

The Effect of the Bamboozle Game on the Reading Ability of Seventh-Grade Students at SMP Muhammadiyah 1 Lubuklinggau

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ABSTRACT

Purpose – This study examines the effect of the Bamboozle game on students' reading ability, aiming to enhance engagement and comprehension through innovative and interactive learning methods.

Method – A pre-experimental research design was employed, involving one seventh-grade class at SMP Muhammadiyah 1 Lubuklinggau in the 2024/2025 academic year. A total of 33 students participated, with purposive sampling selecting 10 students for detailed analysis. Data were collected using pre-tests and post-tests to measure improvements in reading comprehension.

Findings – The results indicate a significant improvement in students' reading comprehension, as reflected in the increase in the post-test mean score to 82.7. The calculation of Cohen's effect size ($d = 1.40$) confirms a large effect, highlighting the effectiveness of the Bamboozle game in enhancing reading skills. The findings reveal that students showed notable progress in vocabulary acquisition, identifying main ideas, and making inferences from texts. Additionally, the interactive and competitive nature of the game increased students' motivation and engagement, fostering a more dynamic and enjoyable learning environment. The study also found that students exhibited greater confidence in interpreting complex passages and demonstrated improved retention of reading materials compared to traditional methods.

Research Implications – The findings highlight the potential of game-based learning in improving reading comprehension and student motivation. Institutions should consider integrating digital tools like Bamboozle into reading instruction and provide teacher training on gamified learning strategies. However, this study's small sample size and short intervention period limit generalizability. Future research should explore long-term effects and application to other language skills.

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Introduction

Reading is one of the keys to learning English. The ability to understand text thoroughly is important for a student to master. Reading is one of the four English skills, namely reading, speaking, listening, and writing (Sari et al., 2019). It is difficult if a student is not motivated in reading skills. Then interest in reading will be low. In order to improve the understanding of the material, reading skills are needed that can provide new knowledge and the correct information. As stated by (Pradnyadewi et al., 2021), reading is a fantastic way for students to get information, ideas, new experiences, and information to help them improve their understanding of the English language. On the other hand, (Fatimah, 2020) found that students have difficulty comprehending information from the reading text due to their limited vocabulary, inability to express their ideas during teaching and learning activities, and inability to summarise the main idea of the reading text.

Bamboozle was initially designed as a general educational tool, allowing teachers to create quizzes and competitive games for classroom engagement. However, language educators have adapted it to meet the needs of EFL learners by designing vocabulary, grammar, and reading comprehension activities. Bamboozle's game-based design incorporates elements of competition, collaboration, and immediate feedback, which transform reading practice into an interactive experience. Unlike traditional methods that may limit student interaction, Bamboozle encourages students to work together, exchange ideas, and actively participate in decoding and understanding text. Research suggests that game-based learning tools like Bamboozle can improve student engagement, foster collaboration, and promote deeper retention of material. This study seeks to determine if these advantages can be applied to reading comprehension specifically, by examining whether the use of Bamboozle in EFL classrooms leads to measurable improvements in students' reading skills and their motivation to read (Castillo, 2024).

Although many studies have looked at the importance of reading comprehension and the benefits of gamification in education. However, few have focused specifically on the effectiveness of the game Bamboozle in improving EFL students' reading comprehension. There is also a lack of empirical evidence on the specific benefits and limitations of using Bamboozle in reading comprehension instruction.

This study investigates whether Bamboozle can improve EFL students' reading comprehension and motivation. Uniquely, Bamboozle was used for reading comprehension, which is not commonly used in EFL activities. A study of how game-based learning affects EFL students' motivation and reading attitudes. This study will address several key questions: Can the Bamboozle game significantly improve reading comprehension among EFL students? How does game-based learning influence students'

attitudes toward reading and their engagement with texts? What are the specific benefits and limitations of using Bamboozle for reading instruction?

