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The Implementation of Game-based Learning Using Kahoot Application in Teaching Vocabulary at the Tenth-grade Students of SMKN 1 BONE

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Abstract

This research aimed to determine whether the implementation of game-based learning using the 'Kahoot!' application significantly impacts the English vocabulary acquisition of students at SMKN 1 Bone. The research employed a pre-experimental method with a one-group pre-test and post-test design, focusing on assessing whether there is an improvement in students' vocabulary after applying game-based learning with the 'Kahoot!' application. The instrument used was a vocabulary test administered as both a pre-test and post-test. The study's findings indicate an improvement among the tenth-grade students, as evidenced by the average pre-test score of 48.5, which increased to 86.8 in the post-test—that is, it increased by 38.3%. Observations also confirmed that implementing game-based learning using the 'Kahoot!' application can enhance students' vocabulary. Thus, it can be concluded that implementing game-based learning using the 'Kahoot!' application effectively improves students' vocabulary in Class X MPLB 3 at SMKN 1 Bone.

Keywords: *Game-Based Learning, Kahoot! Application, Vocabulary Improvement*

Abstrak

Penelitian ini bertujuan untuk mengetahui apakah penerapan pembelajaran berbasis permainan menggunakan aplikasi 'Kahoot!' secara signifikan berdampak pada kemampuan kosakata bahasa Inggris siswa di SMKN 1 Bone. Penelitian ini menggunakan metode pra-eksperimental dengan desain pre-test dan post-test satu kelompok, yang berfokus pada penilaian apakah ada peningkatan kosakata siswa setelah menerapkan pembelajaran berbasis permainan menggunakan aplikasi 'Kahoot! Instrumen yang digunakan adalah tes kemampuan kosakata yang diberikan sebagai pre-test dan post-test. Temuan penelitian menunjukkan adanya peningkatan di antara siswa kelas sepuluh, yang dibuktikan dengan skor rata-rata pre-test 48,5, meningkat menjadi 86,8 pada post-test. yang menandakan adanya peningkatan sebesar 38,3%. Hasil observasi juga juga menunjukkan bahwa penerapan pembelajaran berbasis permainan menggunakan aplikasi 'Kahoot! dapat meningkatkan kosakata siswa. Dengan demikian, dapat disimpulkan bahwa penerapan pembelajaran berbasis game menggunakan aplikasi 'Kahoot!' efektif meningkatkan kosakata siswa di Kelas X MPLB 3 SMKN 1 Bone.

Kata Kunci: *Game-Based Learning, Kahoot! Application, Peningkatan Kosa Kata*

INTRODUCTION

Language is society's most common tool of communication. People from all over the world use English, the most frequently spoken language, to communicate with one another (Oktavia, 2021). English is considered one of the most essential languages to learn today to keep up with the fast-paced advancements of the modern world.

The spread of English is extensive, including in Indonesia. Therefore, it is very important to learn English so we can get various kinds of information from all over the world. As for mastering English, 4 skills must be mastered, namely listening, reading, speaking, and writing. There are also three additional elements, namely, vocabulary, grammar, and pronunciation.

However, the four English skills are meaningless for the user who does not have mastery of vocabulary. (Hasanah L, 2016) state that vocabulary is seen as a crucial element of language since it is necessary for effective thinking and communication. It becomes difficult to accurately communicate ideas to others without it. Without an extensive vocabulary, English language users are unable to read, write, communicate, or even comprehend what they hear. Since vocabulary is one of the basic components of language learning, it is challenging to achieve the level of fluency without it.

According to the researcher's experience during the introductory school (PLP II) program, the problem students often face when learning English is the difficulty in understanding the meaning of the words they learn in class. Throughout the learning

process, the most common problem is that teachers only assign assignments to the students without giving sufficient clarification of the subject matter. Because of this, students nowadays, who mostly rely on translators such as Google and the internet, only perform their assignments carelessly and lack understanding of the material they are working on. According to (Carrier, 2012), Because many of the words taught in English classes have several meanings, many students find the terms foreign. Due to this, when they communicate with the teacher and ask or receive questions, they typically state it in the language they originally spoke.

Therefore, teachers have to develop creative ideas for educating and motivating students to learn English. Digital games could be utilized as teaching resources by teachers to encourage the use of technology. According to (Qumillaila, 2015: 57), using media and technology in the classroom could improve the learning process. Implementing digital games is one way that teachers can utilize technology-based learning materials.

