfolio of knowledge sourcing activity by accessing better quality and more scientific knowledge with the hope that such input of innovation can be transferred into the higher novelty of innovation and then contribute to better firm performance. This study contributes new insight on the IVC comparison between developing and developed countries in modelling which specific knowledge is sourced by the firms, which the impact of the sourced knowledge on innovation, and the impact of innovation on the firms' productivity.

Keywords: Innovation value chain, productivity, Indonesia, the UK

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Introduction

Innovation is considered to be an engine of productivity growth in both developing and developed economies. However, successful innovation in each kind of country is different as firms face and experience different barriers that hinder innovation activities. Firms in emerging economies tend to experience substantial institutional, resource and capability barriers that affect successful innovation (Fu *et al.*, 2014). Furthermore, innovation performance that is shaped by innovation system between developing and developed economies are different. Based on this situation, this study aims to compare innovation value chain (IVC) that consists of three main activities such as knowledge sourcing, transformation and exploitation between manufacturing firms in developing and developed economies using Indonesia and the UK as examples.

Existing comparative studies between Indonesia and other countries tend to focus on firms' technological capabilities and their growth and development. For example, studies have examined determinants of technological capability, including internal factors, external factors and technology transfer modes between Indian and Indonesian manufacturing firms (Madanmohan *et al.*, 2004); a comparison of technological development and growth between Indonesia and Thailand (Frankema and Lindblad, 2005); a comparison of development strategies in Indonesia and China (Hofman *et al.*, 2007); technological capability differences between Indonesian and Malaysian automotive firms (Rasiah, 2009); and new product development process differences between Indonesian and Taiwanese manufacturing firms (Wang *et al.*, 2012). However, there is no existing IVC study that compares Indonesia with UK firms. This study fills this gap by comparing the IVCs of Indonesian and UK manufacturing firms. The research question that is addressed is: *"To what extent are knowledge sourcing, transformation and exploitation performed differently by Indonesian and UK manufacturing firms?"*

In the case of Indonesia, existing studies on knowledge sourcing and use activities tend to focus on case studies in specific industries, such as collaboration and innovation adoption in small-scale roof tile clusters (Sandee and Rietveld, 2001); innovation and information flow in small-scale cottage industries in a rural areas (Kristiansen, 2002); sources of knowledge in small furniture industries (Van Geenhuizen and Indarti, 2005); innovation and cooperation activities of SMEs in food processing industry clusters (Najib and Kiminami, 2011); and knowledge sourcing activities of Indonesian automotive industries (Aminullah and Adnan, 2012). Meanwhile, several IVC studies on Ireland and the UK have been conducted (Doran and O'leary, 2011; Ganotakis and Love, 2012; Roper *et al.*, 2008). Therefore, these studies can be used as the cornerstone for comparing the IVC activities between Indonesian and UK firms.

Although comparative studies of the IVC is not new to the literature, it is important to understand the IVC comparison between developing and developed economies, and such a study does not currently exist. This study provides analysis on the micro-level of the differences in IVCs between developing and developed countries and insights on specific knowledge is sourced by the firms, the impact of the sourced knowledge on innovation and the impact of innovation on the firm performance. Furthermore, the impacts of knowledge transformation on both technological and non-technological innovation and then the effects of exploitation of both types of innovation on the firm performance are tested. While previous comparative IVC studies tend to focus on internal R&D (Janz *et al.*, 2003); internal R&D and market agents (Griffith *et al.*, 2006); or internal R&D, public R&D and market agents (Roper and Arvanitis, 2012) as the sources of knowledge, these studies only measure impact of knowledge on technological innovation.

Implementing technological innovation, that normally consist of product and process innovation, in isolation has been criticised for several reasons. *First*, performing innovation in firms is not only about developing and implementing of new technology but also about organising and implementing business routines, management, marketing and organisational competencies (Baranano, 2003; Boer and During, 2004; Mothe *et al.*, 2010).

Second, innovation management literature suggests that integration of products, processes and organisational innovation is important to successfully transferring new ideas and new business opportunities to the market (Cozzarin and Percival, 2006). *Third*, a combination technological and non-technological innovation has a positive impact on firms' sales (Schmidt and Rammer, 2007).

Conceptual Foundation and Hypotheses Development

Innovation Value Chain (IVC)

The IVC is defined as "a sequential, three-phase process that involves idea generation, idea development and the diffusion of developed concepts" (Hansen and Birkinshaw, 2007). Based on Hansen and Birkinshaw's (2007) work, this study builds and expands upon prior studies (Ganotakis and Love, 2012; Love *et al.*, 2011; Roper *et al.*, 2008)**,** by using innovation survey data to examine how firms develop IVCs. Previous comparative IVC-based community innovation survey (CIS) studies have been conducted, for example, the IVC studies comparing manufacturing firms in France, Germany, Spain and the UK (Griffith *et al.*, 2006), a comparison of Germany and Sweden (Janz *et al.*, 2003) and a study comparing Ireland and Switzerland (Roper and Arvanitis, 2012). However, none of these studies adopts a comparative perspective between developing and developed countries as they all use developed countries as their empirical setting.

In the first link of the IVC, i.e. knowledge sourcing activity (KSA) different sources of knowledge from internal and external firms including R&D and external knowledge are discussed (Hansen and Birkinshaw, 2007; Roper *et al.*, 2008). The main interest in this link is the relationships, whether synergistic or substitutional, among R&D and external knowledge in Indonesian and UK firms. The study of complementarities can be linked to super-modularity theory (Milgrom and Roberts, 1995) that explains how the implementation of one activity increases the marginal returns from another.

The first source of knowledge is R&D activity which consists of internal and external R&D. Previous comparative studies in developed economies, including in the UK, reveal that R&D activity is an important source of knowledge and crucial for technological catch-up, innovation and productivity (Autant-Bernard *et al.*, 2010; Battisti *et al.*, 2015; García-Manjón and Romero-Merino, 2012; Griffith *et al.*, 2004, 2006; Janz *et al.*, 2003; Mohnen *et al.*, 2006; Roper *et al.*, 2010). R&D activity is placed at the centre of innovation by firms in developed economies and the activity is usually performed and financed by the private sector. This differentiates innovation activities in developed economies from those in developing economies (Hobday, 2005). Evidence from the UK confirms that internal R&D is sourced more frequently than other knowledge (Doran and Leary, 2011; Laursen and Salter, 2004, 2006; Roper *et al.*, 2008). This may suggest that R&D plays a more important role in shaping innovation than other sources of knowledge.

For developing countries, R&D is crucial not only for "pushing back the frontiers of knowledge but also for keeping up with global trends, acquiring knowledge, adapting knowledge to local circumstances, and advancing knowledge" (IBRD, 2010, p. 135). It is not surprising that the increase in R&D expenditures in developing countries is faster than in OECD countries and this is influenced by the rapid rise in BRIC countries' expenditures (IBRD, 2010). In the case of Indonesia, public R&D expenditures represent a very small share of GDP and R&D activity is dominated and financed by the government (Aminullah, 2009; Hill and Tandon, 2010; Okamoto and Sjöholm, 2001). The low proportion of R&D expenditure is also present in the manufacturing sector (Madanmohan *et al.*, 2004; Okamoto and Sjöholm, 2001), even in the most R&D intensive sector, the pharmaceutical industry (Okamoto and Sjöholm, 2001). As a result, the country is a net importer of advanced technologies produced by firms in developed economies (Wie, 2005).

In terms of the relationship between internal and external R&D, most the IVC studies of Ireland and the UK reveal a strong complementary relationship between internal and external R&D (Ganotakis and Love, 2012; Roper *et al.*, 2008; Roper and Arvanitis, 2012). This may suggest that, in the spirit of open innovation, firms do not rely solely on internal knowledge, but instead complement internal R&D with external knowledge. This finding supports a previous study stating that complementarity between external technology acquisition and internal knowledge development is found in middle-income countries (Hou and Mohnen, 2013).

Apart from IVC studies at the firm level, there is very little insight on the relationship between internal R&D and external knowledge in Indonesia. Previous studies cover broad topics related to R&D, for example, the proportion R&D contributes to the GDP and its impact on technological development (Okamoto and Sjöholm, 2001); the impact of international R&D transfer on Indonesian manufacturing firms' performance (Jacob and Meister, 2005); external R&D activities as part of technical efforts in paper industries (Jonker *et al.*, 2006); R&D investment as the internal factor that drives technological capability (Madanmohan *et al.*, 2004); the linkage among R&D, productivity and exports (Yang and Chen, 2012); and the linkage between R&D expenditures and globalisation (Kuncoro, 2012).

The second group is external knowledge and consists of nine external actors that can be grouped into *market* (suppliers, customers, competitors and consultants); *science institutions* (universities, public/government R&D); *associations* (industry associations); and *open sources* (events and scientific publications). The main issue in this link is to what extent differences in the range of external knowledge contribute to innovation. According to OECD & EUROSTAT (2005, p. 79), external knowledge can be gained from "personal contacts or communities of practice or simply arise in the normal course of business", as well as from any external information sources gained without formal arrangements (Garcia-Torres and Hollanders, 2009). Other scholars Freitas, Clausen, Fontana, & Verspagen (2011) argue that linkages can be classified as external when actors are sources of information for innovation.

A wide range of external networks have been investigated in previous studies. That range has included *customers* (Franke and Schreier, 2002; von Hippel and Katz, 2002; Joshi and Sharma, 2004), *suppliers* (Amara and Landry, 2005; Nieto and Santamaría, 2007; Smith and Tranfield, 2005), *competitors* (Gnyawali and Park, 2011; Malmberg and Maskell, 2002) and *scientific publications* (Caloghirou *et al.*, 2004). In the case of

Indonesia, previous studies also have discussed how different industry sectors and SMEs use traditional and external knowledge for innovation. In textile industries, technical assistants from foreign trading companies, buyers and inter-firm linkages are used as sources of technological capability (Okamoto and Sjöholm, 2001). In electronic industries, foreign employees, foreign business partners and foreign buyers are treated as important sources of knowledge to support technological capabilities (Gammeltoft, 2004). Competitors have important role as the main external source of knowledge for the Indonesian automotive industry. On the contrary, university and public R&D make small contributions (Aminullah and Adnan, 2012). In Indonesian SMEs, traditional knowledge is gained from learning by doing and experimenting as well as from customers (Van Geenhuizen and Indarti, 2005). Based on this, a hypothesis related to knowledge sourcing links may be proposed:

H1 *In the knowledge sourcing activity, synergistic relationships between internal R&D and external knowledge exist in both Indonesian and UK firms.*

In the second link of the IVC, i.e. knowledge transformation activity (KTA), knowledge inputs such as

R&D and external knowledge, is transformed into innovation outputs and this link represents the innovation or knowledge production function (Griliches, 1992; Love and Roper, 1999). In this link, R&D is included as an input to the IVC and this is different from previous studies that used R&D as a proxy for innovation output (Griffith et al., 2006). The main interest in this link is the impact of different sources of knowledge input on technological innovation (i.e., product and process), non-technological innovation (i.e., organisational and marketing) and innovation success in both Indonesian and UK firms.

R&D is regarded as an important driver of growth because it is intended to generate knowledge to support the growth of business and economic systems as a whole (García-Manjón and Romero-Merino, 2012). Many innovation studies from developed and developing countries consistently report a positive impact of R&D on innovation. In the case of developed economies, R&D positively impacts innovation, productivity and growth (García-Manjón and Romero-Merino, 2012; Griffith *et al.*, 2004, 2006). A positive association between R&D, innovation and productivity in developing and newly industrialised countries can also be found in Argentina (Chudnovsky *et al.*, 2006), in Malaysia (Hegde and Shapira, 2007), in China (Jefferson *et al.*, 2006) and in Taiwan (Aw *et al.*, 2011). In Indonesia, R&D activity has a positive impact not only on productivity but also on export and this suggests that R&D is an important driver of economic growth for Indonesia (Yang and Chen, 2012). Previous comparative studies on R&D investment between rich and poor countries (Goñi and Maloney, 2014) reveal that developed, high-income rich countries invest more in R&D than the developing, middle-income, and poor countries. This, in turn, suggests that R&D is likely to be a more important driver of firm-level innovation in high-income countries like the UK than in middle-income countries such as Indonesia. Previous Irish and UK IVC studies reveal that internal R&D has a consistently positive strong influence on product and process innovation as well as innovation success (Ganotakis and Love, 2012; Roper *et al.*, 2008; Roper and Arvanitis, 2012). The impact of external R&D is restricted to process innovation (Ganotakis and Love, 2012). Referring to the comparison between Indonesian and UK firms, a hypothesis related to R&D can be proposed.

H2a The impact of both internal and external R&D on technological and non-technological innovation more strongly and positively impacts UK firms than Indonesian firms.

A resource-based view of firms suggests that internal knowledge is an important source of competitive advantage (Barney, 1991). However, few firms possess all the inputs necessary for successful innovation. Therefore, other scholars (Dyer and Singh, 1998; Zollo and Winter, 2002) extend the resource-based view of the firm that originally focused on the role of internal capabilities by encompassing resources outside firms' boundaries. External knowledge may be gained by using formal modes of external learning such as alliances (Mowery *et al.*, 1996) and acquisitions (Ahuja and Katila, 2001) or external forms that may not be linked to any formal relationship or contract. In this study, external knowledge will be linked to external networks such as market, science institutions, associations and open sources.

Contrary to the IVC studies, different external knowledge also contributes to diverse benefits for the firms. For instance, foreign suppliers play very important roles in shaping technological capability and innovation (Wie, 2005). Foreign buyers also positively influence technical and managerial assistance for Indonesian SMEs (Wie, 2005). Competitors positively impact the development of new products in the Indonesian automotive industry are designed to gain competitive advantage (Aminullah and Adnan, 2012).

In the case of Irish and UK IVC studies, the impact of external knowledge on innovation shows different findings. No positive and significant impacts of external knowledge on innovation were found in Doran and O'Leary's (2011) study. Other studies find that only customers and suppliers positively and consistently influence innovation (Roper *et al.*, 2008; Roper and Arvanitis, 2012). Based on this, another hypothesis may be proposed:

H2b Innovation in Indonesian firms is more strongly and positively impacted by external knowledge than innovation in UK firms.

The final link in the IVC is knowledge exploitation activity (KEA) that generates value for the firm. In this link, the firm's performance is influenced by innovation (Geroski *et al.*, 1993) as a result of codified knowledge that is gained from the knowledge sourcing activity. The main interest in this link is how firms gain productivity from the exploitation of both technological and non-technological innovations. In this study, productivity, as indicated by total sales and number of employees, is used to measure how innovation affects firms' overall performance. UK and Irish IVC studies find that product and process innovations significantly and positively influence innovation performance (Ganotakis and Love, 2012; Roper *et al.*, 2008). However, innovation success had a negative impact on productivity in Roper's et al., study (Roper *et al.*, 2008) and no relationship was found (Ganotakis and Love, 2012). A possible explanation is that short-term disruption effects result from the introduction of new products (Roper *et al.*, 2008). Therefore, a hypothesis can be developed:

H3 In Indonesian firms, both technological and non-technological innovation have positive impacts on productivity, while in UK firms, only technological innovation has a positive impact on productivity.

Research Method

Data

The empirical analysis in this study is based on innovation data derived from the Indonesia Innovation Survey (IIS) 2011 and the UK Innovation Survey (UKIS) 2011. The IIS 2011 data set provides information on the innovation activities of Indonesian manufacturing firms undertaken between 2009 and 2010. Indonesia has three waves of innovation survey i.e. 2008, 2011 and 2014. Since then, there is no update on Indonesia innovation survey. By contrast, The UKIS, as part of the wider Community Innovation Survey (CIS) covering European countries, is conducted every 2 years.

The IIS 2011 data is classified based on the International Standard Industrial Classification (ISIC) Rev. 3.1 and a total of 1179 usable observations were found for this study. For international comparison, only firms with 20 or more employees from both innovation data sets are used. The UKIS 2011 provides information on the innovation activities of both UK service and manufacturing firms between 2008 and 2010 and the UK Standard Industrial Classification (UK SIC) 2007 is used to classify the firms. Of 14,342 surveyed firms in the UKIS 2011, the total number of manufacturing firms is 2,849 firms. For the comparison purposes of this study, only manufacturing firms are considered. Of 2849 firms, the total number of manufacturing firms that have 20 or more employees is 2133.

Methods

In KSA stage, the main issue that is addressed is the behaviour of firms in sourcing knowledge from various sources. More specifically, synergistic or substitution relationships among the three groups of knowledge are tested. Following Roper et al., (2008), a simple approach of single equation probit model is used to test Hypothesis 1 with the dependent variables being a series of sources of knowledge. This allows for a detailed analysis of the impact of 17 various knowledge sources. In the second IVC link (KTA), an innovation or knowledge production function is used to model the knowledge transformation activities (Gerosaki, 1990; Harris & Trainor, 1995). Logit regression is used to test Hypotheses 2 with the dependent variables being different types of innovation. Tobit regression is employed when the dependent variable is innovation success (i.e., the proportion of sales derived from product innovation new to the market) that has both upper and lower bounds (0 to 100%). Lastly, in the third link of the IVC (KEA), OLS regression is used to measure the impact of innovation output on firms' productivity.