Methods

In this study, a quantitative approach using a pre-experimental design with a one-group pretest-posttest design was used to assess the reading ability of grade 7 students using the Bamboozle game at SMP Muhammadiyah 1 Lubuklinggau. As stated by (Sugiono, 2018), quantitative research methodology is based on positive (concrete) statistics and research data in the form of numbers that can be measured using test instruments that can be scaled. According to (Arikunto, 2006), "if the student population is less than one hundred, it is better to take the whole population as a sample, but if the population is more than one hundred, it is advisable to take 10-15% or 20-25% or more.". In this study, ten students were selected from the total population based on Arikunto's suggestion. The study specifically selected 10 students who were considered to be more intelligent than their peers. This criterion is indicative of a purposive sampling approach, where students are selected on the basis of certain characteristics (i.e., intelligence) that the researchers consider relevant to the study. Purposive sampling ensures that the data obtained is focused and relevant to the research variables. Although the population was larger, the selection of a small, purposive sample allowed for a more detailed and in-depth analysis of the subjects.

The instruments were assessed for validity and reliability. Construct validity ensures that the instruments accurately measure students' reading ability. This was achieved by checking that each item was theoretically aligned with the concept being measured. Content validity was confirmed by expert judgement. This ensures that each item is aligned with the reading literacy indicators. In addition, empirical validity involves comparing the instrument results with other instruments that are already valid. This can be done by correlating the test results with the results of other reading ability tests.

In terms of instrument reliability, reliability testing ensures the consistency of measurement results. This can be tested using the test-retest method, where the same instrument is tested on the same subject at different times and the results are compared. Cohen's kappa coefficient is used to measure the agreement between different raters, providing a reliability score that takes into account the possibility of agreement occurring by chance. These approaches ensure the validity and reliability of the instrument, so that the resulting data are reliable and relevant to the research objectives.

Result

In this study, the author conducted research at SMP Muhammadiyah 1 Lubuklinggau in the 2024/2025 school year. The total number one class consisted of 33 students. In order to ensure a representative sample, the writer used a purposive sampling technique,

According to (Arikunto, 2006), "if the population of the students is less than a hundred, it is better to take all the population as the sample, but if the number of populations is more than a hundred it is suggested to take 10-15 % or 20 – 25% or more. Which resulted in 10 students. Thus, the total sample for this study was 10 students. They choose because they are smarter than the other students.

The pre-test and post-test consisted of 30 multiple-choice questions based on descriptive texts. the following are the written test results from the pre-test and post-test.

Table 1. Pre-test and post-test score

No	Initial	Pretest	Posttest
1	DPS	83	86
2	AZ	71	78
3	KVA	66	80
4	LZ	86	90
5	SS	83	87
6	MWA	80	90
7	AB	60	80
8	ASP	66	76
9	AMS	63	80
10	KAD	54	80

In the first session, the teacher distributed the pre-test. Then, in the second session, the teacher conducted treatment by applying teaching techniques using the Bamboozle game, where each student answered the questions in the game. More, the teacher explained how reading comprehension strategies, such as making predictions of a reading text.