The use of games as a teaching and learning tool has the potential to increase learning enthusiasm and attention. The majority of students play games on their smartphones in their spare time. Teachers need to develop an engaging learning model that can be implemented through games to refocus students' attention constructively. Educating students in games throughout their education will increase their enthusiasm and improve their vocabulary improvement

According to (Ebrahimzadeh and Alavi, 2017), game-based learning helps to form a higher level of motivation in individuals. Digital game-based learning helps students to experience an interesting learning experience, can increase focus and interest, and increase student engagement. So, teachers can use digital games in learning to increase students' learning motivation. Many digital game apps can be applied to students in education, including Quizzes, Educandy, Tic Tac Toe, Word Wall, and Kahoot. One of the applications that can be used in learning is by applying the educational game “Kahoot”.

According to (Saragih & Wedyawati, 2019) Kahoot! is a popular game-based learning platform that is widely recognized for its ease of use by both educators and students. (Bunyamin et al, 2020) state that Kahoot!'s adaptability in enabling an assortment of teaching and learning activities, including pre-tests, practice questions, topic mastery, remedial sessions, and enrichment, as reasons wherefore it may be considered an interactive learning platform. For interesting and interactive learning opportunities, teachers can make tests or assignments according to the subject matter they are teaching while provide students with the platform link.

There were several previous studies related to the Kahoot game in the classroom. Sibatuara (2021) showed that most participants in the study responded positively, and concluded that Kahoot significantly aids in boosting their English vocabulary learning and can also enhance their motivation to acquire knowledge and learn new vocabulary. Aini (2021) proved that Mobile Game-Based Learning significantly increased vocabulary mastery, with average scores rising from 72% to 86%. The questionnaire responses and classroom observations indicated that students enjoyed this learning method, which boosted their interest and motivation to learn vocabulary. Agung (2023). Concluded that English language training using games provides a new atmosphere in the classroom. Putri (2019) also added a study involving seventh-grade high school students in her research to find out which is more effective in improving vocabulary, whether using conventional methods or the 'Kahoot!' application.

From these research, there are differences between previous studies and the research that the author will conduct, such as the selection of different locations, as well as research methods above used classroom action research and quasi-experimental methods while the research that the author will conduct uses pre-test method. The research that the author will do uses the pre-experiment method. The researcher knows that students love to learn while playing and this application can be an appropriate tool in the language learning process with the hope that this method can provide a huge opportunity for students to improve their vocabulary mastery

Based on the explanation above, the researcher would use the 'Kahoot!' application to implement a digital game-based learning method that would help students improve their vocabulary. To encourage students to participate in language learning in an engaging environment actively, the researcher was going to provide teachers and students with an unusual language-learning app.

METHOD

This study used pre-experimental research or pseudo-research which utilized one group pre-test and post-test design because it did not use a control class. The table of the research design is as can seen in Table 1.

Tabel 1. Pre-test & Post-test Design

Pretest	Treatment	Post-test
O1	X	O2

(Gay, 2006)

Description:

O1 = Pre-test

X = Treatment

O2 = Post-test

The research sample was 30 students from class X MPLB 3 at SMKN 1 BONE using cluster random sampling technique. This research was conducted over six meetings. The procedure began with a pretest given to students at the first meeting. In the pre-test, the students took a vocabulary test about adjective text, with the researcher giving as many as 20 numbers. After giving the pre-test, the treatment was given to the students in approximately four meetings. This treatment included some teaching about descriptive text, adjectives, and also the learning process with the introduction of Kahoot! app to the students. After giving the treatment, a post-test was given to the students. The procedure in the post-test used the same format as the pre-test, but with different questions to compare the students' vocabulary improvement before and after the treatment results.

After the data collection process was completed, the student's scores were then classified into a measurement scale (Percentage of Student Score). the data obtained were analyzed using SPSS version 26. The data obtained were subjected to a normality test to assess whether the data collected in the study followed a normal distribution. In this case, this test was applied to the learning outcomes of the experimental group. The data for decision-making came from the pre-test and post-test.

For the last analysis, a t-test was conducted. According to Widiyanto (2013: 35), Paired sample t-test is a statistical method used to evaluate the effectiveness of a treatment by comparing the average value before and after treatment. This method focuses on the average difference between two time points to determine whether the treatment has a significant impact. In other words, the paired sample t-test determines the mean difference between two groups of paired (related) samples.