Results

Descriptive Statistics

Table 1 reports descriptive statistics for the major variables in this study. Of three groups of sources of knowledge, the average proportion of UK firms that source knowledge from internal R&D is greater than the proportion of those that used all other sources of knowledge (35.60%). In contrast, knowledge from external agents such as universities, public/government R&D and scientific publication is the lowest, each accounting for only1.60%.

For Indonesia, the highest proportion of knowledge is sourced from customers (34.40%) and the lowest is from public/government R&D (0.41%). Table 1 clearly shows that the proportion of UK firms that source knowledge from R&D activities, both internal and external is higher than for Indonesian firms. The proportion of Indonesian firms that source knowledge from external knowledge providers is greater than for UK firms. A comparison of firm resources shows that UK firms have a greater average number of employees, higher education levels and a higher proportion of exporters than Indonesian firms. This again suggests that Indonesian firms tend to have fewer internal resources than their UK counterparts, perhaps partly explaining their tendency to compensate for this with a greater use of external knowledge sourcing than UK firms. In terms of technology intensity, both data sets show that the greater the level of technology intensity, the lower proportion of firms. The UK has a greater proportion of high technology firms than does Indonesia.

Table 1. Descriptive Statistics: The IIS 2011 and The UKIS 2011[a]

VARIABLES	IIS 2011			UKIS 2011		
	OBS	MEAN	SD	OBS	MEAN	SD
Firm performance						
PRODUCTIVITY *(Indonesia=IDR; UK=£)*	1179	**1312.096**	8399.761	1470	**143.01**	155.43
Innovation performance						
INNSUCCESS (%)	1179	**8.429**	16.985	1295	**3.351**	8.509
Types of innovation						
PRODINOV (0/1)	1179	**.377**	.485	2133	**.372**	.484
PRODINOV_NEW2MARKET (0/1)	1179	**.288**	.453	2133	**.199**	.400
PRODINOV_NEW2FIRM (0/1)	1179	**.358**	.480	2133	**.266**	.442
PROCINOV (0/1)	1179	**.322**	.468	2133	**.238**	.426
ORGINN (0/1)	1179	**.310**	.463	2133	**.371**	.483
MKTGINN (0/1)	1179	**.428**	.495	2133	**.181**	.385
R&D activities						
INTERNAL_RD (0/1)	1179	**.292**	.455	2133	**.356**	.479
EXTERNAL_RD (0/1)	1179	**.032**	.177	2133	**.146**	.353
Market						
SUPPLIERS (0/1)	1196	**.188**	.391	2078	**.153**	.360
CUSTOMERS (0/1)	1188	**.344**	.475	2078	**.289**	.454
COMPETITORS (0/1)	1179	**.225**	.418	2080	**.103**	.305
CONSULTANTS (0/1)	1196	**.079**	.269	2080	**.042**	.200

Science institutions						
UNIVERSITIES (0/1)	1196	**.059**	.235	2079	**.016**	.127
GOV_RD (0/1)	1179	**.041**	.198	2079	**.016**	.127
Associations						
INDUSTRY_ASSOC (0/1)	1179	**.065**	.247	2079	**.033**	.179
Open sources						
EVENTS (0/1)	1188	**.109**	.312	2079	**.037**	.188
SCIENCE_PUB (0/1)	1188	**.067**	.251	2077	**.016**	.127
Firm resources						
EMPLOYMENT	1179	**174.608**	1318.078	2133	**240.952**	487.333
EXPORTERS (0/1)	1196	**.202**	.402	2114	**.472**	.264
UNDERGRAD (%)	1179	**4.077**	8.623	-	-	-
SCIENCE_DEGREE (%)	-	-	-	1448	**5.939**	10.300
OTHER_DEGREE (%)	-	-	-	1437	**5.140**	9.404
LOW-TECH (0/1)	1179	**.735**	.442	2133	**.330**	.470
MEDLOW-TECH (0/1)	1179	**.174**	.379	2133	**.314**	.464
MEDHIGH-TECH (0/1)	1179	**.082**	.275	2133	**.278**	.448
HIGH-TECH (0/1)	1179	**.009**	.096	2133	**.079**	.270

[a:] Details explanation on assessed variables can be found in the appendix.

Knowledge Sourcing Activity

R&D Activities

Tables 2 and 3 show a strong synergistic or complementary relationship between internal and external R&D and this may indicate that manufacturing firms in both countries are more likely to generate their own knowledge from internal R&D if they also participate in external R&D. This finding confirms previous IVC studies (Ganotakis and Love, 2012; Roper *et al.*, 2008; Roper and Arvanitis, 2012). Such relationships also exist between internal R&D and market networks in both datasets. In the case of Indonesian firms, there is no evidence of substitution strategy between internal R&D and external knowledge. This suggests that firms adopt open innovation strategies to compensate for resources that might be lacking compared to the resources of UK firms.

The two datasets also show different patterns in knowledge sourcing activities. In terms of external R&D, there is no indication of a synergistic relationship between external R&D and any external sources of knowledge used by Indonesian firms. In UK firms, external R&D also tends to be sourced in combination with market such as customers and consultants. In addition, exporters and medium to high-technology firms in the UK have a positive association with internal R&D, while such association does not exist in Indonesia. This suggests that exporters need advanced knowledge gained from internal R&D to be competitive in international markets.

Hence, it can be concluded that hypothesis 1 is supported.

External Knowledge

Based on Tables 2 and 3, both data sets display synergistic relationships among market; between market and associations; and between market and open sources. Furthermore, the firms in both countries that source knowledge from science institutions also tend to source knowledge from consultants. In terms of technology intensity, high technology UK firms tend to source knowledge from science institutions such as universities, however, there is no clear pattern in the relationship between technology intensity and sources of knowledge in Indonesian firms. This suggests that the higher the level of technology intensity of firms, the more advanced the types of external knowledge sourced.

Knowledge Transformation Activity
R&D activities

Tables 4 and 5 show that internal R&D positively and significantly affects innovation and innovation success. Of the different sources of knowledge, internal R&D has the strongest and most consistent positive impact on innovation and innovation success in the IVC models for both Indonesia and the UK. This confirms the results of the majority of innovation studies in both developed (Griffith *et al.*, 2004, 2006; Mohnen *et al.*, 2006) and developing countries (Chudnovsky *et al.*, 2006; Hegde and Shapira, 2007; Jefferson *et al.*, 2006) as well as in previous IVC studies (Doran and Leary, 2011; Ganotakis and Love, 2012; Roper *et al.*, 2008; Roper and Arvanitis, 2012).

Different affects are found for the relationship between external R&D and innovation. The UKIS dataset shows positive and significant relationships between external R&D and product innovation, including new to the market and new to firm innovations, and between external R&D and innovation success (see Table 5). The IIS 2011 dataset shows positive significant impacts between: external R&D and product innovation new to the markets, external R&D and process innovation, and external R&D and organisational innovation (see Table 4). Therefore, it can be summarised that internal R&D in both Indonesian and UK firms has a consistent, positive and strong impact on innovation and innovation success. However external R&D has different directions of impact on innovation and innovation success. Based on these findings, Hypothesis 2a is partially supported. Internal R&D has consistently strong effects for both countries, notwithstanding the lower levels of R&D inputs available to Indonesian firms. However, external R&D is clearly harnessed to a much greater extent and more consistently by UK firms.

External knowledge

Table 4 reports that overall external knowledge from *market networks* such as customers and competitors and *open sources* such as events positively and significantly affects innovation and innovation success in Indonesia.

Each source of knowledge affects at least four different types of innovation and innovation success. In UK firms, only customers widely, positively and significantly impact different types of innovation (see Table 5). This may indicate that external knowledge agents for Indonesian firms play more important roles in shaping innovation than in UK firms. Therefore, Hypothesis 2b is supported.

In Indonesia, firm resources appear to have no significant influence on innovation. Employment is more likely to have a negative effect on innovation and innovations success, but exporters and quality of employees are positively associated with innovation and innovation success. High technology is positively associated with all types of product innovation and with innovation success. In the case of UK firms, exporters are more likely have positive relationships with innovation and innovation success. In contrast, technology intensity negatively influences innovation and innovation success. Employment and employee quality variables have mixed impacts on innovation.

Table 2. Knowledge Sourcing Activity - IIS 2011[a]

INDEPENDENT VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
INTERNAL_RD	-	**.09*****	-.01	**.12*****	**.05****	**.05*****	**.02****	.01	**.05*****	**.03****	-.00
		(.02)	(.03)	**(.03)**	**(.02)**	**(.01)**	**(.01)**	(.01)	**(.01)**	**(.02)**	(.01)
EXTERNAL_RD	**.61*****	-	.01	-.01	.02	.03	.01	.00	-.00	.01	.02
	(.10)		(.07)	(.06)	(.05)	(.03)	(.02)	(.02)	(.03)	(.03)	(.02)
SUPPLIERS	-.02	.00	-	.04	-.01	.01	.00	.00	-.01	.02	-.02
	(.03)	(.01)		(.03)	(.03)	(.02)	(.01)	(.012	(.02)	(.02)	(.02)
CUSTOMERS	**.14*****	.00	.04	-	**.29*****	-.01	.00	.01	**.031****	**.10*****	**.07*****
	(.03)	(.01)	(.03)		**(.02)**	(.02)	(.01)	(.01)	**(.02)**	**(.02)**	**(.02)**
COMPETITORS	**.05***	.01	-.00	**.36*****	-	**.04****	.01	-.01	.02	**.04*****	.02
	(.03)	(.01)	(.03)	**(.02)**		**(.02)**	(.01)	(.01)	(.01)	**(.02)**	(.01)
CONSULTANTS	**.17*****	.02	.03	-.06	**.07****	-	**.04*****	**.03*****	**.04****	.01	**.04****
	(.05)	(.02)	(.05)	(.05)	**(.04)**		**(.01)**	**(.01)**	**(.02)**	(.03)	**(.02)**
UNIVERSITIES	.11	.01	.02	-.04	.03	**.08*****	-	**.07*****	**.05****	.02	.03
	(.07)	(.02)	(.06)	(.06)	(.05)	**(.02)**		**(.01)**	**(.02)**	(.03)	(.02)
GOV_RD	.04	-.01	.01	.04	-.05	**.07*****	**.08*****	-	**.06*****	**.05***	.02
	(.07)	(.02)	(.07)	(.07)	(.05)	**(.02)**	**(.01)**		**(.02)**	**(.03)**	(.02)
IND_ASSOC.	**.15*****	-.01	-.03	**.10***	.01	**.05****	**.03****	**.04*****	-	**.08*****	.02
	(.05)	(.02)	(.05)	**(.05)**	(.04)	**(.02)**	**(.01)**	**(.01)**		**(.02)**	(.02)
EVENTS	.07	.00	.04	**.24*****	**.08****	.01	.01	**.02***	**.03***	-	**.09*****
	(.04)	(.02)	(.04)	**(.04)**	**(.03)**	(.02)	(.01)	**(.01)**	**(.02)**		**(.012)**
SCIENCE_PUB	-.05	.01	-.06	**.22*****	.04	**.05****	.02	.01	**.06*****	**.15*****	-
	(.05)	(.02)	(.05)	**(.06)**	(.04)	**(.02)**	(.01)	(.01)	**(.02)**	**(.02)**	
EMPLOYMENT	-.00	-.00	.00	-.00	-.00	-.00	-.00	.00	-.00	.00	-.00
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
EXPORTERS	-.00	.00	**.00****	.00	.00	.00	-.00	-.00	.00	-.00	-.00
	(.00)	(.00)	**(.00)**	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
UNDERGRAD	-	-	-	-	-	-	-	-	-	-	-
LOW_TECH	-	-	-	-	-	-	-	-	-	-	-

MEDLOW_TEC	**-.07****	.01	.04	.03	-.03	**.03****	-.02	-.02	.01	-.02	-.01
H	**(.03)**	(.01)	(.03)	(.03)	(.03)	**(.02)**	(.02)	(.02)	(.02)	(.02)	(.02)
MEDHIGH_TEC	.03	-.04	.02	.04	-.05	-.00	.01	-.01	**.05*****	-.03	.02
H	(.04)	(.03)	(.04)	(.04)	(.04)	(.03)	(.02)	(.02)	**(.02)**	(.03)	(.02)
HIGH_TECH	-.09	-	-.03	.18	-.14	-	.00	.04	.04	.07	-
	(.14)		(.12)	(.12)	(.11)		(.05)	(.03)	(.05)	(.06)	
Observations	1179	1168	1179	1179	1179	1168	1179	1179	1179	1179	1168
LR chi2 ( )	214.21	84.74	30.27	438.44	339.08	154.78	165.70	160.40	175.36	296.72	236.99
Prob. > chi2	.000	.000	.0349	.000	.000	.000	.00	.00	.00	.00	.00
Pseudo R2	.151	.253	.0263	.288	.2699	.2727	.38	.40	.31	.36	.41
Log likelihood	-604.70	-125.17	-559.56	-541.84	-458.72	-206.40	-133.35	-120.47	-196.86	-260.83	-173.18
Mean VIF	4.99	5.00	5.00	4.96	4.97	4.98	4.97	4.97	4.98	4.97	4.97

[a]: Notes for Tables 2 and 3: Significant levels *p≤.10, **p≤.05, ***p≤.001. All figures in the tables are marginal effects generated from probit models. Model 1: **Internal R&D**, Model 2: **External R&D**, Model 3: **Suppliers**, Model 4: **Customers**, Model 5: **Competitors**, Model 6: **Consultants**, Model 7: **Universities**, Model 8: **Public/Government R&D**, Model 9: **Industry Association**, Model 10: **Events**, Model 11: **Science Publication**

Table 3. Knowledge Sourcing Activity - UKIS 2011

INDEPENDENT VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
INTERNAL_RD	-	**.29*****	**.08*****	**.23*****	**.05****	.01	.02	-.01	.00	.01	**.02***
		(.02)	**(.03)**	**(.02)**	**(.02)**	(.02)	(.0121)	(.01)	(.01)	(.01)	(.01)
EXTERNAL_RD^2	**.37*****	-	.02	.03	.00	**.04*****	.01	-.01	.01	.01	.01
	(.03)		(.03)	(.03)	(.02)	**(.01)**	(.01)	(.01)	(.01)	(.01)	(.01)
SUPPLIERS	**.07****	.02	-	**.18*****	**.04****	**.06*****	.00	.01	**.03*****	.003	.01
	(.03)	(.023)		**(.03)**	**(.02)**	**(.01)**	(.01)	(.01)	**(.01)**	(.012)	(.01)
CUSTOMERS	**.23*****	**.04***	**.16*****	-	**.17*****	-.01	**.02***	.01	**.04*****	**.03****	.00
	(.02)	**(.02)**	**(.02)**		**(.02)**	(.01)	**(.01)**	(.01)	**(.01)**	**(.01)**	(.01)
COMPETITORS	.06	-.01	**.06****	**.31*****	-	**.03****	-.00	.01	**.03*****	**.04*****	**.01***
	(.04)	(.03)	**(.03)**	**(.03)**		**(.02)**	(.01)	(.01)	**(.01)**	**(.01)**	**(.01)**
CONSULANTS	.04	**.09****	**.21*****	-.03	**.06***	-	**.03*****	**.02****	.01	.03	-.00
	(.06)	**(.04)**	**(.04)**	(.05)	**(.03)**		**(.01)**	**(.01)**	(.02)	(.02)	(.01)
UNIVERSITIES	.17	.06	-.02	**.16***	-.00	**.10*****	-	**.04*****	.02	-.02	.02
	(.12)	(.06)	(.07)	**(.10)**	(.05)	**(.03)**		**(.01)**	(.02)	(.03)	(.02)
GOV_RD	-.13	**-.13***	.06	.08	.06	**.06****	**.04*****	-	**.07*****	**.05****	-.01
	(.09)	**(.07)**	(.07)	(.10)	(.05)	**(.03)**	**(.01)**		**(.02)**	**(.02)**	(.02)
IND_ASSOC.	-.05	.02	**.11****	**.22*****	**.08****	.00	.01	**.03*****	-	**.07*****	**.03*****
	(.07)	(.05)	**(.05)**	**(.08)**	**(.03)**	(.02)	(.01)	**(.01)**		**(.02)**	**(.01)**
EVENTS	-.00	.03	-.00	**.14****	**.11*****	**.04****	.00	**.02***	**.06*****	-	**.04*****
	(.06)	(.04)	(.05)	**(.06)**	**(.03)**	**(.02)**	(.01)	**(.01)**	**(.01)**		**(.01)**
SCIENCE_PUB	**.20***	.08	.04	-.05	.06	.00	.01	-.02	**.06*****	**.09*****	-
	(.12)	(.06)	(.07)	(.10)	(.04)	(.03)	(.02)	(.02)	**(.02)**	**(.02)**	
EMPLOYMENT	.00	**.00*****	-.00	**.00****	.00	.00	-.00	.00	.00	-.00	.00
	(.00)	**(.00)**	(.00)	**(.00)**	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)

