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The Effect of Using Digital Bamboozle Game Toward Students' Vocabulary Mastery on Eight Grade Students' at SMP Negeri 14 Seluma

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Abstract. The researcher found several problems faced by teachers and students in the English learning process in the classroom, one of which is students' limited vocabulary mastery. One of the efforts made to help students in mastering vocabulary is through fun methods, namely using games. This study aims to determine whether there is a significant effect of using the digital game Bamboozle on vocabulary mastery in class eight students of SMP Negeri 14 Seluma Regency. This research used quantitative method with quasi-experimental design. The population in this study were all eight grade students of SMP Negeri 14 Seluma. The sampling technique used was purposive sampling, with class eight E as the experimental class and class eight D as the control class. Data were collected through a multiple choice vocabulary test of 27 questions. The data obtained was analyzed usingT-test and F-test formulas. Researcher found that there was an increase in the post-test. The average value of the experimental class was 66.13 in the pretest and 86.53 in the posttest. The T-test result is higher than the t-table (7.419 > 1672) and the F-test is higher than the f table (55.039 > 4.00). Thus it can be concluded that there is a significant effect of using digital bamboozle game toward students' vocabulary mastery on eight grade students' at smp negeri 14 seluma.

Keywords: vocabulary mastery, digital bamboozle game, school

1. BACKGROUND

Vocabulary is a basic and important component that needs to be taught and understood (Agustina & Zuhriyah, 2020). This means that vocabulary is possible for someone to learn in order to give messages and receive information, because language is the main communication tool that people use to understand and convey their needs, desires, and ideas. A person will be able to read material that is difficult to discuss and understand more in-depth content more easily when they have a large vocabulary. Therefore, teaching and learning vocabulary as a foreign language is very important (Van Vu & Peters, 2021). In this case, it is important for learners to enrich their vocabulary because knowing a lot of vocabulary will make it easier for learners to communicate using English. By learning vocabulary, it will be easy for learners to understand and communicate ideas clearly because meaning is mostly communicated through words, the richer the learners' vocabulary, the better their ability to interpret oral and written material and convey their ideas. Vocabulary is also related to English language skills to master the four English language skills such as speaking, reading, writing, and listening, learners must have a lot of vocabulary in order to understand well the words in English material, this means

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that if learners do not have a lot of vocabulary then they will have difficulty becoming proficient in these skills.

Mastery according to Swannel states that vocabulary mastery is the mastery of a deep understanding of how to use a subject or instrument. Another definition that supports this statement is from Harnby stating that vocabulary mastery is proficiency or deep understanding of language (Melinia Amanda et al., 2023). Mastery is a person's capacity or ability to understand and master a particular field, skill, or knowledge of meaning. According to Dalimunthe, it is also stated that vocabulary mastery is the ability to explain the meaning of words and word patterns (Dalimunthe & Haryadi, 2022). This means that with a strong vocabulary a person will be able to use words appropriately and understand how they relate to other words. According to the definition, students should possess an extensive English vocabulary that enables them to comprehend the teacher's explanations and provide feedback on the instructional content.

Based on the results of observations made by researchers on October 13, 2024 with one of the teachers who taught English at SMP Negeri 14 Seluma. Researchers found several problems for teachers and students in learning and teaching English in the classroom, namely first, student scores have not reached the minimum completeness criteria (KKM). Second, students' vocabulary mastery is still limited. Third, students have difficulty remembering vocabulary and some students are lazy to memorize the vocabulary. Fourth, the teacher also explained that for now he has not used media or technology that can support learning in the classroom, so the method used by the teacher is still using the lecture and discussion method. In fact, the use of media is very important when carrying out learning in the classroom because it can help foster children's enthusiasm for learning and with media students will not feel bored to follow the learning process. The importance of using media in learning can have a psychological impact on students, such as fostering new desires and interests, increasing motivation and encouraging students to be actively involved in learning activities in class (Ramadhania & Adnan, 2022).