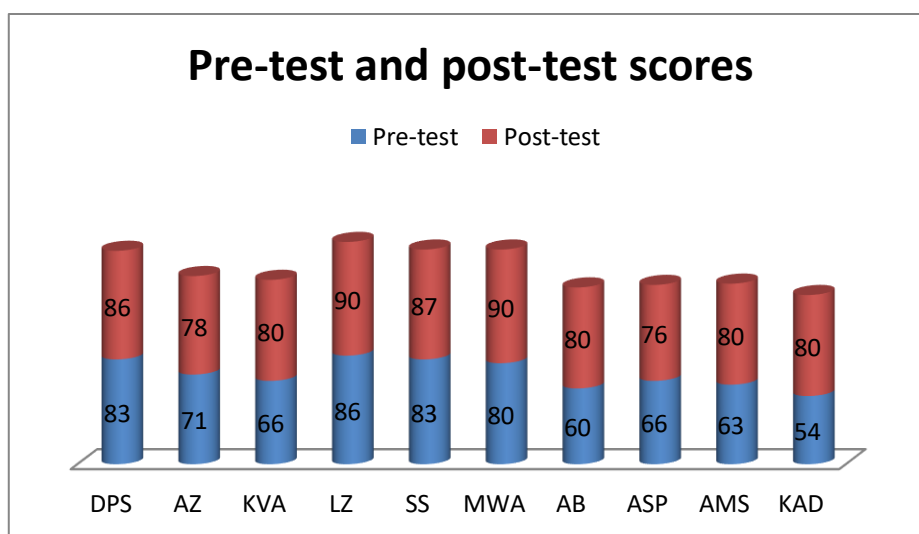


Figure 1. Improving Pre-test and Post-test

From the table above, can be explained in terms of specific indicators such as vocabulary comprehension and main idea comprehension, it can be concluded as follows: Vocabulary comprehension involves understanding the meaning of the words in the text. Improvement in vocabulary comprehension can be seen in students' ability to correctly interpret the meaning of complex words or phrases. Based on the data provided, students who initially scored low on the pre-test showed significant improvement in their post-test scores. For example, students' KAD increased from 54 to 80. This indicates that they are now able to understand and use more words correctly, indicating an improvement in vocabulary comprehension. Meanwhile, main idea comprehension involves identifying the main concept or the most important information in a text. This requires students to distinguish between the main idea and its supporting details. The increase in students' scores such as KVA (from 66 to 80) and AB (from 60 to 80) shows that students' main idea comprehension skills improved significantly after the Bamboozle intervention.

At the end of the treatment the teacher distributed post-tests to determine student achievement after getting treatment. After collecting the results of the students' pre-test and post-test then the writer analyses it by using the effect size formula (Cohen (1992) in Thalheimer and Cook (2003: 4)).

$$d = \frac{\bar{x}_t - \bar{x}}{\text{Spooled}} a$$

Where:

d: Cohen's d effect size

\bar{x}_t : Mean score of students' post-test

\bar{x} : Mean score of students' pre-test

Spooled : Deviation's standard

The writer categorized the effect size according to Cohen's **d** based on Cohen's d criteria in (Thalheimer et al., 2002). The effect size criteria were set as in Table 2:

Table 2. The Criteria of effects size

$d \leq 0.20$	Small
0.50	Medium
$d \geq 0.80$	Large

To determine the effectiveness of the treatment, the writer used the effect size formula to calculate student learning outcomes. The formula for calculating student results. The results of calculating the student effect size are as follows:

$$d = \frac{82,7 - 71,2}{8,21}$$

$$= 1,40$$

The findings show the effect size of the Bamboozle game on students' reading ability is higher than 0.80. Based on Cohen's d criteria, $1.40 > 0.8$ is categorized as a large effect. Thus, the third alternative hypothesis stating the effect Bamboozle game on students' reading ability of grade VII students of SMP Muhammadiyah 1 Lubuklinggau in the academic year 2024/2025 is large' was accepted.

Discussion

This study shows that the effect size of the Bamboozle game on students' reading ability is significantly large, with a Cohen's d value of 1.40. Therefore, it can be said that the evidence of this study is that there is a great improvement in the reading ability of students who participate in an interactive game.

In doing this research, the writer collected the data after students took the pre-test and post-test. The average score on this pretest was 71.2. after looking at the results of the average score, the writer saw that students were less motivated by the traditional learning model, and this could cause students' ability to understand reading passages. For example, if students were asked to answer questions based on the text, they tended to be unenthusiastic. At the next meeting, the teacher gave treatment to students by asking them questions using a bamboozle game. The students started to get involved in teaching-learning activities, and they looked more enthusiastic when using the bamboozle game. They even participated actively when the teacher asked them to read the passage, answer the questions, and match the words. After that the teachers give them the post-test.

Furthermore, in the implementation of the teaching and learning process of English, especially reading, by using the bamboozle game, the writer gave a post-test to determine the student's achievement. The mean score of the post-test was 82.70. in addition. This score is higher than the score of the pre-test. Apart from the average scores, the individual scores of the students also increased compared to the pre-test. This shows that there is a difference in student achievement after treatment. Then, using the effect size formula, the writer analysis the effectiveness of the bamboozle game on the students' reading skills. From the results of the calculation, the result of the effect size is 1.40. According to Cohen's effect size criteria, the effect size is large when $d \geq 0.80$. The use of the bamboozle game on students' reading skills is effective because the effect size is greater than 0.80 ($1.40 > 0.80$).

Figure 2 shows Cohen's criteria for large effect sizes and the effect sizes of the treatments. Based on Cohen's d criteria, $d \geq 0.80$ is considered a large effect size. The effect size of using the bamboozle game on students' reading ability was 1.40, which is higher than 0.80.