EXPORTERS	.11***	.01	-.02	.00	.01	-.01	.01	.00	-.00	.02*	.01
	(.02)	(.02)	(.02)	(.03)	(.02)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
EDU_SCIENCE	.00***	.00	-.00	.00	.00	.00**	-.00	.00***	-.00	-.00**	.00
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
EDU_OTHERS	.00	.00**	-.00	.00	.00*	.00	.00	-.00	.00*	.00	-.00
	(.00)	(.00)	(.00)	(.01)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
LOW_TECH	-	-	-	-	-	-	-	-	-	-	-
MEDLOW_TECH	-.06**	.02	-.03	.04	-.03	-.00	.02**	.01	.00	-.02	-.00
	(.03)	(.03)	(.03)	(.03)	(.02)	(.02)	(.01)	(.01)	(.01)	(.01)	(.01)
MEDHIGH_TECH	.06*	.02	-.05*	.03	.02	.02	.02***	-.01	-.00	.00	-.01
	(.03)	(.03)	(.03)	(.03)	(.02)	(.02)	(.01)	(.01)	(.01)	(.02)	(.01)
HIGH_TECH	.06	.06	-.10**	.06	.02	-.00	.04**	.01	-.00	-.03	-.01
	(.05)	(.04)	(.04)	(.05)	(.04)	(.02)	(.02)	(.01)	(.02)	(.02)	(.01)
Observations	1371	1371	1371	1371	1371	1371	1371	1371	1371	1371	1371
LR chi2 ()	518.29	331.15	201.88	472.59	325.95	158.61	109.46	110.20	198.73	176.84	116.95
Prob. > chi2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Pseudo R2	.27	.23	.14	.25	.28	.25	.37	.36	.37	.30	.37
Log likelihood	-688.65	-559.82	-631.91	-695.46	-417.17	-236.64	-93.38	-96.77	-171.18	-202.42	-100.80
Mean VIF	1.64	1.65	1.66	1.64	1.65	1.66	1.66	1.66	1.65	1.65	1.66

Table 4. Knowledge Transformation Activities: The IIS 2011[a]

INDEPENDENT VARIABLES	Product Innovation	Prodinov New2market	Prodinov New2firms	Process Innovation	Org. Innovation	Marketing Innovation	Innovation Success
INTERNAL_RD	.27***	.19***	.25***	.29***	.36***	.28***	22.66***
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(3.40)
EXTERNAL_RD	.08	.12*	.13	.17**	.14*	-.11	6.92
	(.08)	(.07)	(.08)	(.08)	(.09)	(.08)	(7.99)
SUPPLIERS	-.05*	-.04	-.04	-.02	-.03	-.004	-5.70
	(.03)	(.03)	(.03)	(.03)	(.03)	(.029)	(3.79)
CUSTOMERS	.17***	.14***	.15***	.05**	.06**	.18***	19.18***
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(3.69)
COMPETITORS	.04	.10***	.05*	.09***	.04	.10***	10.22***
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(3.71)
CONSULTANTS	.10*	.07	.11**	.042	.03	.06	8.34
	(.05)	(.05)	(.05)	(.046)	(.05)	(.05)	(5.71)
UNIVERSITIES	.07	.05	.05	-.18***	.01	.04	6.38
	(.07)	(.06)	(.07)	(.06)	(.06)	(.06)	(7.03)
GOV_RD	-.11	.03	-.06	.16**	-.09	-.09	3.99
	(.07)	(.06)	(.07)	(.07)	(.06)	(.07)	(7.54)
IND_ASSOC.	-.06	-.10**	-.10**	-.03	.04	-.03	-8.65
	(.05)	(.05)	(.05)	(.04)	(.05)	(.05)	(5.88)
EVENTS	.22***	.20***	.20***	.05	.06	.03	18.84***
	(.05)	(.04)	(.04)	(.04)	(.04)	(.04)	(4.73)

SCIENCE_PUB	-.04 (.05)	-.03 (.05)	-.01 (.05)	-.03 (.05)	**-.09*** (.05)	-.01 (.05)	-3.84 (5.77)
EMPLOYMENT	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
EXPORTERS	.03 (.03)	.05 (.03)	.04 (.03)	-.01 (.03)	-.02 (.03)	.03 (.03)	4.95 (3.63)
UNDERGRAD	.00 (.00)	.00 (.00)	.00 (.00)	-.00 (.00)	.00 (.00)	.00 (.00)	.27 (.16)
LOW_TECH	-	-	-	-	-	-	-
MEDLOW_TECH	.03 (.03)	.02 (.03)	.04 (.03)	-.03 (.03)	-.00 (.03)	-.03 (.03)	2.51 (4.01)
MEDHIGH_TECH	.04 (.04)	.07 (.04)	.04 (.04)	.01 (.04)	-.04 (.04)	.04 (.04)	6.14 (5.25)
HIGH_TECH	.06 (.13)	.12 (.14)	.08 (.13)	-.20 (.09)	.05 (.12)	.05 (.12)	7.91 (14.41)
Observation	1179	1179	1179	1179	1165	1170	1179
LR chi2	484	334.26	457.3				
()				486.1	434.09	575.47	282.34
Prob. > chi2	.000	.000	.000	.000	.000	.000	.000
Pseudo R2	.310	.240	.297	.328	.304	.361	.065
Log likelihood	-538.93	-540.18	-540.32	-498.07	-496.72	-509.66	-2027.13
Mean VIF	1.63	1.63	1.63	1.63	1.63	1.6	1.53

[a]: Notes for tables 4 and 5: Significant levels *p≤.10, **p≤.05, ***p≤.001. All figures in the models are marginal effects generated from logit models.

Knowledge Exploitation Activity

The final link in the IVC is knowledge exploitation activity and Table 6 shows the link for both Indonesia and the UK. The focus here is on the impact of innovative indicators on firms' productivity. For both countries, innovation success has negative effects on productivity. For both countries, new to the market innovation has a positive correlation with firms' productivity. In contrast, new to the firm innovation has the opposite effect on productivity. However, these impacts are not significant.

Table 6. Knowledge exploitation activity: THE IIS 2011 and The UKIS 2011

INDEPENDENT VARIABLES	INDONESIA Model 1 PRODUCTIVITY	Model 2 PRODUCTIVITY	THE UK Model 3 PRODUCTIVITY	Model 4 PRODUCTIVITY
PRODINOV	-	212.24 (1120.33)	-	-1.93 (10.02)
PRODINOV_NEW2MARKET	675.74 (1120.33)	-	15.10 (12.10)	-
PRODINN_NEW2FIRM	-103.73 (816.24)	-	**-17.93*(9.64)**	-
PROCINOV	**1985.38***(628.94)**	**2005.00***(626.94)**	**31.55***(9.96)**	**30.39***(10.04)**

ORGINOV	**2485.78*** (629.52)**	**2495.26*** (630.03)**	-9.22 (9.53)	-9.09 (9.56)
MKTGINOV	**-1708.53*** (602.74)**	**-1699.13*** (601.40)**	-.94 (10.54)	-1.96 (10.51)
INNSUCCESS	-28.43(23.05)	-20.06 (18.57)	**-1.09* (.62)**	-.71 (.55)
Firm Resources				
EMPLOYMENT	-.09(.18)	-.09 (.18)	**.06*** (.01)**	**.06*** (.01)**
EXPORTERS	-795.80(614.85)	-782.51(614.12)	**36.13*** (9.47)**	**35.72*** (9.47)**
UNDERGRAD	**51.74* (28.10)**	51.71 (28.10)	-	-
EDU_SCIENCE	-	-	**2.02*** (.48)**	**2.01*** (.48)**
EDU_OTHER	-	-	.41 (.46)	.36 (.46)
LOW_TECH	-	-	-	-
MEDLOW_TECH	700.94 (644.33)	696.29(643.90)	-14.95 (10.76)	-14.11 (10.77)
MEDHIGH_TECH	**2062.80** (887.39)**	2079.44(886.71)	**18.66* (11.34)**	18.53 (11.37)
HIGH_TECH	2671.89(2517.17)	2722.79(2515.05)	8.67 (17.67)	9.24 (17.72)
Observation	1179	1179	1281	1281
F ( )	4.42	4.79	10.22	10.70
Prob. > F	.000	.000	.000	.000
R^2	.044	.043	.095	.092
Adj. R^2	.034	.034	.086	.083

*Notes: Significant levels *p≤.10, **p≤.05, ***p≤.001. The results are based on OLS regressions.*

Four types of innovative indicators affect firms' productivity in both countries. For the UK, only process innovation positively and significantly impacts productivity, whereas other innovation indicators, including product, organisational and marketing, have negative associations with firms' productivity. For Indonesia, evidence shows that only marketing innovation negatively and significantly affects productivity, but both process and organisational innovation positively and significantly influence productivity. While product innovation has a positive association with productivity, it does not have a significant impact. This suggests that both technological (i.e. process innovation) and non-technological (i.e. organisational innovation) innovations play important roles in Indonesia firms' productivity. However, only technological innovation (i.e. process innovation) was found to be important for UK firms' productivity. Based on this finding, Hypothesis H3 can be supported.

Firm resources influence productivity in different directions for each country. For Indonesia, employment and exporters have negative associations with productivity, while the other resources such as employee quality and technology intensity have positive effects on productivity. For UK firms, employment, exporters, and employees that hold science degrees positively and significantly impact productivity. The other firm resources are also positively association with productivity. For both countries, status as a medium to high technology firm contributes positively and significantly to productivity.

Conclusion, Implication and Limitation

This study compares the IVC that is composed of three main links: knowledge sourcing, transformation and exploitation activities performed by manufacturing firms in a developing country, Indonesia, and a developed country, the UK, using innovation data derived from the IIS 2011 and the UKIS 2011. It provides the first empirical evidence of differences in IVCs between developing and developed economies as previous comparisons in IVC studies focus only on advanced countries. The evidence presented in this study suggests that, in each IVC link, similarities and differences on the causal links from knowledge sourcing through innovation to firm performance between Indonesian and UK firms can be identified.

As predicted, the proportion of UK firms that source knowledge from both internal and external R&D, is greater than their manufacturing counterparts in Indonesia. Indonesian firms tend to use a higher proportion of external knowledge that is sourced from market, science institutions, associations and open sources. In terms of firm resources, UK firms have more employees, a higher proportion of exporters and higher proportion of non-low technology firms than Indonesian firms.

In the first link of the IVC, this study finds strong evidence for synergistic relationships between firms' knowledge sourcing activities in the two countries. For example, synergistic relationships are found between internal and external R&D, and between internal R&D and market networks. A clear distinction between the two countries in this link is the existence of synergistic relationships between external R&D and other external sources for UK firms, while for Indonesia this relationship does not exist.

In the second link of the IVC, how different ranges of knowledge impact innovation is compared. Of the three groups of sources of knowledge, R&D activity is the most consistently positively correlated with innovation and innovation success in both countries. For UK firms, both internal and external R&D appears to have a direct impact on innovation. For Indonesia, the positive and significant impact of internal R&D on innovation is stronger than that for external R&D. Evidence for this link also reveals that external knowledge sourced from market links makes a greater contribution to innovation and innovation success for Indonesian firms than for UK firms.

The similarity of evidence in both countries in terms of the positive role of R&D activities and of market networks in shaping innovation suggests that the firms should explore external networks beyond these sources of knowledge to improve their innovativeness. This finding confirms Laursen and Salter's (2004) work that argues that a larger proportion of UK firms use more "conventional" knowledge sources such as internal R&D, suppliers and customers as the main source of knowledge in innovation activities. Science institutions such as universities may provide more reliable knowledge, but it may take time to produce advanced technology that is ready to be implemented.

Thirdly, comparison of the contribution of innovation on firm performance, proxied by firm productivity, is assessed in the knowledge exploitation activity. Evidence suggests that there is no single positive and significant contribution in terms of the link between product innovation and firm performance, and between innovation success and firm performance in either country. This may suggest that the firms in both countries should pay attention to using more diverse sources and to increasing networking to acquire broader and better knowledge. Evidence also shows that different types of innovation make different contributions to firm performance. In Indonesian firms, both process innovation and organisational innovation make positive contributions to firm performance, while only process innovation contributes in UK firms.

Innovation Strategy and Policy Implication

The absence of science institutions networks in the firms' knowledge sourcing activity may indicate the firms in both countries seem to source knowledge from 'more conventional' knowledge such as internal R&D and market such as suppliers and customers. This suggests the firms' managers need a broader portfolio of knowledge sourcing activity by accessing better quality and more scientific source of knowledge such as universities and public/government R&D with the hope that such input of innovation can be transferred into higher novelty of innovation and then contribute to better firm performance.

For Indonesian firms, promoting and encouraging the firms to source more external knowledge that has been proved positively contribute to innovation may an efficient way for the firms that lack of resources. Another form of government intervention is facilitating private sectors to perform R&D activities (e.g. R&D tax credit) with the hope the private sectors will be the main R&D performer in the future.

Key findings in the last link in the IVC is also show similarities and differences between the two countries. Product innovation new to the market and new to the firms as well as innovation success have no positive impact on firm performance in both countries. This striking finding need to be addressed by the firm managers. Both process and organisational innovation positively contribute to firm performance in Indonesia, while only process innovation that positively impact UK firms' performance. Fixing the portfolio of knowledge sourcing activity may lead to better quality of innovation that able to disrupt markets then this may lead to better firm performance.

Limitation of the Study

Lastly, limitations of this study are discussed to facilitate better studies in the future.

First, a comparison of the IVC between Indonesia and the UK that comes from non-CIS and CIS countries may affect the comparison due to sectoral coverage, size thresholds, the length of reference periods, sampling methods and units of analysis (Bloch and Lopez-Bassols, 2009). Therefore, a comparative study of the IVCs among developing countries (ASEAN countries) should be conducted in the future for better and more comparable IVC insights.

Second, a longitudinal study that involves more than one innovation survey period is recommended in the future to capture the dynamics of IVC. *Third*, a future study that involves both manufacturing and service firms may be conducted to portray the IVC comparison between different firms' sectors.

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An Art Form that Artificial Intelligence Has Not Yet Mastered: Collage

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Abstract: The collage is an art form that contains multiple techniques and materials. While AI technology has made significant advancements in various creative domains, such as computer-generated art, it still struggles to replicate the unique qualities of collage. Collage is a versatile art form incorporating multiple texts and visuals into a single work. The complexity and multidimensionality make collage a challenging art form for AI to replicate. Some examples show that AI has not yet achieved the creativity and aesthetic sensibility required to produce convincing collage works. The unique artistic perspective that human participation still brings to the creation and interpretation of collage today is undeniable. The complexity of collage poses unique challenges such as it requires a deep understanding of visual composition, juxtaposition, and the integration of diverse elements. These aspects of collage creation involve subjective decision-making and aesthetic judgment, which are difficult for AI algorithms to replicate. In this academic study, the collage technique will be explained and visually described to artificial intelligence platforms and evaluated as an art form produced by artificial intelligence.

Keywords: Artificial Intelligence, Art, Technology

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Introduction

From the earliest cave paintings to the Renaissance period, artists have always used technology and innovation to create their masterpieces. In the 21st century, we are witnessing a new kind of innovation in art: the use of artificial intelligence (AI). Artificial intelligence art is created using algorithms and machine learning techniques. It is becoming a new art form based on the use of computers to create images, sounds and even entire musical compositions. The technology behind artificial intelligence art is not a newly invented phenomenon, but it has been gaining popularity in the art world lately.

Artificial intelligence has made significant advances in various fields of art, including the creation of music and works of art (Wang, 2022). However, there are still artistic areas that artificial intelligence has not yet mastered.

Collage, as a visual form in art, is an art form that involves visual combination arts, composition of varied materials and creating different elements from materials and creating a new object for composition. While artificial intelligence has the potential to manipulate images, apply musical composition, and even create and produce aesthetically appealing classical collages, there are times when it cannot meet every desire. Exploratory technology continues to offer an exciting field of digital art for future integration research and artificial intelligence experiments in collage creation, as collage continues to potentially challenge the creation of the boundaries of what art is possible. It raises questions about the nature of creativity, authorship, and the boundaries between human and machine-produced art. While the potential for artificial intelligence to contribute to the collage-making process is an ongoing challenge, new opportunities for artistic expression and creative exploration are also increasing day by day.

Despite AI's advances in various art fields, collage can still challenge AI platforms as an art form that AI has not yet fully mastered. The collage process involves more than just combining varied materials and elements; It requires a certain level of creativity, intuition, and unique perspectives that cannot be replicated by artificial intelligence algorithms alone. Artificial intelligence has proven to be a valuable tool in music composition, visual arts, and even the production of aesthetically appealing classical and pop music. However, the ability to master the art of collage creation remains unexplored. While he has demonstrated potential in producing and manipulating images, his practice in creating cohesive and conceptually rich collages can still be a matter of ongoing debate within the art community.