In this case, one of the technologies that can be used to help game-based learning media is bamboozle game. According to Sakdiyah, bamboozle game is a game-based website, which makes learning fun (Sakdiyah et al., 2024). Bamboozle is a web-based game platform, where this game requires an electronic device with an internet connection to access the game, bamboozle with a digital platform that can make learning fun, not boring, and can provide

vocabulary content, which can increase students' enthusiasm for learning (Sáez & Espinoza, 2023). In the Baamboozle game, the teacher as the instructor controls the game, and the students are divided into groups to answer questions covering any subject taught in class. Through this game, students can review vocabulary and its meaning, which contributes to the improvement of their vocabulary mastery. In addition, the Bamboozle game is also useful in strengthening essential language skills. For example, the game can be used to develop critical thinking skills, reading comprehension, and grammar mastery. By incorporating these elements into the game, students are more likely to see the relevance of vocabulary learning in a broader context and relate it to various aspects of language learning. Based on the explanation above, the researcher wants to examine the effect of bamboozle game on vocabulary mastery. Therefore, the researcher conducted an experimental study with the title The Effect Of Using Digital Bamboozle Game Toward Students‘ Vocabulary Mastery On Eight Grade Students’ At Smp Negeri 14 Seluma.

Bamboozle Game is an online learning tool designed to provide an interactive, accessible learning experience that encourages students to actively engage in the classroom (Khatoon, 2023). In this Bamboozel game, there are features that have been made by teachers that can be used without making it first and also if you want to make your own game, it can also be done, for example, just click the search column to search about what vocabulary to play, then for this Bamboozle game, for example, guess the picture where the way it works is that students are asked to guess a picture or guess a question from the game, the teacher can choose how many groups will play. For example, the teacher can divide 2 or 4 groups to play then the question is 20 and what appears in the geme is 23 columns because the 3 more columns can contain the addition of grades, subtraction of grades from other groups, and can be a bonus, this can add to the excitement of the game. Based on several sources, this bamboozle game helps students learn in an interesting way, enhances active learning, and improves comprehension of the material, especially in English classes.

2. METHOD

Research design

In this study researchers used quantitative methods. quantitative research is an approach taken to test objective theories by examining the relationship between variables or differences between groups, the data from these variables are in the form of numbers that can be analyzed

using statistical techniques (Creswell John, 2023). In this study, researchers used a quasi-experimental design. Quasi-experiment is an experiment that puts the smallest unit into both the experimental group and the control group which is not randomly selected (Wafiqah et al., 2024). Although it included a control group, the quasi-experimental design could not completely eliminate external variables that may have influenced the implementation of the experiment.

Population and sample

The population of this study were students of class VIII SMP Negeri 14 Seluma 2024/2025 academic year, totaling 152 which were divided into 5 classes. Researchers used two classes for the sample, namely class E as an experimental class and class D as a control class. The number of samples from the two classes was 30 experimental class students and 30 control class students.

Instrumentations

This study aims to determine the improvement of students' vocabulary mastery. The instrument used in this research is a test, which consists of two types: initial test and final test. The initial test was used to measure students' vocabulary mastery before the treatment, while the final test was used to assess students' vocabulary mastery after the Digital Bamboozle game was applied.

A. Validity

The researcher used content validity and expert validity to ensure that the test instrument used actually measured students' vocabulary mastery appropriately. Content validity aims to evaluate the extent to which the test items reflect the vocabulary material taught to students in class VIII of SMPN 14 Seluma. The test was prepared based on the learning materials relevant to the topics given during the treatment with the Digital Bamboozle game.

B. Reability

Reliability is a measure of a test that shows the consistency of results when the test is given at different times.

C. Uji sukar

Research using the level of difficulty test is carried out to determine the extent to which each item is easy or difficult for test takers. This analysis aims to ensure that the questions used in the test can reflect variations in students' ability levels.

D. Uji beda

The test of differentiating power aims to determine the extent to which a question item is able to distinguish between students who have high abilities and students who have low abilities. Questions that have high differentiating power are considered effective because they can identify differences in the level of vocabulary mastery between students.

Technique of data collection

A vocabulary test was used in this study. There were 27 multiple choice items contained in the test. The pre-test was used to determine students' initial vocabulary mastery, followed by treatment and a final test to determine the impact of treatment on students' vocabulary mastery.