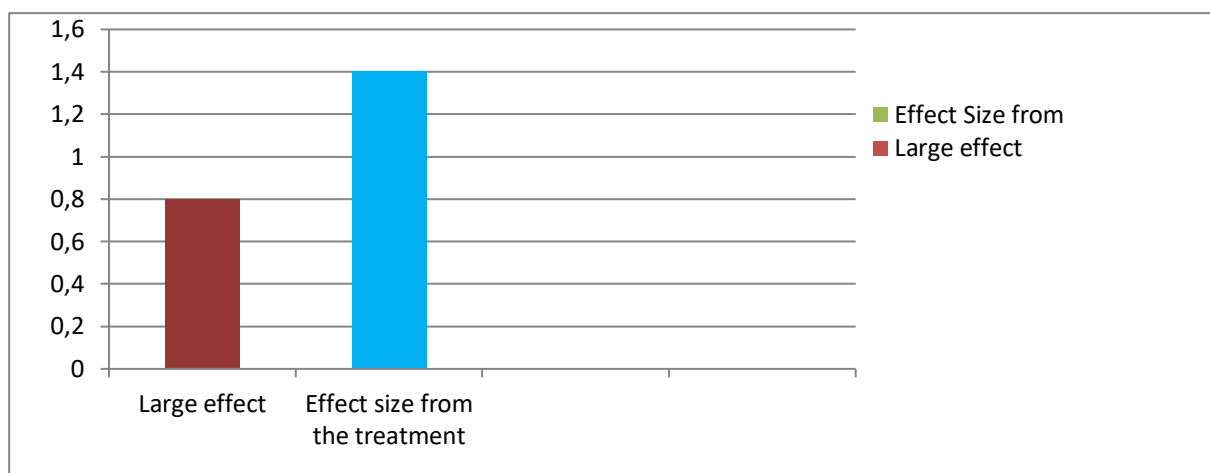


Figure 2. Cohen's d Effect Size Analysis of the Bamboozle Game on Students' Reading Ability

As a result of this study, the Bamboozle game had a significant effect on the students' reading ability and had a Cohen's value of $d = 1.40$, which is considered large. Therefore, it can be said that the evidence of this study is that there is a great improvement in reading ability. In order to fully understand the results of this study, it is necessary to compare them with the results of the corresponding previous studies and to maintain the opinion that the results of this study are in line with or different from previous studies.

Recent research mirrors several other studies that show the positive direction of implementing the concept of games in schools, as it significantly increases student engagement and motivation through reading skills. This study looks at different types of research that explain how game-based learning helps students with language anxiety and language acquisition, increases risk-taking in language practice, and can help students collaborate and remember better, particularly in SMP Muhammadiyah 1 Lubuklinggau. The finding details how bamboozle games are interactive and entertaining in the classroom learning process.

This study showed that the Bamboozle game significantly increased students' engagement, motivation, and reading comprehension in reading instruction by creating a competitive, collaborative, and low-stress environment. However, only a limited number of participants were enrolled in the experiments, and the study was short in time. The results of this study support the incorporation of game-based learning tools such as Bamboozle into the reading curriculum to improve student learning outcomes. Although the effect size of this technique is quite large, the writer made some points after analysis the students' pre-test and post-test results. In the pre-test, most of the students were still weak in the effective reading strategy of summarising the important information in the reading text, and they lacked vocabulary words, making it difficult for them to understand

the text. Based on the students' scores in the post-test, their performance was generally better than in the pre-test. In the post-test, their reading improved significantly.

Conclusion

Based on the results obtained from the above research findings, the authors confirm that Bamboozle is a highly recommended game to enhance the classroom learning experience. This conclusion is supported by the impressive post-test results with a score of 82.7 and the calculation of Cohen's effect size. Based on Cohen's *d* criteria, $1.40 > 0.8$ is categorised as a large effect, especially regarding the improvement of reading comprehension among the students. By incorporating Bamboozle into reading instruction, teachers can utilise the advantages of gamification to foster a more interactive and stimulating learning atmosphere. Such an approach not only captures students' interest, but also contributes to the development of their reading skills, which will ultimately improve overall academic performance.

There are several limitations to this study. First, the sample size is small, consisting of only 10 students, which may not be representative of the wider student population. Second, the duration of the intervention with the Bamboozle game was quite short, which makes it difficult to assess the long-term effects of the intervention. Furthermore, the pre-test and post-test consisted only of multiple-choice questions, which may not fully cover all aspects of reading comprehension. For the future research should observe long-term effects over different periods of time and use different assessment methods. Also, investigate how playing Bamboozle affects students' motivation and participation.

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