The process of creating collage images presents an interesting and complex challenge. It raises questions about the nature of creativity, authorship, and the boundaries between human and machine-produced art. Can AI platforms autonomously organize and combine different visual elements to produce compelling and thought-provoking collages without the intervention of human artists? Despite the considerable progress in its integration into art, it remains a question of curiosity for the art world whether artificial intelligence tools can create collages autonomously and conceptually without direct human intervention.

The involvement of artificial intelligence in the art world continues to grow, especially in interactive installation art, showing that the role of artificial intelligence in the direction of art in the context of architecture is not impossible. Although computer technologies cannot fully replace human creativity, they have the potential to enhance human creativity and open new possibilities for artistic expression and creative exploration. Therefore, the role of the use of artificial intelligence in the field of art goes beyond analysis and synthesis as a tool, but also as a potential partner for artistic collaboration.

Collage as an Art Form

Collage is a form of artistic expression that involves combining various materials such as paper, photography, fabric, and wood and gluing them together to create a unified work of art (Mihaylova, 2019). Although collage has a long history in art, it was formalized in the early 20th century, particularly in association with the art of Pablo Picasso and Georges Braque (Lahman et al., 2019; Richmond, 2022; Arpin, 2008). Collage also helps develop and strengthen an attitude that has proven valuable in all forms of creative expression. Working with collage and found art materials encourages the artist to look at the most ordinary objects from a new perspective (Meliach & Hoor, 1964, p:6). The emergence of collage as a formal term and movement in art history dates back to the early 1900s. It is stated that collage can be observed not only in visual arts, but also in time-based and performing arts called montage (Karpowicz, 2007).

Collage art is a unique form of artistic expression that has been around for centuries. It is an art-making technique that involves using a variety of materials such as paper, fabric, photographs, and other found objects to create a new, unified work of art. The word "collage" comes from the French word "coller" and means to paste or glue (Lahman et al., 2020). The history of collage art dates back to ancient civilizations in China, Japan and Iran, where paper was first invented. However, the modern form of collage art emerged in the early 20th century, during the Cubist movement. Pablo Picasso and Georges Braque are the artists credited with the invention of collage art. Famous Cubist artists used cut pieces of paper to create their paintings. According to Berdugo (2021), the collage technique emerged in the 20th century as an attempt to transcend the boundaries between art and life (Berdugo, 2021). It has been an important part of 20th century art with a rich history of works from movements such as Futurism, Cubism, Dada and Situationism (Lazo et al., 2020). Collage was also used as a form of social criticism by early feminist artists, particularly in the 1970s, who examined discourses about the female body and domestic culture (Moist, 2010). Additionally, collage has been associated with postmodern aesthetics, which emphasizes that culture and meaning are inherently fragmented and contextual (Markus, 2007).

Collage art was also popularized by Dadaists and Surrealists in the 1920s and 1930s. These artists used collage as a way to express their anti-establishment views and challenge traditional art forms. By incorporating found objects such as newspaper clippings and everyday objects into their works, they created a new and unusual form of art. In the 1950s and 1960s, collage art became popular as a form of pop art. Artists such as Richard Hamilton and Eduardo Paolozzi have incorporated images from popular culture, such as advertisements and comic books, into their works. Pop art collages often used bright colors and bold patterns to create a visually striking effect.

Today, collage art is still a popular form of artistic expression. Contemporary artists have expanded traditional collage techniques by incorporating digital media and three-dimensional elements into their work. Collage art has also become more accessible to the public; There are many online trainings and workshops available for those who want to try this art. As a versatile art form, collage allows artists to experiment with different materials and techniques, creating unique and personalized works of art. Collage art is also a great way to recycle and reuse old materials, making it an environmentally friendly form of art making.

Besides its aesthetic appeal, collage art also has a deeper meaning. Artists can comment on social and political issues by incorporating found objects into their works. Collage art can be used as a form of activism, as artists have the ability to draw attention to important issues through their work. Collage art is a unique and versatile form of artistic expression with a rich history. From its origins in ancient civilizations to its popularity today, collage art has continued to evolve and inspire artists all over the world. Whether you are an artist, academic or art historian, collage art is an art form worth exploring. Adapting this branch of art to contemporary practices is an important endeavor for individuals dealing with art today.

The Concept of Artificial Intelligence and Its Development to the Present

Artificial intelligence refers to the simulation of human intelligence processes by machines, especially computer systems. The concept has a long history dating back several decades. The development of artificial intelligence has been rapid and significant advances have been made in the last few decades (Yang et al., 2019). The evolution of artificial intelligence can be traced back to the first Joint International Conference on Artificial Intelligence (IJCAI) in 1969, which was a significant turning point in the history of the field (Audibert et al., 2022). Over time, artificial intelligence has evolved from a tool for functional optimization to an unprecedented source for design inspiration based on machine intelligence (Hegazy & Saleh, 2023). The impact of artificial intelligence has spread across various fields, including healthcare. It promises to revolutionize healthcare, with studies demonstrating its potential to improve provider-level performance across a variety of medical specialties (Young et al., 2021). Additionally, the use of AI is expected to reduce diagnostic errors in outpatient settings, highlighting its potential to improve healthcare outcomes (Harada et al., 2021).

In fact, artificial intelligence is an attempt to replicate the reasoning and imagination powers of the human brain in machines. This assumes we have some knowledge of what these forces are. In fact, science knows very little about this. For example, theater as a distinct art form has been exploring, not explicitly but implicitly, the problem of representing or simulating the behavior of one person through another for thousands of years. Artificial intelligence can learn a lot from examining the theater's extensive research into the nature of human intelligence (Göranzon & Florin, 1991, p: 57).

The evolution of artificial intelligence has also been accompanied by social and ethical considerations. The effect of the obtained images on consumer evaluation has been examined, and concerns have emerged about the replacement of humans with artificial intelligence technology, which has led to resistance in some individuals (Wang et al., 2023). Artificial intelligence has a rich history spanning several decades marked by significant developments and transitions. From its origins to its current state, it has evolved into a technology with far-reaching impacts across a variety of sectors, including healthcare, ethics, and social impact.

Method

The study is limited to the most popular artificial intelligence visual platforms: Bing, Ideogram, and Dall-E; Four visual results were obtained from each platform with the same definition.

Results

The following statement was entered as a prompt in artificial intelligence platforms:
"A portrait made with collage art, all the parts that make up the portrait will be torn or cut from another newspaper, magazine or photograph and pasted on top of each other in the traditional collage technique. Every part of the portrait belongs to different images."

The results obtained as a result of the prompt are listed under headings:

Bing
https://www.bing.com/images/create?FORM=GENILP

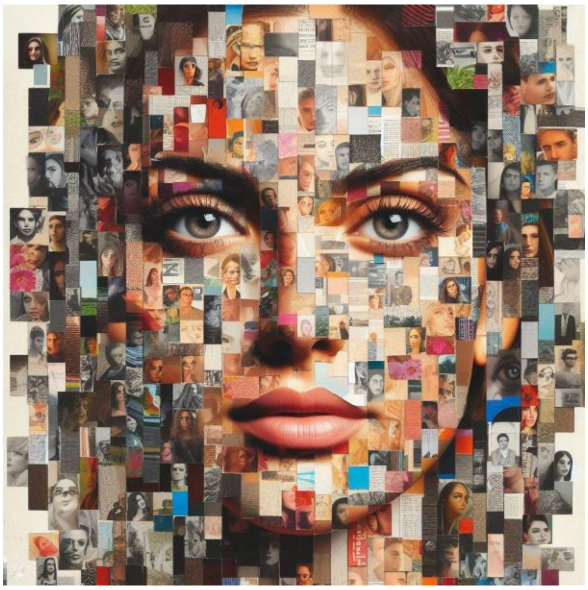

Figure 1. Portrait 1, created via Image Creator from Microsoft Designer, 2023

Figure 2. Portrait 2, created via Image Creator from Microsoft Designer, 2023

The images above show the outputs obtained from Bing, the first platform chosen. There is a portrait pose taken from the front and fragmentary elements with collage effects around the figures looking at the camera. The symmetry of the faces is one of the first striking features. It can also be said that there are Mondrian influences in the image in Figure 2. The platform was developed by Microsoft and allows users to request up to a certain limit every day.

Microsoft takes a unique approach to artificial intelligence and uses a variety of strategies to develop and integrate this technology. The company is constantly advancing and applying artificial intelligence technologies with a strong research and development team. Microsoft's artificial intelligence solutions aim to meet a wide range of user needs by providing user-friendly tools and services.

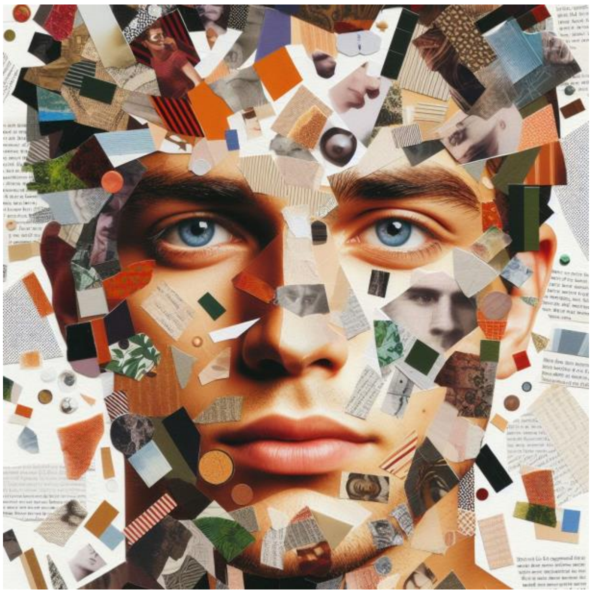

Figure 3. Portrait 3, created via Image Creator from Microsoft Designer, 2023

Figure 4. Portrait 4, created via Image Creator from Microsoft Designer, 2023

When looking at the images obtained, it is noticed that the common feature is that collage is applied in the form of giving effects and adding texture to the image rather than a form-creating technique. The collage pieces did not disrupt the structural integrity of the forms, and the works were completed with the limbs belonging to the same figures. In all of the works, it is observed that small collage pieces of different sizes are added onto a large-sized single-piece portrait image in the background.

In addition, although gender was not specified in the prompt, one of the images given was female and the other three were male portraits. Of these portraits, numbers 2 and 3 give the impression that they are portraits of the same figure.

Ideogram

https://ideogram.ai/

Ideogram, which appears perhaps for the first time in the form of a social media platform, apart from other artificial intelligence visual production platforms, allows designers to exhibit images obtained by others, to be liked by others, and to follow users' profiles. The system, which allows users to be inspired by entered prompt prompts as well as visual inspiration, is available to users free of charge.

AI significantly affects the use of social media platforms with its visual recognition and analysis capabilities. Social media has become an area where billions of users share photos and videos and interact. By analyzing these large data sets, artificial intelligence algorithms can automatically classify and label content and extract meaningful information. It has become a particularly prominent tool for understanding the visual content shared by users, personalizing the user experience, and providing more effective content recommendations.

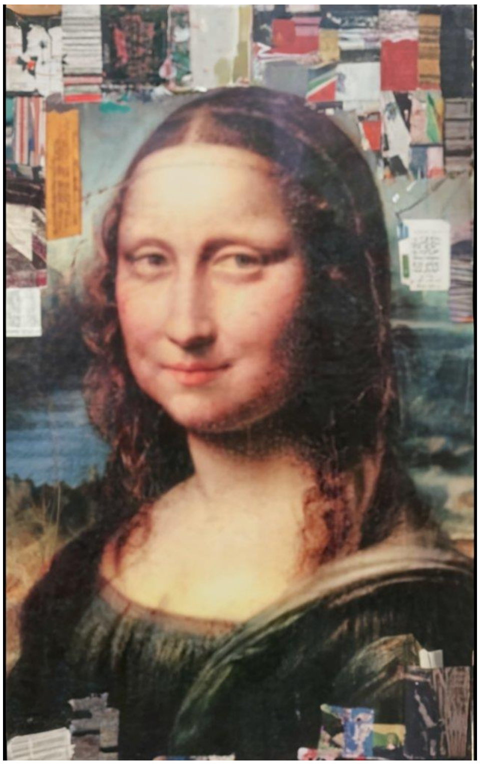

Figure 5. Portrait 1, created via Ideogram, 2023

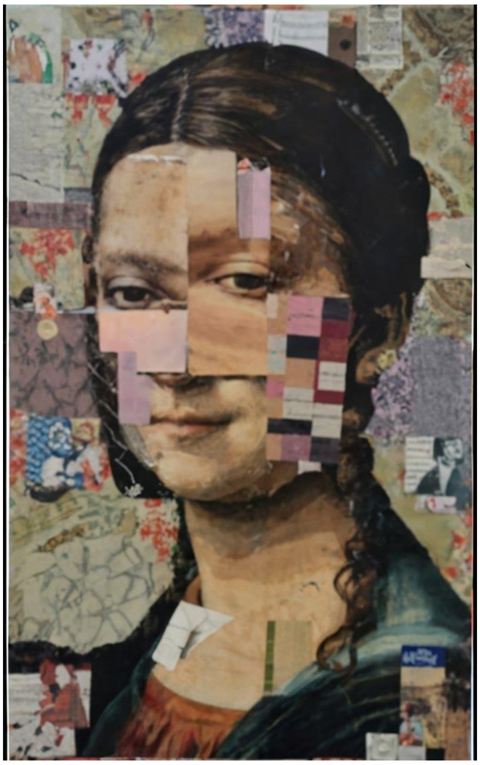

Figure 6. Portrait 2, created via Ideogram, 2023

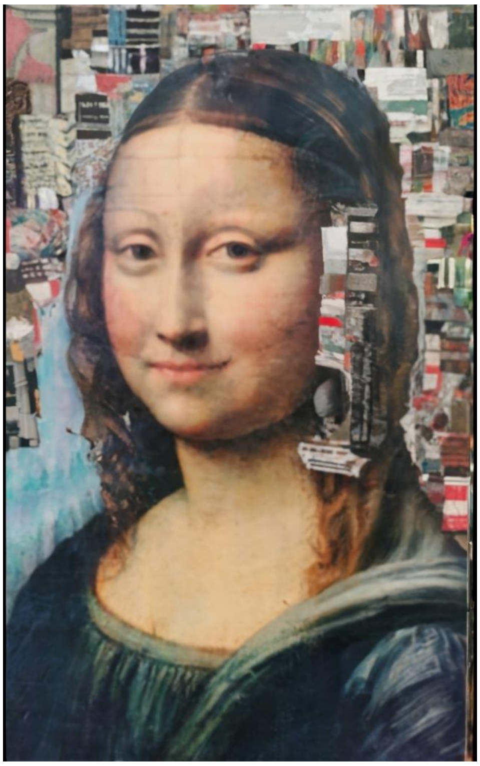

Figure 7. Portrait 3, created via Ideogram, 2023

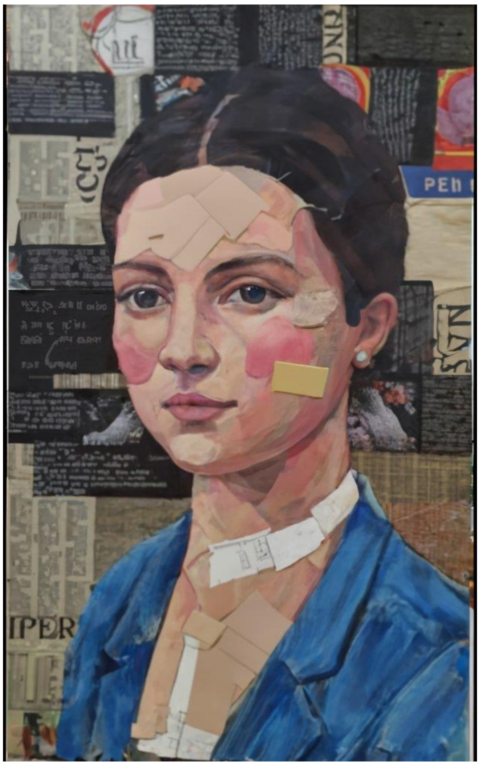

Figure 8. Portrait 4, created via Ideogram, 2023

Although the same prompt request is made on this platform as on the other platform, it is noticed that the platform offers us effects from Mona Lisa in all 4 images. While there is a general and intense Mona Lisa image in portraits numbered 1 and 3, the Mona Lisa silhouette and pose is observed in images numbered 2 and 4. In images 1 and 3, the forms in the portrait are not distorted, and there are small collage effects on the background and surface.

Visual number 2 was one of the outputs that came closest to the ideal collage art. Effects such as the creation of a new form by different limbs, asymmetry, and deconstruction, which are among the traditions and general styles of collage art, can distinguish the visual from others in artistic terms. In the last image, portrait number 4, the collage effects are felt intensely in the background, while the "paper mosaic" effects are evident in the portrait and figure depiction.