3. FINDINGS AND DISCUSSION

Description of The Data

This research was conducted at SMPN 14 Seluma which is located in Karang Anyar, Seluma Regency, Bengkulu Province. The subjects in this study were students of grade VIII, which was chosen because it was in accordance with the research objectives to measure the improvement of vocabulary mastery at the junior high school level. Data collection was conducted during the time span of March 6, 2025 to April 6, 2025, which included several stages, namely: implementation of pre-test, implementation of treatment using Bamboozle digital media, and implementation of post-test. Data analysis was conducted by comparing the mean scores of the pre-test and post-test to see any improvement in students' vocabulary skills after using the Bamboozle game as a learning medium. Then, researchers used the f test to see the effect of digital bamboozle game on students' vocabulary. The following are the results of the analysis:

Analysis of The Data

1. Experiment Class Grade Results

There was a significant increase in learning outcomes in the experimental class after the implementation of Bamboozle game as a vocabulary learning media. The average pre-test score of students was 66.13, while the post-test score increased significantly to 86.53. This average increase of 20.4 points shows the positive impact of using Bamboozle game on students' vocabulary mastery. It can be seen based on the Pre-Test and Post-Test Score Experiment Group graph below:

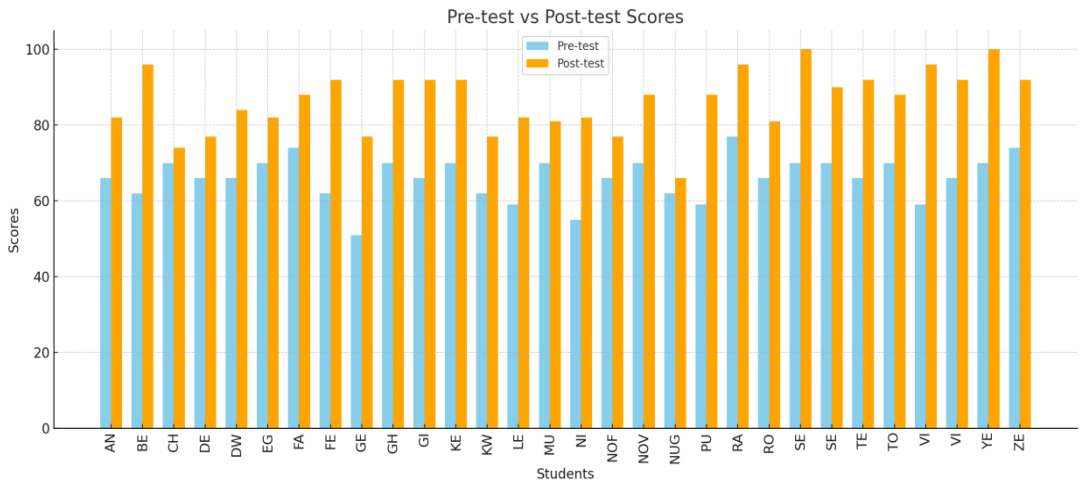

Figure 1 : Bar Chart of Pre-test and Post-test Scores of Experimental Class (VIII E)

Based on the bar graph above, it shows the comparison of pre-test and post-test scores in the experimental group. The blue color illustrates the pre-test results, while the orange color shows the post-test results. From the diagram, it can be seen that there is an increase in scores after the post-test for most participants. The participants' pre-test scores were generally in the range of 51 to 77, with an average of 66.13, while the post-test scores increased to the range of 66 to 100, with an average of 86.43. Although there was one participant who experienced a decrease in scores from pre-test to post-test, most participants showed an increase in scores, either moderately or significantly

2. Control Class Grade Results

The increase in post-test scores in the control group was moderate and uneven. Some students experienced a good improvement, while others only increased slightly or even decreased. This can be seen based on the Pre-Test and Post-Test Score Control Group graph below:

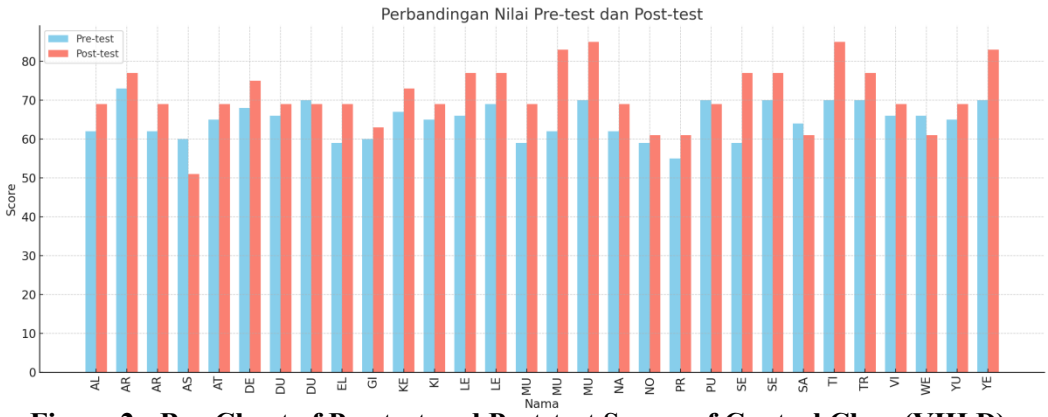

Figure 2 : Bar Chart of Pre-test and Post-test Scores of Control Class (VIII D)

From the diagram, it can be seen that there was an increase in scores after the post-test, but the increase was not too large. The blue color shows the pre-test score, while the red color shows the post-test score. The participants' pre-test scores were generally in the range of 55 to 73 with an average 64,96, while the post-test scores increased to reach the range of 51 to 85 with an average 71,06. Although there were some participants who showed a significant increase in scores, the overall increase in scores tended to be moderate and uneven. Some students even showed post-test scores that were not much different from their pre-test result.

3. Normality

Hasil uji Normality disajikan di segment ini:

Table 1. Pre-test and Post-Test Normality Class Experiment

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test Kelas Eksperimen	.191	30	.007	.934	30	**.063**
Post-Test Kelas Eksperimen	.147	30	.095	.956	30	**.243**
a. Lilliefors Significance Correction						

Based on table 1, the significance value in the Lilliefors Shapiro-Wilk test can be seen, so it can be stated that the data are significant. From the table, it are known that the significance value for posttest data in the experimental class is 0.063, while for the experimental class pretest data are 0.243. The significance value of the posttest and pretest of the experimental class is much greater than 0.05 or the calculation of the Lilliefors table. Therefore, it can be concluded that the posttest and pretest data in the experimental class are normally distributed.

Table 2. Pre-test and Post-Test Normality Class Experiment

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test Kelas Kontrol	.132	30	.194	.944	30	**.115**
Post-Test Kelas Kontrol	.203	30	.003	.932	30	**.054**
a. Lilliefors Significance Correction						

Based on table 2, the significance value in the Lilliefors Shapiro-Wilk test can be seen, so it can be stated that the data are significant. From the table, it is known that the significance value for posttest data in the control class are 0.115, while for control class pretest data are 0.054. The significance value of the posttest and pretest of the control class are much greater than 0.05 or the calculation of the Lilliefors table. Therefore, it can be concluded that the posttest and pretest data in the control class are normally distributed.

4. T-test

Table 3. Tests of Between-Subjects Effects

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Nilai Post-Test	Equal variances assumed	.303	.584	7.419	58	**.000**	15.467	2.085	11.294	19.640
	Equal variances not assumed			7.419	57.936	**.000**	15.467	2.085	11.293	19.640

Based on the table of F test results above, the researcher compared t-count and t-table to determine whether digital bamboozle game in vocabulary teaching are effective on students' vocabulary mastery. Based on the analysis results in table 16, the t-count value are 7.419 with a significance (2-tailed) of 0.00, and the t-table are 0.05 (5%) because the significance level are 1.672 with degrees of freedom (df) 58. It are known that t-count = 7.419 ttable 1672 and the significance value (2-tailed) 0.00 < 0.05, it can be concluded that digital bamboozle game has a significant effect toward students' vocabulary mastery.