RESULT AND DISCUSSION

Tabel 2. Students score of Pre-test and Post-test

No.	Name	Pre-test	Post-test
1.	AMAS	65	100
2.	AT	35	75
3.	A	35	75
4.	AAAS	60	90
5.	AF	50	85
6.	AP	45	80
7.	ANF	50	85
8.	CR	45	85
9.	DW	35	80
10.	EA	55	95
11.	FS	45	80
12.	FY	45	85
13.	F	50	90
14.	IS	40	90
15.	K	60	95
16.	MS	40	85
17.	MR	50	90
18.	NHN	40	80
19.	NAP	65	100
20.	NA	45	85
21.	NAS	40	90
22.	NF	50	85
23.	NS	55	85
24.	RDP	50	95
25.	R	50	85
26.	SDY	35	80
27.	SBL	60	95
28.	TA	55	85
29.	U	45	85
30.	ZAS	60	90

a. The rate percentage of the Students' Score

Tabel 3. The Rate Percentage of Students' Pre-test and Post-test

Classification	Score	Pre-test		Post-test	
		F	%	F	%
Very Good	91 – 100	-	-	6	20
Good	75 – 90	-	-	24	80
Fair	61 – 74	2	6.70	-	-
Poor	51 – 60	7	23.30	-	
Very Poor	0 – 50	21	70	-	-
Total		30	100%	30	100%

Tabel 3. indicates that no students scored in the pre-test's very good or good categories. However, 2 students achieved fair scores with a percentage of 6.70%, 7 students achieved poor scores with a percentage of 23.30%, and 21 students achieved very poor scores with 70%. After the treatment was given to students, the table above shows that in the post-test, 6 students achieved very good scores with a percentage of 20%, and 24 students achieved good scores with a percentage of 80%. There were no students with fair, poor, or very poor scores. Thus, it can be concluded that the percentage of higher scores in the post-test is greater than in the pre-test.

b. Normality Test

The normality test assesses whether the data collected in the research follows a normal distribution. In this case, the test is applied to the learning outcomes of the experimental group. The data for decision-making comes from both pre-tests and post-tests. Since the sample size is under 50, the Shapiro-Wilk test is employed. This test uses a significance level of 5% (0.05), with the following criteria: if the significance value is greater than 0.05, the data distribution is considered normal; if it is less than 0.05, the distribution is considered non-normal. SPSS version 26.0 is used to conduct the normality test in this study, and the data involved in the test are as follows.

Table 4. Normality Test result

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRE-TEST	.133	30	.184	.943	30	.108
POST-TEST	.211	30	.001	.936	30	.071
a. Lilliefors Significance Correction						

Based on the SPSS output, the Shapiro-Wilk tabel shows that the significance value for the pre-test data is 0.108, and for the post-test data, it is 0.071. Since both significance values are greater than 0.05, this indicates that the data are normally distributed. Therefore, it can proceed with the subsequent tests.

c. Paired Sample T-test

The paired sample t-test is a statistical method used to evaluate the effectiveness of a treatment, indicated by the difference in the average before and after the treatment is given. In other words, the paired sample t-test is used to determine the difference in the average between two paired (related) sample groups. The decision-making criteria for this test are as follows:

1. There is a difference if the significance value is < 0.05.
2. There is no difference if the significance value is > 0.05.

Tabel 5. Paired Samples Statistic

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE-TEST	48.5000	30	8.92014	1.62859
	POST-TEST	86.8333	30	6.49713	1.18621

Tabel 6. Paired Samples Test

Paired Samples Test						
	Paired Differences					
	Mean	Std. Deviation	Std. Error	95% Confidence Interval of the	t	Sig. (2-tailed)

				Mean	Difference			
					Lower	Upper		
Pair 1	PRE TEST - POST TEST	-38.33333	5.46672	.99808	-40.37464	-36.29203	38.407	.000

Based on Table 6. above, the paired sample t-test obtained a significance level value of 0.000. This significance level value shows a value < 0.05 which means that, at a confidence level of 95% (significance 0.05), there is a significant difference between the pre-test and post-test scores of students after applying learning by using Kahoot! Furthermore, based on the t-test, the t-count is 38.407 with a significance of 0.00. The value of t-table at df 30 with a 5% significance level is 1.697. so the value of t-count > t-table (38.407 > 1.697) and the significance value is less than 0.05 (p = 0.000 < 0.005). the data implies that there is an increase in vocabulary with the application of game-based learning methods using Kahoot! application on tenth-grade students at SMKN 1 Bone.

CONCLUSION

Game-based learning has proven to be an effective method for enhancing vocabulary, creating an engaging and interactive learning environment, and boosting students' interest and motivation in learning English. This approach also inspires teachers to implement innovative, technology-based strategies that align with students' needs. The findings of this study highlight a significant improvement in students' vocabulary skills following the use of game-based learning with the Kahoot! application. The data indicates that the mean post-test score (86.8) was considerably higher than the mean pre-test score (48.5). These results affirm the effectiveness of game-based learning in improving vocabulary and enriching English teaching strategies.

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