Dall-E

https://labs.openai.com/

Figure 9. Portrait 1, created via Dall-E, 2023

Figure 10. Portrait 2, created via Dall-E, 2023

Dall-E, the last platform requested within the scope of the study, is perhaps the most popular artificial intelligence visual production platform and is also a pioneer in this field. Black and white effects dominate in the number 1 portrait offered by the platform. In the image where the effects of newspaper pieces are given with a grainy texture, the integrity of the form is not damaged, and collage effects are used more in the hair and in the background. It can be observed that the limbs belong to the same figure. In portrait number 2, the collage effects and the feeling of fragmentation are felt more intensely. Although the figure's lips appear to be formed from different surface pieces, the shape is the same. Collage effects appear more intensely on the neck, chin, forehead and hair parts.

Figure 11. Portrait 3, created via Dall-E, 2023

Figure 12. Portrait 4, created via Dall-E, 2023

In portrait number 3, while the lower lip is a different piece, the hair and the elements around the hair are separate pieces, the female portrait used as the basis gives the feeling of being a single piece. The visual, which gives a rough and superficial impression, seems to have the potential to produce a better result if the prompt is more detailed. It may be very important that the prompt content requested is sufficiently detailed and the description given is comprehensive, as well as the processing of the resulting image by artificial intelligence.

In the last image obtained within the scope of the study, collage effects appear quite intensely. While the background behind the figure creates a large collage structure consisting of two parts, there are multiple small and very detailed collage pieces at the bottom. The single piece surface used as hair stands out from the figure. While the face image of the figure is a single piece at the top, it becomes fragmented as it moves towards the neck, but it still reflects the same texture and color.

Conclusion

The images obtained within the scope of the study are similar in different subjects. First of all, although gender is not specified, it is seen that the platforms generally exhibit a closer attitude towards producing female figure visuals against this prompt-based request. Likewise, the structural integrity of the figures on the platforms has not been damaged or has been damaged only slightly. The desired collage recipe creates an effect in the images, a feeling of decoration added to an existing image. The principle of collage art of creating a completely different and separate whole from different parts cannot be said to have been fully realized for these platforms - at least with this prompt. It is noteworthy that artificial intelligence maintains the forms of the forms by taking a holistic approach.

Artificial intelligence, perhaps the most surprising invention of the 21st century and one that makes people say "this is incredible", continues to surprise researchers in every field. While the rapidly advancing technological developments and advances are dragging art along with it, the fact that the artificial intelligence revolution has not left art out is becoming a motivating source of power that delights, arouses curiosity and encourages all art lovers, academics working in the field of art and prospective artists to explore new horizons.

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Images of Faith in International Ex-Libris Competitions

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Abstract: Ex-libris, as a field of art, is a printing application created by artists to be pasted on the inside cover of books. It serves as a personalized sign or symbol of ownership and identity for the owner of the book. Ex-libris artefacts are designed by artists on behalf of book owners and often feature unique and artistic designs that reflect the owner's interests, preferences or personal history. They can typically be created using a variety of artistic techniques, such as drawing, engraving, overprinting or, more common nowadays, digital printing. Designs can range from simple monograms or symbols to elaborate illustrations with elements related to the life, beliefs, etc. of the owner. The diversity of subject matter and cultural diversity is quite evident in the printmaking works submitted to international ex-libris competitions. Artists create unique and diverse works inspired by their geographical regions, cultural heritage and lived experiences. In these works, it can be seen that cultural subjects such as local folklore, traditional handicrafts, legends and mythology, natural beauties and history are often covered. In this study, the images belonging to the theme of faith will be identified and analyzed by examining the works participating in international ex-libris competitions from different regions of the world.

Keywords: Ex libris, Art, Printmaking, Printing, Art Competitions, Faith

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Introduction

Addressing the world of ex-libris competitions and investigating how faith and religious beliefs have been depicted in these competitions over the years is a fascinating topic in the context of faith and printmaking. Exlibris, meaning "from the library", means a small, printed label pasted inside the front cover of a book. It usually includes a design or illustration as well as the name of the book's owner. For this reason, ex-libris competitions are events organized to determine the best ex-libris designs and enable the formation of a large and global culture in this field.

Ex-libris competitions play an important role in the field of library services and academic research. Ex-libris, which expresses ownership marks in books, is important in determining the owner of a work (Sae, 2017). Customizing and adapting discovery solutions such as Ex Libris Summon to meet the specific needs of user populations, especially in health sciences libraries, demonstrates the value and impact of ex-libris in increasing usability and meeting user needs (Cirelli, 2022). Additionally, the implementation and marketing of Ex Libris technologies such as SFX Open URL have been the subject of case studies highlighting the practical applications and experiences of library staff in using these tools (Delgado & Wood, 2007). Additionally, library leaders' decision-making process in selecting and implementing Ex Libris platforms underscores the strategic importance of ex-libris competitions in shaping library services and resources (Guo and Xu, 2023).

The article titled "Images of Faith in International Ex-libris Competitions" examines images of faith and religion in ex-libris designs. For example, in cultures where Christianity is widespread, one of the most common themes in ex-libris designs is the cross theme. The cross is a symbol of Christianity and is often used to represent the sacrifice of Jesus Christ. In ex-libris designs, the cross image is depicted in different styles and designs, from simple and minimalist to complex and detailed.

Angel themes can also be commonly used in ex-libris designs. Angels are considered messengers of God in many religions and are often depicted as beings of light and beauty. Depictions of religious elements such as the Virgin Mary, Jesus Christ, and various saints in ex-libris designs can also be included in the designs. These figures are usually embodied in a respectful manner, focusing on their divine qualities and characteristics. In addition to these themes, religious symbols such as the Star of David, the crescent, and the Om symbol can also be used in ex-libris designs within different beliefs. These symbols are common in various religions and have often been used to represent the beliefs and beliefs of the book's owner.

Representation of Faith in Art

The representation of faith in art has been the subject of scholarly investigation in various disciplines, shedding light on the intersection of religious beliefs and artistic expression. Mondzain emphasized the importance of belief in the visual regime, emphasizing the role of belief in incarnation in calming strong passions around images (Kayman, 2016). In addition, the Roman Catholic Church used art to promote public faith during the counter-reformation, underscoring the emotional, spiritual, and persuasive nature of visual art in strengthening faith (Estrada & May, 2019). Moreover, the expression of religious motifs in Iranian small art and the exploration of spiritual and religious dimensions of rock art further exemplify the different ways in which faith is reflected in artistic expressions (Ladan and Kaner, 2023; Tansem, 2022).

Art plays an important role in shaping a positive image of religious communities in society and serves as a tool to reflect the theological significance of Christian mysteries in liturgy and worship, highlighting the multifaceted role of art in embodying and communicating faith (Jouili, 2018; Hornik and Parsons, 2012) . Exploration of spirituality in art, particularly in the context of abstract painting, underlines the revival of the idea that spirituality can act as a surrogate for religious belief and contribute to discourses on the spiritual dimensions of artistic expression (Koestle-Cate, 2014).

An academic discourse on images of faith in art will cover a wide range of themes, including the soothing role of faith in visual representation, the use of art to inspire public faith, the representation of religious motifs, and the exploration of spirituality. Contributing to a deeper understanding of the complex relationship between faith and art can provide fertile ground for highlighting the various ways in which artistic expressions embody and communicate religious beliefs.

International Art Competitions in the Context of Culture

The importance of international art competitions goes beyond simply showcasing talent, serving as platforms that foster artistic innovation, cultural exchange and professional development. These competitions provide artists with global recognition opportunities, increasing their visibility and opening the doors to new career opportunities (Nakamura et al., 2017). Moreover, the competitive nature of these events often encourages artists to push their creative limits, leading to the production of groundbreaking works that contribute to the enrichment of artistic discourse and the broader cultural landscape (Brandfonbrener, 2004).

International art competitions also play an important role in promoting cultural diplomacy and understanding by bringing together artists from different national and international environments (Nakamura et al., 2017). Through the exchange of artistic ideas and practices, these events facilitate intercultural dialogue and collaboration, thus contributing to the development of mutual respect and appreciation for global artistic traditions and perspectives. Additionally, exposure to diverse artistic expressions in such competitions can broaden the horizons of both artists and audiences, fostering a more inclusive and interconnected global arts community.

The organization of art competitions at the international level is effective in developing artistic talent, promoting cultural exchange, promoting intercultural understanding and contributing to the social and economic value of art in various national and international contexts. These competitions serve as dynamic platforms that not only celebrate artistic excellence, but also play a vital role in shaping the global art landscape and supporting cultural diplomacy.

Method

This research is limited to the 5th and 4th International Ex-libris Competitions organized by the İstanbul Ex-libris Association, and in this context, the online competition catalogs published by the association were examined.

Results

Christianity and Christian graves contain deep symbolism and artistic richness. The most fundamental symbol of Christianity, the cross is a central expression of beliefs, representing the event of Jesus' crucifixion. Angel figures, which we frequently encounter on gravestones, are considered protective beings and symbolize belief in life after death. Church and cathedral designs are also among the important images decorating Christian cemeteries; These designs are often adorned with symbols representing beliefs, hope and resurrection. Bible and book figures emphasize the religious affiliation of the individual. Additionally, lamps symbolizing light are often seen in cemetery areas, a sign of spiritual enlightenment and life after death. Christian tombs offer a legacy of art and culture with deep meanings to express their faith and hope through symbols. It can be seen that the first figure on this axis contains images of the Christian cemetery.

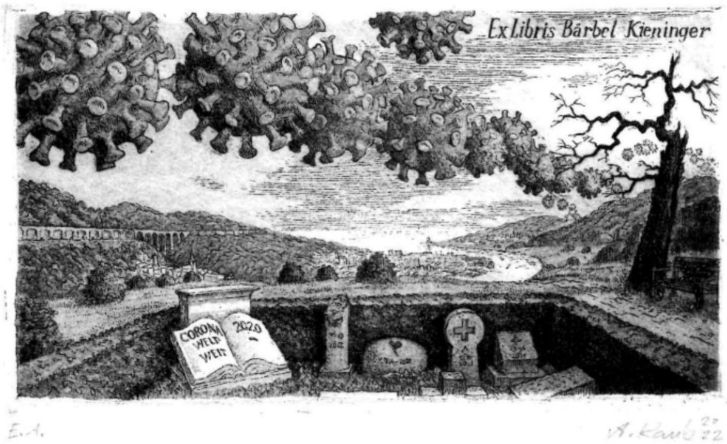

Figure 1. Andreas Ramb, Germany, C3+C5, 2022
(A.E.D., 2022, p:51)

The winged angel image often represents beings that protect, guide and offer spiritual assistance. In Christian, Islamic and many other cultures, angels are considered messengers of God. Winged angels often symbolize positive qualities such as kindness, protection, consolation, and spiritual guidance.

In Christian belief, angels are sacred beings sent to convey God's commands and help people. The presence of winged angels, especially in cemeteries, is a symbol of the soul of the deceased being at peace and a transition towards heaven. They are also referred to as spiritual beings who provide spiritual guidance and protection during the transition to the afterlife. Angels' wings are associated with freedom, height, and celestial dimensions. This symbolism may convey the idea that angels are free from earthly limitations and represent a spiritual ascension. Figure 2 shows a figure with closed wings. At the same time, in the study, there is also a male figure resembling the image of Jesus. Although depictions of Jesus vary across various periods and cultures in art history, they generally contain some common features. In these depictions, a halo of sacred light around Jesus' head is a common feature; This is meant to emphasize his holiness and divine nature. Also, it is seen that Jesus had long and wavy hair, and this hair style was a symbol of spiritual beauty and holiness.

Clothing preferences are generally white, red or blue, and these colors are used to represent purity, holiness or royalty. Depictions of Jesus reflect the cultural and religious influences of the artists' period and include common features used to portray him as a sacred and impressive figure.

Figure 2. Hristo Naidenov, Bulgaria, C3+C5, 2022

(A.E.D., p:77)

Figure 3. Bahar Durmuş, Türkiye, C.G.D., 2018

(A.E.D., 2018, p: 53)

Depictions of blowing baby angels often appear as a symbolic motif used in works of art or literary texts. These depictions represent themes such as innocence, purity, protection and the power of nature. From an academic perspective, these depictions are often considered a form of iconography and examined for cross-cultural similarities and differences. In art history, depictions of baby angels blowing air have been a frequently encountered motif, especially since the Renaissance period. These depictions may reflect the painter's or artist's interaction between the world and the divine, human domination over nature, and the balance of the universe. At the same time, the baby angel figure is often perceived as a protective being, symbolizing people's desire to live in harmony with nature.

The praying hand pose is a common expression in many cultures and belief systems. This posture, which is frequently encountered in major world religions such as Christianity, Islam and Hinduism, is used during worship and prayer. In Christianity, the praying hand posture usually occurs with hands joined and brought closer to the chest, symbolizing spiritual unity and humility during prayer. In Islamic culture, folding the hands at chest level without touching the surface is a common posture used while praying. In Hinduism, the praying hand pose is generally known as the "Namaste" position and is expressed by joining the hands and bringing them to heart level. This is an act that reflects mutual respect and love. Therefore, the praying hand pose symbolizes the depth of prayer and worship and spiritual union in many cultures and belief systems.

Figure 4. Yağmur Sabaz, Türkiye, C.G.D., 2022
(A.E.D., 2022, p:135)

In art, the skull usually symbolizes death, transience, afterlife and human mortality. This symbol is a detailed depiction of a skeleton head and is used as a memento mori (reminder of death) in many cultures. In art history, the skull functions as a tool to understand the temporary and finite nature of life, to confront the reality of death, and to consider the meaning of life. Since the Renaissance period, skull motifs have been frequently used in painting, sculpture and other branches of art. Particularly in the 16th and 17th centuries, memento mori-themed works feature skulls rich in symbolism, conveying to the viewer a thought-provoking message about the inevitable end of the temporary world. While this symbol also draws attention to a person's mortality and the transience of worldly pleasures, it can also indicate a spiritual awakening. The skull continues to be used frequently in art, in "Vanitas" paintings, in works dealing with the theme of death, and in today's art. This symbol represents an intellectual tool that aims to confront the inevitable end of human existence and understand the value of life.

Figure 5. Ocheredko Tetiana, Ukraine, 2018
(A.E.D., 2018, p:111)

The creation of Adam is an important theme in the sacred texts of Abrahamic religions, especially Islam, Christianity and Judaism. In this theme, symbolic expressions about God creating man in his own image and the creation of man are included. Another important motif frequently encountered in depictions of the creation of Adam is hands reaching out to each other, which is depicted as a symbolic expression of the creation of Adam.

In these depictions, God's hands and Adam's hands often approach or meet each other. This image symbolizes the bond, closeness and communication between human creation and divine being. In particular, Michelangelo's "Creation" painting on the Sistine Chapel ceiling depicts an iconic moment when God's finger and Adam's finger almost touch.

Figure 6. Siplevich Tatsiana, Belarus
(A.E.D., 2018, p:129)

Pieta is an Italian term meaning "Mercy" or "Pity". This term is often used to describe a composition used in the field of art, especially sculpture. Pieta composition generally refers to a work of art depicting the Virgin Mary, often together with the crucified body of Jesus. This type of composition is a motif often found in the Christian artistic tradition and deals with the theme of pain and mercy. One of the most famous Pieta works is Michelangelo's Pieta in St. Peter's Basilica in Rome. In this work, Virgin Mary holds the dead body of Jesus in her arms and looks at him with compassion. This work by Michelangelo is known for its detailed anatomical skill and emotional depth. Pieta composition aims to create an emotional meaning and leave a deep impression on the viewer.

The pieta composition also demonstrates how art can be used as a means of religious and emotional expression. The pained expression of the Virgin Mary and the dead body of Jesus can evoke a deep emotional response in viewers and help make sense of this moment, sacred in Christianity. Therefore, the Pieta composition plays an important role in expressing religious narratives through art and occupies an important place in the history of art.

Conclusion

Ex-libris printings stand out as small works of art that reflect the unique identity of book owners and personalize their books. These engravings feature a wide variety of themes and artistic styles. In the period from before the First World War to the present day, the themes seen in ex-libris have changed and evolved greatly. During the Renaissance, ex-libris were often decorated with abstract coats of arms, mythological figures and religious symbols. Baroque and Rococo styles led to more detailed and ornate designs. Towards the end of the 18th century, there are examples of landscape, flora, fauna and exotic themes gaining more popularity in ex-libris.

Under the influence of the romanticism movement, emotional and naturalistic themes came to the fore in ex-libris designs. During the same period, the Gothic Revival and Arts and Crafts movements led to the emergence of more traditional and craft-oriented ex-libris. Later, avant-garde art movements and modern design influences brought abstract and geometric themes to ex-libris. Movements such as Art Deco and Art Nouveau led designers to adopt a more original and contemporary approach.