5. F-Test

Table 4. Tests of Between-Subjects Effects

Tests of Between-Subjects Effects						
Dependent Variable: Nilai Posttest						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3588.267[a]	1	3588.267	55.039	.000	.487
Intercept	372566.400	1	372566.400	5714.612	.000	.990
Kelas	3588.267	1	3588.267	55.039	.000	.487
Error	3781.333	58	65.195			
Total	379936.000	60				
Corrected Total	7369.600	59				

Based on the table of F test results above, it was obtained that the significant value for the effect of digital bamboozle game on students' vocabulary mastery (experimental class) was F-count 55.039 > which was greater than the F-table value of 4.00. This indicated that Ho was rejected and Ha was accepted, which meant that there was a significant effect of using digital bamboozle game on students' vocabulary mastery (experimental class). Then, the strength of the relationship between the value of the experiment variable and the control variable could be seen based on the partial eta squared value of 0, .487. This value indicated that about 48.7% of the variance in the post-test score variable could be explained by the difference in pre-test scores. The

magnitude of this effect based on Cohen's criteria is classified as moderate because it was in the range of 0.40-0.595.

4. DISCUSSION

The findings of this study revealed a significant improvement in students' vocabulary mastery after the implementation of the Bamboozle game as a learning medium. This was evident in the experimental class, where the average pre-test score of 66.13 increased markedly to 86.53 in the post-test. The 20.4-point gain suggests that the Bamboozle game has a substantial positive impact on students' vocabulary acquisition. The bar graph comparison clearly illustrates this improvement, where the majority of participants showed either moderate or significant increases in their post-test scores. Although one participant experienced a decline in performance, this was an exception rather than the trend. In contrast, the control group, which was taught using conventional methods, showed a moderate and less consistent improvement. The average pre-test score in the control group was 64.96, rising to 71.06 in the post-test. While some students demonstrated noticeable gains, others showed minimal progress or even a decline. This suggests that traditional methods may not be equally effective for all learners, and the learning experience may not be as engaging or impactful as game-based strategies like Bamboozle.

The statistical analysis supports these findings. The normality test using the Shapiro-Wilk method showed that both the pre-test and post-test data for the experimental and control classes were normally distributed, with significance values well above 0.05. This validates the use of parametric tests for further analysis. Furthermore, the T-test and F-test results confirmed the significant effect of the Bamboozle game on students' vocabulary mastery. The T-count value of 7.419 is much greater than the T-table of 1.672 Then it is reinforced by conducting an F-test of 55.039 far exceeding the F-table value of 4.00, leading to the rejection of the null hypothesis (Ho) and the acceptance of the alternative hypothesis (Ha). This indicates that the use of the digital Bamboozle game contributes significantly to vocabulary mastery. Additionally, the partial eta squared value of 0.487 shows that 48.7% of the variance in post-test scores could be attributed to the implementation of the Bamboozle game. According to Cohen's classification, this represents a moderate effect size, highlighting the educational relevance and practical significance of the game in enhancing vocabulary acquisition. These results align with previous studies that advocate for the use of game-based learning tools in language education. Games like Bamboozle provide interactive, enjoyable, and meaningful

contexts for vocabulary learning, increasing student motivation and engagement. They also promote active participation, which can enhance memory retention and deeper understanding.

In conclusion, the findings of this study underscore the use of Bamboozle as a digital game-based learning tool has an effect on vocabulary acquisition among eighth grade students.. Given the moderate to high effect size and observable learning gains, it is recommended that English teachers incorporate such interactive games into their teaching strategies to foster a more dynamic and effective learning environment.

5. CONCLUSION AND SUGGESTIONS

Conclusion

After conducting vocabulary learning experiments using the digital game Bamboozle in the experimental class and without using the game in the control class, the results showed that the lowest mean score in the experimental class was 66.13 and the highest score was 86.53. Meanwhile, in the control class, the lowest mean score was 64.96 and the highest score was 71.06. Based on the results of data calculation and analysis, it was found that there was a significant difference in vocabulary mastery between students in the experimental and control classes.

Statistical analysis using SPSS version 28 showed that the F-count value of 55.039 was greater than the F-table of 4.00, with a significance value of 0.000 (smaller than 0.05). This finding shows that the use of digital Bamboozle game has a significant effect on students' vocabulary mastery. Therefore, it can be concluded that the use of digital Bamboozle game in learning activities is effective on vocabulary mastery in eighth grade students of SMPN 14 Seluma.

Suggestion

The use of Bamboozle game is suggested as an alternative learning media to improve students' vocabulary mastery because it is proven to be effective and fun. Teachers are also expected to be more creative in utilizing digital media to make learning more interactive.

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