Today, there is still a wide variety of ex-libris designs. In addition to traditional themes, pop culture references, digital art elements and contemporary graphic design elements are also frequently seen in ex-libris. This diversity allows the emergence of eclectic works that reflect the aesthetic preferences, personal interests and spirit of the book owners. Ex-libris engravings have evolved throughout history and have become a special part of book collections, reflecting the artistic movements of each period. It is extremely possible to encounter cultural and religious traces in designs regardless of the period.

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Traces of Mysticism in the Works of Mehmet Büyükçanga

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Abstract: High printing is a traditional and ancient art that brings together the beauties of nature and art. This technique is an art of printing on paper with ink or paint applied on wooden or linoleum blocks. In this type of printing, natural textures and patterns are transferred to paper and an aesthetic experience is offered. High printing, one of the basic types of original printing, offers art lovers and artists the opportunity to discover aesthetic and spiritual richness, thus enabling them to understand both art and life more deeply. This art form bridges the gap between traditional and contemporary art, offering a visual richness to the viewers and at the same time, it still preserves its existence as a powerful means of expression. Sufism is a mystical tradition that explores the inner dimension of Islam. This teaching emphasizes deep love and devotion to the divine, the search for spiritual knowledge and inner enlightenment. Practices such as dhikr, meditation and spiritual guidance support the spiritual development of those who follow the Sufi path. Sufism, as a spiritual experience, is a process and a quest acquired by the Mevlevis. Born in 1948 in Konya, the artist Mehmet Büyükçanga has contributed to Turkish art with his works in the linocut printing branch of the art of printmaking, as well as his education and has carried his art to international dimensions. Büyükçanga, in addition to local motifs in his works, has enabled this local value to be recognized at the international level with Sufi and Mevlevi images. In this study, samples of the artist's print works will be evaluated, and traces of Sufi culture will be investigated.

Keywords: Printmaking, Art, Linocut, Linoleum Printing Woodcut, Woodblock Printing, Sufism, Mysticism

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Introduction

As academics, individuals often find themselves immersed in the world of art and its various forms. From painting to sculpture and printmaking, visual arts have always been an integral part of academic curricula. While we often appreciate the works of famous artists, the importance of local artists in the field of printmaking and visual arts can often be overlooked.

Local artists form the backbone of the arts industry. They bring a unique perspective to their work, drawing inspiration from the local environment, culture and traditions. This both helps preserve local culture and adds diversity to the art world. Supporting local artists and helping to promote their works and provide them with the recognition they deserve plays an extremely significant role in contributing to academic literature.

Printmaking is an art that has existed for centuries. It involves creating an image on a surface such as a plate, block, or stone, and then transferring it to paper or another surface. Local artists also have a significant role in terms of printmaking techniques. By bringing their own unique style and creativity to the art form, they add a new dimension to it and bring the technique to a current and dynamic position. It is important to preserve the art form and keep it alive by encouraging local print masters in terms of transferring art methods. Visual arts encompass a wide range of art forms, such as painting, sculpture, photography, and graphic design. Creating works that are both unique and original, local artists bring their own perspectives to the art form. The importance of local artists also extends to the economic dimension of the art industry. By supporting these artists, you can also contribute to supporting the local economy. This can be explained because local artists are more likely to spend their earnings locally, thus contributing to the growth of the local economy. Supporting social harmony and community development is also possible through local artists. They contribute to preserving local identity and supporting social harmony by creating works that reflect local culture and traditions. The importance of local artists in the world of printmaking and visual arts cannot be ignored. They bring a unique perspective to their work, preserving local culture and adding diversity to the art world. In particular, it is among the main duties and concerns of academics to encourage and support local artists, thus contributing to the growth and development of the art industry and local society.

The phenomenon of mysticism or belief is widely depicted with Sufism in Anatolia and especially in the city of Konya, especially in the fields of art. Sufism is a mystical Islamic belief system that emphasizes the attainment of spiritual knowledge and personal experience of God through various rituals, prayers, and contemplations. This tradition has been practiced for centuries and has its roots in the early Islamic period when it gained importance in the Middle East and spread to other parts of the world. One of the most famous centers of Sufism is the city of Konya, located in central Turkey. Konya has been known as the center of Sufi activities since the 12th century when the famous Sufi mystic and poet Rumi settled in the city and founded the Mevlevi order.

The Mevlevi order is one of the most prominent Sufi orders in the world and is famous for its mystical dance known as the "whirling dervish". This dance is performed as a form of meditation and spiritual practice and is believed to bring the dancer closer to God. In Konya, Sufism is still a lively and active tradition, and many Sufi orders and communities practice their beliefs and rituals. The city is home to several important Sufi shrines and mosques, including the Mevlana Museum, which houses Rumi's tomb and is a popular destination for pilgrims and tourists alike.

One of the most interesting things about Sufism in Konya is the way it has blended with other cultural traditions over the centuries. For example, many of the Sufi rituals and practices in Konya include elements of Turkish folk music and dance, creating a unique and diverse spiritual experience. Sufism in Konya also attracts attention with the importance it attaches to tolerance and inclusiveness. The city's many Sufi orders embrace people of all backgrounds and religions, promoting a message of peace and understanding. This has helped Konya become a center for interfaith dialogue and cooperation, with many events and initiatives aimed at bringing people of different faiths together. Overall, Sufism in Konya is a rich and vibrant tradition that continues to develop in the modern world. Its emphasis on spiritual experience and personal development, as well as its message of tolerance and inclusivity, make it a valuable and unique contribution to the world's spiritual heritage.

The Concept of Mysticism and Belief

Mysticism is a spiritual practice that involves the search for a deeper understanding of the divine and the universe. Contemplation is a way to connect with the divine through meditation and prayer. Mysticism in Turkey has a rich history dating back to the 13th century. One of the most well-known mystics in Turkish history is Rumi, a 13th-century poet and mystic who founded the Mevlevi Order, also known as the Whirling Dervishes. The Mevlevi Order is a Sufi order that practices a form of Islamic mysticism.

Sufism is a mystical and ascetic form of Islam that emphasizes the inward search for God and renunciation of worldly things. It is described as a tool for the spread of Islam, ascetic piety, a tool of resistance against colonialism, a form of psychiatric treatment, and a force for reform (Bouyahya, 2016). Sufism is considered a spiritual dimension of Islam, and its place in the broader discussion of orthodox or traditional Islam has been a matter of debate (Puppo, 2019).

In modern society, Sufism is seen as a direction that individuals follow to meet their spiritual needs and focus on man's problems with God and issues related to the social sphere (Fauhatun and Burhanuddin, 2022). The practice of Sufism includes various rituals and prayers, one of which is the sema prayer. Sema prayer is a form of worship associated with Sufism, particularly the Mevlevi Order, also known as the Whirling Dervishes. This form of prayer involves a unique whirling dance performed as a spiritual practice to achieve religious ecstasy and connection with the divine. Sema prayer is a highly symbolic and ritualistic practice that embodies the fundamental tenets of Sufism, including the quest for spiritual enlightenment and the annihilation of the self in the divine presence.

In the context of Islamic history, Sufism has been intertwined with various debates and polemics, especially due to its interaction with other Islamic movements such as Salafism. The emergence of “Reform Sufism” led to a re-evaluation of traditional Sufi terminology and organizational structures, emphasizing the preservation of the spiritual core of Sufism (Sorgenfrei and Stjernholm, 2022). Additionally, the historical influence of influential Sufi figures such as Sheikh Ahmed Bin Ali Al-Rifa'i has shaped the practice and understanding of Sufism with teachings that clarify the method and vision of Sufism (Muheemed, 2023). Sufism represents a multifaceted aspect of Islam that encompasses spiritual, ritual and historical dimensions. Sema prayer, as a distinctive practice in Sufism, reflects the deep spiritual journey and connection with the divine followed by its practitioners.

Sufism is a mystical form of Islam that emphasizes spiritual practice and personal connection with the divine. Sufis seek to reach a state of spiritual enlightenment through meditation, prayer, and other spiritual practices. In Turkey, Sufism has had a significant impact on Islamic practices and played a role in shaping Turkish culture. However, mysticism in Turkey is not limited to Sufism. Many different forms of mysticism are practiced in Turkey, including Christian and Jewish mysticism. Each of these forms of mysticism has its own unique practices and beliefs, but they all have a common goal of establishing a deeper connection with the divine.

One of the most important aspects of mysticism in Turkey is the idea of unity. Mystics believe that all religions and all people are united in their search for the divine. This idea of unity is also reflected in the Mevlevi Order's sema dance, which symbolizes the unity of everything in the universe. Another important aspect of mysticism in Turkey is the idea of love. Mystics believe that love is the key to spiritual enlightenment and that through love we can connect with the divine. This idea of love is also reflected in Rumi's poems, which are full of references to the power of love and the importance of connecting with others. Overall, mysticism in Turkey is a rich and complex spiritual tradition that has had a profound impact on Turkish culture and society. Whether through the Sufi practices of the Mevlevi Order or the Christian and Jewish mysticism practiced throughout the country, mysticism in Turkey is a testament to the human desire to connect with the divine and understand the universe more deeply.

Printmaking Art Field and High Printing Technique

The history of printing dates back to ancient China, where block printing was used to create images on textiles and paper. This technique eventually reached Europe, where it was used to create religious texts and images in the Middle Ages. In the 15th century, Johannes Gutenberg invented the printing press, which revolutionized the way information was disseminated. During the Renaissance, printmaking became more popular as artists began using it to create prints of their paintings and drawings. These prints were often used as a way to disseminate his work to a wider audience and were highly sought after by collectors. Many famous artists, such as Albrecht Dürer and Rembrandt, were also printmakers, and their prints are now considered works of art in their own right.

Over time, printing techniques continued to improve, new techniques were developed, and old ones lost their popularity. For example, the development of lithography in the late 18th century allowed printing using a flat stone or metal plate instead of a relief surface. This allowed artists to create more detailed and complex images and also paved the way for color printing. Today, printmaking remains a popular form of artistic expression. While many artists continue to use traditional techniques such as etching and engraving, others are adopting new technologies such as digital printing. Printmaking is also an important part of art education; Lessons on printing techniques are given in many art schools, and printmaking techniques are significantly included in the curricula of the academy and art education areas.

The origin of the high-pressure technique dates back to its first use in Europe in the 15th and 16th centuries. High print and intaglio prints were popular forms of news dissemination during this period. It was frequently used to announce "wonderful" births and to depict extraordinary abnormalities with great morphological accuracy and artistic skill. (Heyne et al., 2021). The high print technique played an important role in the formation of collective identity, especially in the avant-garde style of the German Expressionist group, as documented in Brücke's 1913 Chronik (Reisenfeld, 1997). Additionally, this technique was crucial in the development of book illustration, turning engravings into an art form in their own right. Albrecht Dürer has a place in art history as an important figure in this transformation (Kaczor-Scheitler, 2021). Printing played a pivotal role in the development of print media in the 18th century, contributing to a media revolution through its use in letterpress and woodcut prints (Corfield & Nordin, 2023). The historical importance of the technique is further emphasized by its influence on printed book illustrations and maps, especially in Italy, where perspective techniques began to influence printed illustrations and maps by 1500 (Mukerji, 2006).

Technical aspects of large prints have also been the subject of scholarly study and provide information on the practice of woodblock printing in the 15th century and the circulation of wooden blocks among printers (Kok, 1982). There are also academic studies emphasizing the impact of high prints on iconography and the permanent effects of high prints on visual culture (Zeldenrust, 2015). Printmaking has a rich historical origin and plays a significant role in the dissemination of artistic representation, book illustration and media. Its enduring validity and adaptability have ensured its continued use and innovation in contemporary contexts.

Mehmet Büyükçanga as a Turkish Print Artist

The artist, who was born in Konya, Kadınhanı, Meydanlı Village in 1948, started his education life by graduating from the primary school of the same village. He graduated from İvriz Primary Teacher School in 1967 and then graduated from Ankara Gazi Education Institute in 1970. He completed his undergraduate education at Anadolu University. In 1981, Ankara İ.T.İ.A. He completed his master's program and received his Art Proficiency Diploma from Selçuk University Social Sciences Institute in 1990. He worked as an art teacher in schools affiliated with the Ministry of National Education between 1970 and 1976. Between 1976 and 1980, he entered academia as a lecturer in the Painting Department of Ankara Gazi Education Institute, and then transferred to Konya Selçuk Education Institute upon his request. He served as the director of the Konya State Fine Arts Gallery of the Ministry of Culture between 1980 and 1993. Ahmet Keleşoğlu, which was later named Necmettin Erbakan University and was previously a unit of Selçuk University, taught courses such as perspective, printmaking, basic design and graphics at the Department of Fine Arts Education and Crafts Teaching at the Faculty of Education and retired (Büyükçanga, 2023). He opened his personal exhibitions 12 times in total in Ankara, Konya, Kadınhanı district, Afyon Bolvadin, Antalya and Kayseri State Fine Arts Gallery; He also participated in many group exhibitions.

The artist, whose artistic productions are mostly on printing arts, has produced works most commonly in the field of high print, especially in the linocut technique. He included themes of Konya Sufi culture in his works in international artistic events and conducted his printing works in this direction. While his figurative works include images of whirling dervishes and Mevlana, they also include subjects that reflect society.

Results

Traces and Images of Sufism Encountered in the Works of Mehmet Büyükçanga

Images of Sufi culture are frequently seen in the artist's print works. Whirling Dervishes and Mevlana's themes were widely used in compositions. Hence, the artist's printmaking works were examined and listed as findings.

Figure 1. No matter what, Come Again, Mixed Media,
2006, 60x31 cm. (Büyükçanga, 2023)

In Figure 1, it can be seen that the artist created the whirling dervish figure from the images belonging to the whirling dervish ceremonies. Two whirling dervish figures are composed side by side while performing the whirling dance, with the famous roof of Mevlana's tomb visible in the background. Likewise, in the second figure, it is seen that the theme of greeting, which is a part of the Sema ritual, is managed. Black ink was used as the printing color in the work, which was made with the linoleum printing technique on marbling paper. In this section, the whirling dervishes stand in the middle of the semahane in their white cardigans and black turbans, as if they had descended from angels. They greet each other by placing their hands over their hearts. This greeting is an expression of respect for the soul, which is a divine trust in every human being. Whirling Dervishes salute three times during the salute phase. These three greetings represent the three degrees of worship. The first greeting is man's birth to the truth through knowledge and his understanding of Allah and his own servitude. The second greeting is to dissolve all existence in this divine unity. The third greeting is to reach the union of "non-existence" within "existence".

The greeting movements of the whirling dervishes create a very aesthetic appearance. This dance is actually a divine journey. With this dance, whirling dervishes try to reach God by going beyond their own selves. The greeting movements of the whirling dervishes are very meaningful. These movements also give a message to all humanity: the message of love, unity and solidarity. The greeting part of the sema ritual, where this message is given in a very impressive way, is one of the most important parts of the sema ritual. In this part, the movements of the whirling dervishes fascinate everyone in the semahane.

Figure 2. Greetings, Mixed Technique on Marbling,
2007, 49x29.5 cm. (Mehmet Büyükçanga, 2023)

Whirling Dervishes figures constitute the basic elements of the religious dance specific to the whirling dervish ritual, which is a mystical ritual. These elegant figures carry a universal meaning, symbolizing the spiritual journey of the whirling dervish. When the ritual begins, the whirling dervishes join their hands in a sublime salute as they enter the sema stage. This greeting means an inner preparation and symbolizes that the whirling dervish is preparing to establish a spiritual connection. The hands are joined over the heart, representing the balance between the mind and the heart. Whirling Dervishes figures, together with their turning movements, tell about the whirling dervish's inner journey and his search for divine love and unity. These meaningful figures offer a deep emotional and aesthetic experience to the audience during the Sema ritual, while also celebrating universal harmony and unity. The Sema ritual becomes a work of art to celebrate one's own inner journey, unity and spiritual depth, through whirling dervish figures and the greeting ritual.

Konya is one of the cities of Turkey adorned with historical and cultural riches. One of the most important symbols of this city is the tomb of Mevlana Celaleddin Rumi. Mevlana Tomb is known as a sacred place where Mevlana Celaleddin Rumi, the founder of the Mevlevi order, who is the symbol of mystical thought and love, rests. The architectural structure of the tomb stands out not only as an aesthetic beauty, but also as a work of art full of symbols with deep meaning. The exterior of the tomb bears traces of Ottoman architecture, and its dome-shaped roof creates a peaceful atmosphere. White marble walls display a simple and elegant appearance, reflecting the understanding of simplicity and inner beauty in Mevlana's teachings.

The interior of the tomb offers a great inner peace and spiritual atmosphere. Mevlana's sarcophagus is decorated with blue tiles that revolve around it. These tiles represent a cyclical movement and are reminiscent of the whirling dervishes, the symbol of the Mevlevi order. The enormous dome on the ceiling of the interior symbolizes the universal unity and love in Mevlana's teachings. Mevlana Tomb offers visitors a mystical experience with both its architectural beauty and deep spiritual meanings. This tomb, which is an important part of Konya's cultural heritage, is not only a structure, but also a work of art that aims to keep Mevlana's teachings alive. Figure 3 shows a depiction of the Mevlana tomb in its current form. In the work created with the linoleum printing technique on marbling paper, the sky texture consisting of rings attracts attention.

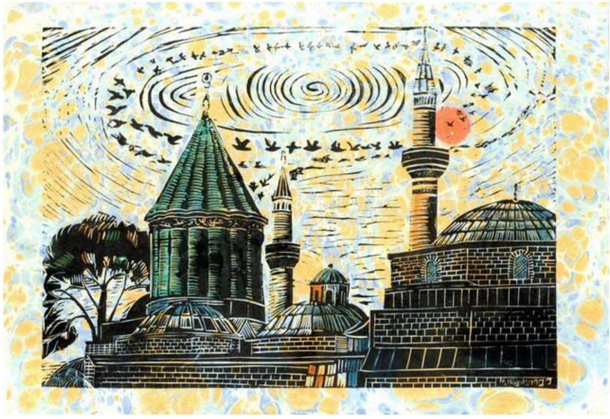

Figure 3. Mevlana Museum, Mixed Technique on Marbling Paper,
2007, 42x29.5 cm. (Mehmet Büyükçanga, 2023)

The Sema ritual is an action usually performed with the participation of more than one whirling dervish and Sufi musicians. The mass greeting scene can also take place in other parts of the ritual. The final greeting in the Sema ritual is an important ritual that signifies the end of the ritual for Mevlevi dervishes, who are representatives of the Mevlevi order. This salute symbolizes the whirling dervishes' return and completion of the ritual. With the final salute, the whirling dervishes' turns slow down, accompanied by takbirs, and this indicates that the ritual has reached an inner peace and completion. In the final salute, the whirling dervishes take a salute stance, folding their hands at chest level. This posture symbolizes both inner serenity and unity.

Figure 3. Sema Ceremony, Mixed Media on Marbling,
2007, 49x29.5 cm. (Mehmet Büyükçanga, 2023)

Whirling Dervishes perform the final greeting by bowing their heads to express their respect for each other and the audience. This movement emphasizes the humility and brotherhood in Rumi's teachings. The final greeting indicates the end of the whirling dervish ritual and the completion of a spiritual journey by the whirling dervishes. This ritual is a symbolic reflection of love, unity and submission in Mevlevi teachings. It also means that the whirling dervishes and the audience share this spiritual experience. The final salute reflects the basic principles of the Mevlevi tradition, emphasizing unity, love and tolerance.

This academic study focused on the life of an artist who made significant contributions to art history and cultural heritage and tried to examine and interpret the deep meanings of the works he created using images of whirling dervishes and Rumi. The name of the artist is remembered as a print artist who reinterpreted the Sema ritual and Mevlana's teachings over time and added his own aesthetic understanding to them. His works create a deep connection with audiences by using the power of art and the universal language of cultural symbols. The life and works of this artist reveal the richness of the art of telling a story through whirling dervish figures and portraits of Mevlana. His works offer a spiritual experience as well as a visual feast, in harmony with the whirling dervish whirling dervishes and Mevlana's teachings. The artist's works can be evaluated as building bridges between cultures, searching for meaning and expressing an inner journey. His art created intellectual and emotional depth in the audience through symbolism and aesthetics and contributed to keeping Mevlana's legacy alive. The works of this artist continue to be a living part of the cultural heritage, preserving the traces of an aesthetic experience integrated with the whirling dervishes and the teachings of Mevlana.

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Ongoing Firing Activities in The Field of Ceramic Art in Turkey After the Year 2000

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Abstract: Ceramics, which is among the branches of art, is the only and oldest art branch that requires technology and is prone to industry, as well as aesthetic and functional creativity and skill. In the period from the Neolithic Age to the present day, ceramics have been produced with tools such as wheels, shaping tools and kilns. Ceramic art has a history of thousands of years in regions where traditional ceramic activities are held. It is important to support the art with contemporary examples through firing activities and to increase the interaction between artists, students and art lovers. The realization of traditional and contemporary practices with these activities is valuable in developing the boundaries of traditional ceramic art and making it more recognizable. With the leadership of ceramic artists in our country, regions with great importance in ceramic art have been selected historically and traditional ceramic activities have been brought to the present day with the assistance of students and art lovers. In the research, ceramic firing activities were discussed, information was given and evaluations were made.

Keywords: Ceramic Art, Firing Techniques, Obvara, Sagar, Raku

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Introduction

Ceramics is a branch of art and science in which compositions of non-organic materials have been shaped by various methods for centuries and then fired with or without glazing to gain durability. This definition covers the science and technology of ceramics, all engineering materials and products other than metals and alloys (Arcasoy 1982). Throughout history, Turkey is known as a prominent center where ceramic art has taken root in Anatolia. Thanks to its geographical location, rich natural resources and cultural heritage, Turkey has hosted the rebirth of ceramics and has produced world-renowned works in this field (Apaydın 2009). After 2000, the firing activities of ceramics, combining traditional techniques with modern interpretations, have maintained their vitality in Turkey. Despite this rich history and current dynamism, ceramic activities have provided a common platform for a long-standing tradition and contemporary artists to meet. These activities have created an important series of events in Turkey, which continue routinely and the number of participants is increasing. In these platforms where contemporary examples of thousands of years of ceramic culture are presented, intellectual and artistic processes are also given a wide coverage. Emphasizing the importance of a common language in the field of ceramics, these events also shape the future directions of ceramic art in Turkey. The aim of this research is to present the firing activities in Turkey together. In particular, it deals with the firing activities of ceramic art in Turkey since 2000.

Ceramic Activities in Turkey

Traditional National Ceramic firing activities in Turkey support art with contemporary examples and increase the interaction between artists, students and art lovers. With the support of students and art lovers, traditional ceramic events have been carried to the present day. Every year, under the leadership of ceramic artists in Turkey, regions with great historical importance in ceramic art are selected and these events are held outdoors. In this research, examples of these events held in Turkey are included.

International Eskişehir Terracotta Symposium

The aim of the symposiums, which were initiated under the leadership of Anadolu University and Osmangazi University and repeated every September, is to contribute to the artistic, cultural and social life of the city. Brick, which was used in the construction of Babylonian towers in Mesopotamia in the 13th century BC, is a prominent building material among industrial products. In this context, the famous Serinhisar pottery and soil structure of the Yenice region have been accepted as a basic guide material for chemical analysis and art activities (Baskaya 2012).

Figure 1. 6th International Odunpazarı Ceramic Firing Techniques Workshop (August 7, 2022)

The fact that it is historically suitable for the application of experiments such as size discrimination has aimed to introduce it to both national and international public through cultural and artistic activities. The scientific, cultural and artistic events organized within the scope of Eskişehir International Terracotta Symposium are an invited event for artists. It is a traditional event repeated every year open to visitors with festival enthusiasm. In this event, firing practices in traditional pottery kilns are discussed.

International Macsabal Wood Firing Symposium

It was initiated under the leadership of Kim Youn Moon, a Korean ceramic artist and master kiln maker. The symposium aims to bring together international students and raise environmental awareness in society through the power and function of art. From October 2011 to the present day, it has brought together international artists, students and the public with art with different themes. In this event, firing methods, especially wood firing, were discussed (Baskaya 2012).

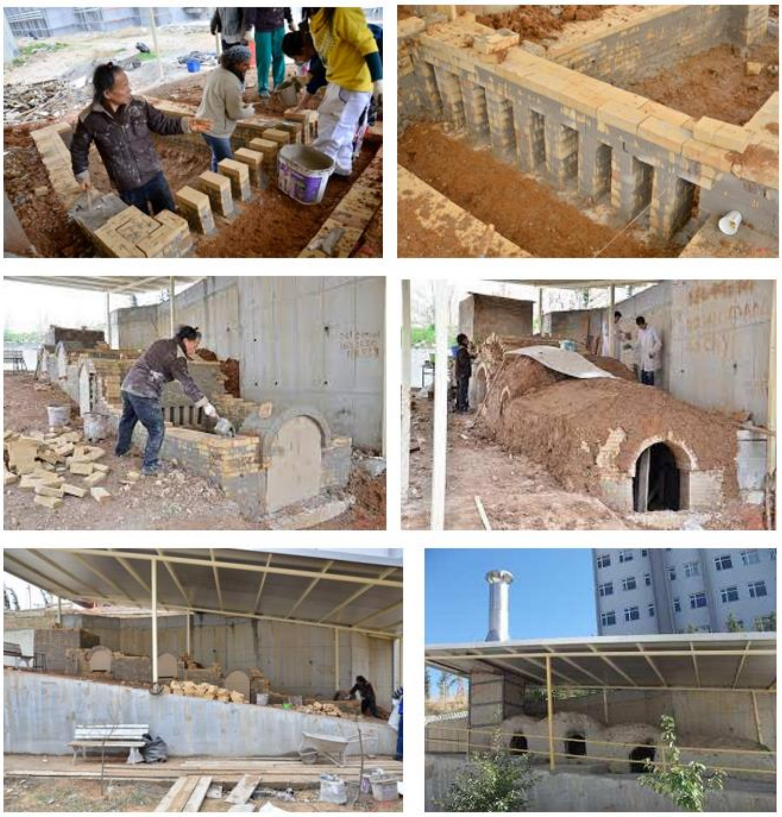

Figure 2. Macsabal Wood Firing Construction Stages

Avanos Ceramicon Ceramic Events

The Ceramicon event, which was initiated by Hacettepe University in Avanos and continued for 4 years and then transferred to other educational institutions, continues to be held in Avanos since 2011 within the

International Avanos Applied Ceramics Symposium led by Prof. Tuğrul Emre Feyzoğlu. In this event, salt, soda, sagar, basket raku firing were discussed and original applications were included.

Figure 3. Sagar Firing application stages (23-25 MAY 2014)

National Alternative Ceramic Firing Workshop

Under the leadership of Nevşehir Hacı Bektaş Veli University, wood-fired alternative ceramic salt firing workshop is organized every year. In this event, educational information about firing techniques was given in the event, which lasted about 10 hours of furnace burning and reached a temperature of 1250 ° C. In this event, salt, soda, naked raku obvara basket firing was included and original works were obtained.

Olympos Anagama Event (International Art Symposium)

The Olympos Anagama event, which is included in the international art symposiums organized by Anadolu University Integrated School for the Disabled, is carried out with ceramic firing techniques. In this event, anagama, luster, raku firing were discussed and original applications were included.

Conclusion

Furnaces have been produced by developing firing techniques for the cultural social economic cultural structure of the society by developing firing techniques for the cultural social economic cultural structure of the activities developed with contemporary methods in today's Ceramic field, which brings a different dimension to the ongoing Ceramic art. Collective work has been developed and new methods have been developed with the cooperation of the audience, participants, academicians and students. After 2000, ceramic firing activities in the field of contemporary ceramics, where different firing techniques are presented together and firing applications are developed as a result of individual efforts and their effects on ceramic surfaces are very interesting, although they are laborious and long-lasting. Today, the techniques applied in national symposiums and workshops continue to be developed and contribute to original works.

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Universities' Use of Instagram in the Context of Graphic Design

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Abstract: With the great change in technology in today's world, instant communication and communication mobile devices has become possible for everyone. People have reached the technology that can instantly receive news about a development occurring anywhere in the world through social media. In a period when social media is so important, the preparation of visual designs in social media posts that can reach millions of people in accordance with the rules of graphic design makes these posts more effective. In the light of the research conducted in this study, the posts made by the private university, which has a large number of followers on the Instagram platform, were analyzed in terms of their formal features, compliance with graphic design principles and photo usage strategies. With the findings obtained as a result of these analyses, it is aimed to give direction to these institutions in order to make more effective posts for their target audiences..

Keywords: Graphic Design, Social Media, Instagram.

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Introduction

In the digitalizing world, social media is in a state of constant development and change, increasing its importance day by day. In a period when social media and social media advertisements have gained so much importance, the preparation of social media posts in accordance with graphic design elements makes the design more effective.

In a period when social media is so important, the preparation of visual designs, which are the basic elements of social media posts that appeal to millions of people, in accordance with graphic design elements makes the posts more effective. It is of great importance for organizations that share posts aimed at reaching their target audience through social media to consider graphic design principles.

In this study, it is aimed to analyze the extent to which the ten private universities with the highest number of followers on Instagram, one of the most popular social media applications, share posts in accordance with the graphic design principles mentioned, and to give direction in order to reach their target audience more effectively. In line with this purpose, the study is important in terms of being a resource that universities can benefit from in order to make posts that can attract the attention of their followers on social media platforms where hundreds of posts are made instantly on the main page, although there are many researches on social media in Turkey, there are a limited number of studies that examine social media posts in terms of graphic design in academic terms.

Graphic Design and Social Media

Graphic Design

Graphic design is a visual communication design used to advertise a product or service or to convey a message to the target audience. The most important function of graphic design is to convey the message to the target audience as a visual communication art and to make it quickly understandable. Graphic design, which comes into play with the aspect of conveying the message visually, realizes a visual communication at this point and has become an effective part of communication (Arıkan, 2008; Becer, 2015; Tutar, 2008). Today, the expression of the word graphic in the international literature has become clear in such a way that all people can make the same interpretation. According to its meaning in the literature, the word graphic means writing, drawing, displaying and reproducing. (Tepecik, 2002).

Social Media

Social media is a new form of media that allows users to share data instantly in a simple and two-way way, while at the same time accessing information shared by other users (Boyd & Elison, 2008). Social media is actively used by almost everyone today. In this way, instant information is accessed quickly; content, articles, news, opinions, thoughts, daily events and photos shared by users can be seen through social media.

The spread of social media platforms is much faster than traditional mass media. For example, while it took 38 years for radio to reach 50 million users worldwide, it took 13 years for television and only 9 months for Twitter (Kara, 2013). Social media platforms have spread very quickly among users, and this spread is still continuing at a rapid pace. Unlike traditional media platforms, social media stands out as a living platform.

There is no obligation to receive any training in order to use social media. Anyone who wants to publish or share on social media can take part. Another advantage is that the data flow can be constantly updated instantaneously. On a traditional print media platform, it is not possible to change a news item after it has been created, only a correction can be published the next day. Social media, on the other hand, allows the information shared to be changed and edited instantly.

The most popular social media platforms used worldwide are Facebook, Instagram, Youtube, Twitter, Snapchat, Tik Tok and Club House.

It is possible to evaluate the designs shared on social media platforms within the scope of graphic design. Many social media channels require graphic designers and software developers to work together in order to make social media use more efficient. While social media is generally characterized as a two-dimensional plane like traditional printed media, the design principles of digital media platforms differ from traditional media. With the spread of social media platforms day by day, it has become necessary to apply different design methods.

With the innovations brought to our lives by social media, the scope of aesthetic qualities such as visual design and visual communication has expanded considerably. Social media interaction has also affected the communication structure and this has changed the design criteria. The design environment in new media has created new requirements. Visual design, which is used in conveying the visual message, should be done with various purposes such as informing, thinking and motivating in line with a holistic design language by purifying the message from crowded elements. The visual literacy knowledge of the target audience is important in transforming the designed visual language into a meaningful message. The socio-cultural structure, technological competence, critical perspective and expectations of the visual reader are effective in understanding and interpreting the message (Erişti, 2018).

The most important factor affecting social media design is the wide variety of screens. It is possible to access social media using different technological tools. For this reason, designs should adapt to these different tools in order to ensure readability.

Analyzing Social Media Posts of Universities

In the research, social media and content design are discussed, and it is tried to give information about the conditions that should be followed to create effective content design on Instagram. First of all, information and definitions will be given about examining the posts of the University with the highest number of followers in terms of graphic design, and then the findings and comments related to each sub-objective will be discussed.

As of the date of the research, Bahçeşehir University has 81.4B, Medipol University 68B, Istanbul Bilgi University 65.4B, Koç University 63B, Bilkent University 62.2B followers.

Bahçeşehir University

Looking at the general view of Bahçeşehir University Instagram page in Figure 1, it is seen that all visual elements in the page design are compatible with each other, that is, they speak the same language. In this way, all visual elements reinforce each other. The use of happy student photos in the posts has added a positive atmosphere to the page. The fact that the posts are a design product and do not appear as a combination of unrelated parts gives the impression that all the parts belong together. In this way, designs where the principle of integrity is applied make it easier to read, understand and remember the design.

The harmonious arrangement of the elements in the design is formed by the combination of elements with the same basic form, size, texture, color or emotion. The fact that the featured stories section is designed in a common language and used effectively has been a factor that increases the integrity and readability of the page.

Figure 1. Bahçeşehir University Instagram Page.

Medipol University

All visual elements in the Medipol University Instagram page overview design in Figure 2 are compatible with each other and designed in the same language. In this way, it is ensured that all visual elements reinforce each other. The fact that the posts are a design product and do not appear as a combination of unrelated parts gives the impression that all parts belong together. Designs where the principle of integrity is applied make it easier to read, understand and remember the design.

By using the logo in social media posts, Medipol University aimed to prevent the use of its visual content by others on the internet and to show the image of the institution in every sense.

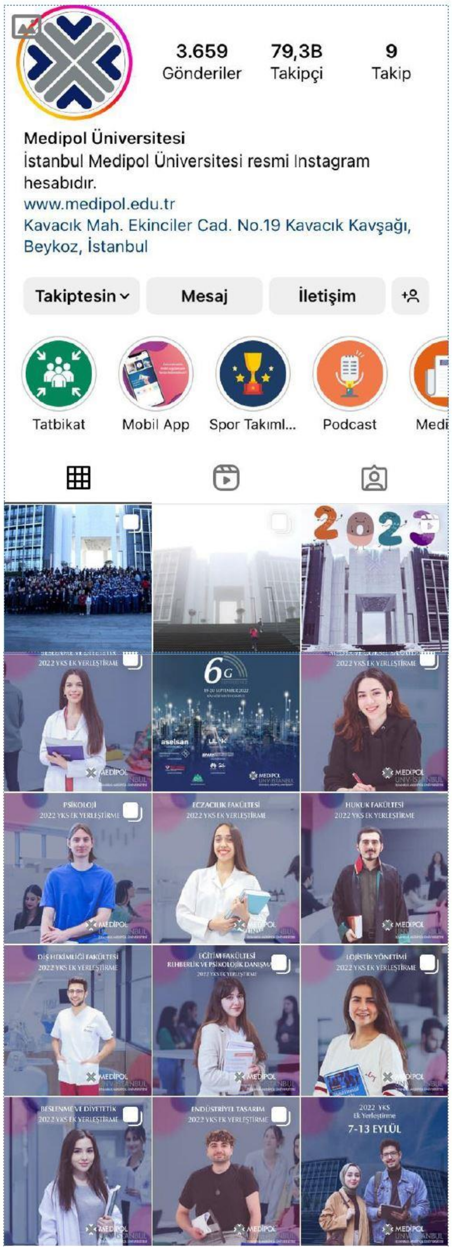

Figure 2. Medipol University Instagram Page.

The use of fast engaging photos and multiple reels of video has a more positive impact on users. The visuals are mobile-oriented and quickly delivered the message in a small area in a short time. Since the ads will be seen while scrolling through Instagram, using remarkable reels videos and photos increased the success of Medipol

University Instagram account.

The harmonious arrangement of the elements in the design was created by combining elements with the same basic form, size, texture, color or emotion. Designers utilized different methods such as border, axis and three-point method while creating integrity.

Istanbul Bilgi University

It cannot be said that the visual elements in the design of the general view of Istanbul Bilgi University Instagram page in Figure 3 are compatible with each other, and the posts are a combination of unrelated parts. Looking at the overall page structure, the fact that the posts do not speak the same language has a negative impact on the principle of integrity, reading, understanding and remembering the design.

Figure 3. İstanbul Bilgi University Instagram Page.

By using logos in its social media posts, Istanbul Bilgi University aimed both to prevent the use of its visual content by others on the internet and to show the image of the institution in every sense.

The use of photos and multiple reels of video that can be interacted with quickly leaves a more positive impact on users. The visuals were mobile-oriented and quickly delivered the message in a small area in a short time. Since the ads will be seen while scrolling through Instagram, using attention-grabbing reels videos and photos had a positive impact on Istanbul Bilgi University's Instagram account.

Koç University

Not all visual elements in the Koç University Instagram page overview design in Figure 4 are compatible with each other. The combination of unrelated parts in the posts and the fact that all parts seem to belong together shows that the design is successful.

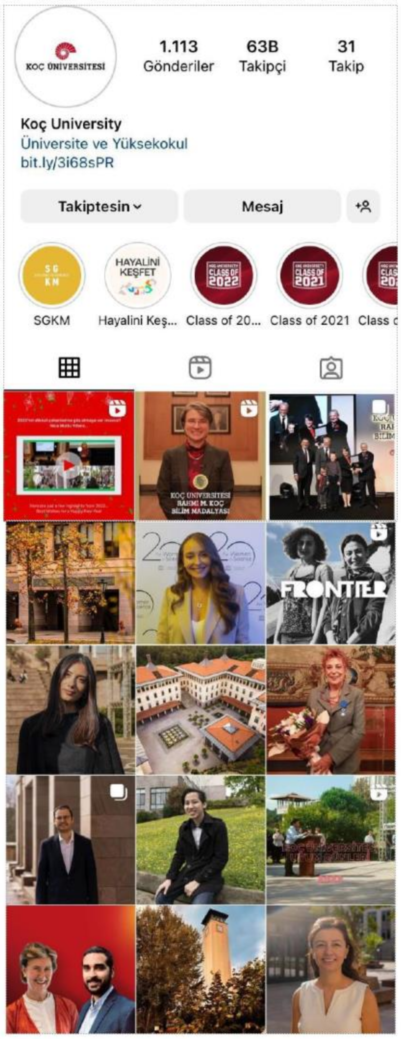

Figure 4. Koç University Instagram Page.

Social media ads are mostly viewed on smartphones. Using photos and multiple reels of video that can interact quickly leaves a more positive impact on users. Images should be mobile-oriented and deliver the message quickly in a small area in a short time. Since the ads will be seen while browsing social media, not using attention-grabbing reels videos and high-resolution photos may limit the reach of Koç University Instagram account to the target audience. Designers did not utilize different methods such as border, axis and three-point method while creating integrity.

Bilkent University

Looking at the general view of Nişantaşı University Instagram page in Figure 5, it is seen that all visual elements in the page design are compatible with each other, that is, they speak the same language. In this way, all visual elements reinforce each other. It gives the impression that the posts are a design product and all the parts belong together. In this way, designs where the principle of integrity is applied make it easier to read, understand and remember the design.

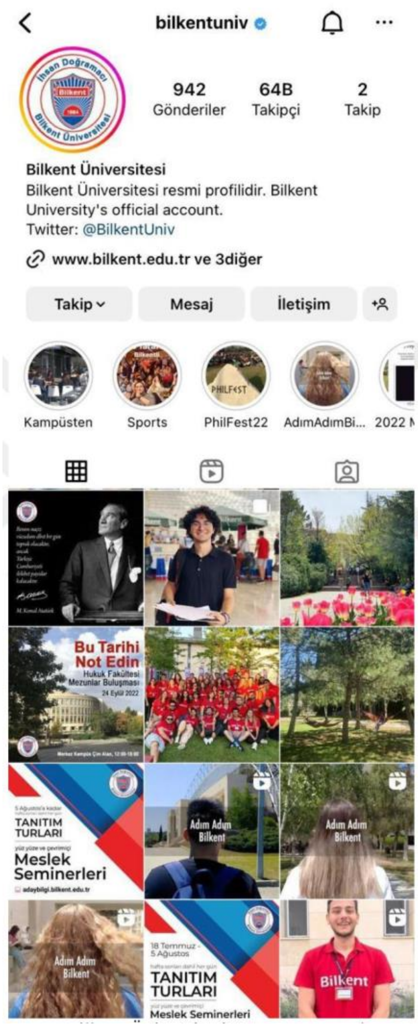

Figure 5. Bilkent University Instagram Page.

The harmonious arrangement of the elements in the design is formed by the combination of elements with the same basic form, size, texture, color or emotion.

Conclusion

Social media, the most popular communication method in today's world, is becoming more widespread every day. Social media differs from traditional media with its access to many different target audiences, the ability to produce and share content quickly and simply, the ease of measurement as mutual interaction with the target audience can be captured, the ability to reorganize posts and the free media environment it offers to its users, and people now spend more time on social media platforms than traditional media platforms.

Almost every business can publish advertisements for the target audience they want without any lower limit on social media. In this study, the social media advertisements shared by ten private Turkish universities with the highest number of followers on Instagram, the most popular social media platform today, during the registration renewal periods were analyzed and interpreted in terms of graphic design principles. It was concluded that in these posts; selected photographs, logo usage, color preferences, typography, page layout and slogan usage play an important role in terms of advertising and graphic design.

Since the home page flow on social media is constantly updated instantaneously, users are exposed to dozens of posts in a short time. It should not be forgotten that advertisements that do not attract attention at first sight on these platforms can be passed with a finger movement. For this reason, the advertisements to be published on these channels should be in a way that can attract users' attention much faster.

With the conclusion that the photos preferred in the posts are the most important element in convincing the target audience, it gives advice to universities on the choice of photos in their posts and their compliance with graphic design principles. It is possible to attract users' attention with unusual angles and collages, a correct hierarchical order or a creative slogan.

Today, with the development of the internet and social media, universities frequently use this medium to influence users' decisions. It is seen that users attach importance to social media in their school preferences and are influenced by the services on social media. In addition, research has revealed that users find social media advertisements of universities more reliable than advertisements of the same sectors published in traditional media.

In this study, graphic design, social media and university issues were examined, the correct use of photography in social media posts and its harmony in terms of graphic design principles were tried to be explained, and analysis and analysis were made with an interpretive perspective.

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Alternative Firing Techniques Applied in Ceramic Art

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Abstract: Ceramic activities and firing techniques have been used, analyzed and developed for centuries to make ceramic bodies durable, aesthetic, hygienic and applicable. Ceramic activities have opened a new field for the expression of the heritage that has been going on for years with ceramics and the thought that brings the artists of the period together at a common point. The results of this self-sacrificing unity given to ceramic art constitute the activities that continue routinely in Turkey. The increasing number of artists participating in the events has increased the intellectual impact of the exhibitions and the interaction between the artists in a multidimensional way. The works present contemporary examples of ceramic culture with a history of thousands of years. In the historical process, glazes with different unique colors, textures and glossy glazes have been sought and many innovations have been experienced in this field. Different alternative firing methods and application areas were created through events, and new kilns were invented. Over time, firing errors on ceramic surfaces have been eliminated; techniques such as salt firing, basket firing, raku firing and obvara firing, sagar firing have an important place in ceramic art. In the research, examples of artists who applied these firing techniques were discussed and the differences of firing techniques were revealed.

Keywords: Ceramics, Firing Techniques, Events, Obvara, Sagar, Raku

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Introduction

Ceramic art is the process of hardening natural materials such as earth, clay and minerals by shaping and firing them with various techniques. It has been used for centuries in different cultures for aesthetic and functional purposes. Artists express their feelings, thoughts and stories through ceramics. It contains important information about the history, mythology and daily life of different cultures. Turkey is an important ceramic center with its rich Anatolian soil and historical ceramic tradition. It is aimed to eliminate firing errors on ceramic surfaces by addressing the impressions and forms of alternative firing methods today and to express the feelings and thoughts of people in ceramic art with different aesthetic artistic forms. From the past to the present, primitive methods have carried the past to the future with the unique interpretation of each artist and led to the emergence of different searches.

Ceramic Firing Techniques

In ceramic art, different firing techniques are applied to finalize the works. These techniques determine the aesthetic and functional properties of ceramics. One of the most widely used techniques is "biscuit firing"; at this stage, the shaped ceramic works are fired at high temperatures for the first time and hardened. Then, in a process called "glaze firing", the biscuit-fired ceramic works are coated with liquid glass-like materials that add color and shine. In addition, special techniques such as "raku, salt, obvara sagar basket firing" give the works unique patterns and colors. Each firing technique emphasizes the richness of ceramic art and the uniqueness of the works.

Raku Firing

Raku ceramics is a technique developed from traditional Japanese ceramic art. Raku ceramics is a technique used to create ceramics that are fired over a low fire, resulting in a unique and organic appearance. Raku ceramic firing is usually done using a specialized kiln. Raku kilns include a hopper and a firing chamber where clay pots can be placed. The temperature of these kilns is usually 800 degrees. The firing process at these temperatures consists of a series of steps that are traditionally done to give the ceramics a unique look and feel at between 1000 degrees. The first step is the shaping and drying of the ceramic pieces. The ceramics are shaped by a technique such as hand or wheel, and then left to dry completely. The dried ceramic pieces are glazed or glazed to add color and texture to their surface. Next, the ceramic pieces are placed in a special raku kiln. The kiln is heated for about 20-30 minutes and the ceramics are exposed to the heat. Then, the clay pots are removed from the kiln with a special handle and quickly placed in an insulating material.

Figure 1. Ceramicon Ceramic Activities Raku Technique

This step is one of several factors that create the unique look of raku ceramics. It requires a lot of care, as the rapid cooling of the ceramics can lead to cracking or shattering. Once the process of cooling the ceramics in the insulating material is complete, the clay pots are removed and cleaned. Raku firing involves a random and uncontrolled process, which makes each piece unique and original. This natural and spontaneous character of the technique is a great attraction for ceramic artists, and raku works are often found in exhibitions and collections.

Sagar Firing

Sagar firing is a firing technique in which ceramic artifacts are fired in a special vessel. This vessel is used to create unique effects on the surface and color of the artifact and is intended to protect the artifacts. A sagar is a preservation vessel made of clay or ceramic, usually in the shape of a cup. The ceramic work is usually covered with dust, leaves, metal shavings or other organic materials. The prepared artifact is placed in the sagar, the preservation vessel. This protects the artifact from external influences and at the same time creates unique reactions within the vessel, giving it a characteristic appearance. The saggar is placed in an oven and baked at a specific temperature. During this process, the evaporation or reaction of the materials used in the saggar creates unique patterns and color changes on the ceramic artifact. After the firing process is complete, the artifact is cooled and cleaned. At this stage, the protective materials on the artifact are carefully removed to reveal its original surface. Sagar firing is a technique especially preferred by ceramic artists who want to add depth and character to their work. This method offers great flexibility to the creativity and experience of the artist, giving ceramic works unique and surprising effects.

Figure 2. Ceramicon Ceramic Events Sagar Technique (23-25 MAY 2014)

Obvara Firing

Obvara firing is a natural and organic ceramic firing technique, often used to create distinctive and textured surfaces. This technique creates distinctive fractures, cracks and unique patterns on the surface. A mixture is prepared for firing. This mixture usually consists of water, flour and sugar or yeast. The artifacts are usually kept moist. The mixture is applied to the surface of the ceramic pieces. This causes the surface of the artifact to turn brown and reddish tones. Obvara firing is carried out at a specific temperature. This temperature causes the mixture on the surface of the work to burn and create a reaction in brown-purple tones. It is often preferred by artists looking for a natural and organic look. This technique gives the works a unique character and texture, offering a different aesthetic experience in ceramic art.

Figure 3. Aksaray University Güzelyurt Ceramic Firing Workshop, Obvara Technique

Basket Firing

Basket firing is when ceramic artifacts are fired in specially prepared baskets or vessels, giving them unique patterns and textures. Ceramic artifacts are placed in specially prepared baskets or vessels. The baskets or vessels are placed in a kiln at a specific temperature and the firing process is started. This temperature causes the ceramic artifacts to partially melt and burn, which creates unique colors and textures.7

Figure 4. Güzelyurt Aksaray Basket Firing Activities

Salt Firing

In this method of salt firing, ceramic artifacts are fired by coating them with salt, which results in the formation of unique and organic patterns on the surface of the artifacts. The surface of the ceramic artifacts is covered with a thin layer of salt. This layer of salt is used to create unique effects and patterns on the surface of the artifacts, regardless of whether it melts during the firing process. Salt-coated ceramic artifacts are placed in a kiln at a specific temperature and fired. During this process, the salt layer melts and creates impressive and organic patterns with crystallized salt grains on the surface of the artifacts.

Figure 5. Ceramicon Ceramic Events Salt Firing (May 23-25, 2014)

Conclusion

While the trials made during the firing technique research process, in which different firing techniques are presented together in the field of Contemporary Ceramics, were prepared for the application, the examples made on this subject were examined. As a result of all these examinations, forms with flat and wide ceramic surfaces were designed in order to clearly observe the visual effects, and biscuit firing was carried out in the range of 1080- 1200°C. After the biscuit firing, the forms were separated to be used in different activities. Different kilns were designed and unique glaze recipes were created by using organic materials during the firing process. Original colors and textures were obtained by applying different firing techniques. The type of fuel used during firing, the type of sawdust during reduction, the type of sawdust during reduction, the shocking process, the effects on the bodies were observed and the amount of salt sent to the kiln and the amount of oxygen in the kiln were taken as important values in firing techniques. While raku firing, different results were obtained by observing the differences in the bodies according to the shape of the kiln, the position of the blower in the kiln, the distance of the ceramic forms and the even distribution of heat. In the activities, the grill used in the firing of the basket and the newspaper pieces plastered with mud used on the surface of the basket were fully plastered and the ovens were performed in such a way that they would not be airtight and natural rough surfaces were obtained on the ceramic bodies by using different oxides. While applying the Sagar firing technique, salts and oxides of metal wire were applied on the ceramic form to obtain unique textures and colors. As a result, the firing activities and firing applications developed as a result of individual efforts and their effects on ceramic surfaces are very interesting, although they are laborious and long process. Today, the techniques applied in national symposiums and workshops continue to be developed and contribute to original works.

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