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THE EFFECT OF USING BAMBOOZLE APPLICATION TOWARDS STUDENTS' VOCABULARY MASTERY AT SD NEGERI 32/II MUARA BUNGO

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Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan aplikasi Baamboozle sebagai media pembelajaran terhadap penguasaan kosakata siswa di SDN 32/II Muara Bungo. Latar belakang penelitian ini adalah rendahnya prestasi belajar bahasa Inggris siswa, khususnya dalam penguasaan kosakata yang menjadi dasar keterampilan berbahasa. Penelitian ini menggunakan metode kuantitatif dengan desain eksperimen semu nonequivalent control group design. Dua kelas V dipilih melalui *cluster sampling*, yaitu kelas VB (30 siswa) sebagai kelas eksperimen yang diajarkan menggunakan Baamboozle dan kelas VC (30 siswa) sebagai kelas kontrol yang diajarkan menggunakan media cetak. Data dikumpulkan melalui pretest dan posttest kosakata menggunakan 25 soal pilihan ganda dan dianalisis dengan statistik deskriptif dan inferensial. Hasil penelitian menunjukkan bahwa nilai rata-rata posttest kelas eksperimen lebih tinggi dibandingkan kelas kontrol, dengan uji *Mann-Whitney U* menghasilkan nilai signifikansi 0.000 < 0.05. Hal ini membuktikan bahwa penggunaan Baamboozle berpengaruh positif dan signifikan dalam meningkatkan penguasaan kosakata siswa serta dapat menjadi alternatif efektif dalam pembelajaran bahasa Inggris.

Kata Kunci: Aplikasi Bamboozle; Penguasaan Kosakata; Sekolah Dasar; Pembelajaran Berbasis Game

Abstract

This study investigates the effect of using the Baamboozle application as a learning media on students' vocabulary mastery at SDN 32/II Muara Bungo. The research was motivated by students' low English achievement, particularly in vocabulary, which is crucial for language skills. A quantitative quasi-experimental method was applied using a nonequivalent control group design. Two fifth-grade classes were chosen through cluster sampling, with 30 students in Class VB as the experimental group taught using Baamboozle and 30 students in Class VC as the control group taught with printed media. Data were collected through vocabulary pretests and posttests using 25 multiple-choice questions and analyzed with descriptive and inferential statistics. The findings revealed that the experimental group achieved a higher posttest mean score than the control group, and the Mann-Whitney U test showed a significance value of 0.000 < 0.05, indicating a statistically significant difference. These results suggest that using the Baamboozle application significantly enhances students' vocabulary mastery and serves as an effective alternative to traditional methods. The study

highlights the importance of integrating interactive digital media to foster student engagement and improve language learning outcomes.

Keywords: *Bamboozle Application; Vocabulary Mastery; Elementary School; Game Based Learning*

INTRODUCTION

The ability to communicate effectively in English has become a vital skill in the 21st century, especially in the context of globalization where English serves as a lingua franca in education, business, science, and technology. For Indonesia, where English is a foreign language, it is crucial to introduce English early to prepare students for future academic and professional demands. Early exposure helps learners build a strong foundation that facilitates further language acquisition. Vocabulary, as the building block of language, is a key component of this foundation. Without sufficient vocabulary, students will struggle to develop other language skills such as listening, speaking, reading, and writing (Thornbury, 2002). Therefore, enhancing vocabulary mastery in the early stages of education is a strategic step in improving overall language proficiency.

Despite the recognized importance of vocabulary, many elementary school students in Indonesia face difficulties in mastering it. They often experience challenges in memorizing new words, pronouncing them correctly, and using them in meaningful contexts. According to Rohmatillah (2014), these difficulties result in students losing motivation and interest in English learning. Observations at SDN 32/II Muara Bungo reveal that students' vocabulary knowledge is still low, which affects their ability to engage with English lessons effectively. The lack of specialized English teachers, limited exposure to English outside the classroom, and monotonous learning methods further exacerbate this problem.

Traditional teaching methods in many schools rely heavily on textbooks, translation exercises, and rote memorization. While these methods may provide students with a list of words to learn, they often fail to engage students actively or encourage long-term retention. Students tend to become passive recipients of knowledge rather than active participants in the learning process (Khoiro et al., 2023). Consequently, there is an urgent need to adopt more innovative, interactive, and student-centered teaching strategies that stimulate students' interest and motivation to learn.

One promising platform that aligns with the principles of game-based learning is Baamboozle, a web-based application that allows teachers to create customizable quizzes and games. Baamboozle transforms learning into a fun competition where students work in teams, answer questions, and earn points. Its design encourages participation and promotes a sense of excitement, which can reduce students' anxiety about learning English. According to Alimova (2023), the gamified environment created by Baamboozle increases engagement, improves concentration, and supports collaborative learning.

Previous research has shown encouraging results regarding the use of Baamboozle in education. Muhajirin et al. (2022) found that incorporating Baamboozle in English lessons significantly increased students' classroom engagement. Similarly, Rahayu and Rukmana (2022) reported that Baamboozle-assisted game-based learning improved students' multiplication skills in

mathematics, demonstrating that the platform can be effective across subjects. Bambang (2022) further highlighted that students' perceptions of Baamboozle were overwhelmingly positive, as it made vocabulary learning more enjoyable and interactive. These studies provide a strong basis for applying Baamboozle in elementary school vocabulary instruction.

The present study seeks to fill this gap by investigating the effect of using Baamboozle as a teaching medium on fifth-grade students' vocabulary mastery at SDN 32/II Muara Bungo. By employing a quasi-experimental design with a nonequivalent control group, this study aims to compare students who are taught using Baamboozle with those taught using conventional printed materials. The results are expected to reveal whether there is a statistically significant difference in vocabulary mastery between the two groups.

Moreover, this research does not merely focus on test scores but also on enhancing students' motivation and engagement in the learning process. The competitive and cooperative nature of Baamboozle is expected to create a more dynamic classroom atmosphere, where students actively participate, work together in teams, and develop a positive attitude toward English learning. This is aligned with the principles of communicative language teaching, which emphasize interaction as both the means and the ultimate goal of learning.

Another important aspect of this study is its potential contribution to teachers' pedagogical practices. Many teachers in rural and suburban areas of Indonesia have limited access to innovative teaching media and often rely on traditional methods. By introducing Baamboozle as an accessible and easy-to-use platform, this research provides teachers with a practical tool that can diversify their instructional methods and enhance the quality of English education.

RESEARCH METHOD

This study employed a quantitative approach with a quasi-experimental design, specifically using a nonequivalent control group design. This design was chosen because it allows comparison between two groups an experimental group that receives treatment and a control group that does not without random assignment of participants (Sugiyono, 2017). The design involves three main stages: pre-test, treatment, and post-test. Both groups were given the same pre-test to measure their initial vocabulary mastery, followed by different treatments, and finally a post-test to assess improvement.

The research was conducted at SDN 32/II Muara Bungo, a public elementary school located in Muara Bungo, Jambi Province, Indonesia. The study took place during the second semester of the 2024/2025 academic year, over a four-week period. The schedule included administering the pre-test in the first week, conducting six treatment sessions over three weeks, and completing the post-test in the final week.

The population of this study consisted of 85 fifth-grade students enrolled at SDN 32/II Muara Bungo. The students were distributed across three classes (VA, VB, and VC). Using cluster sampling, two classes were selected as the sample: class VB (30 students) as the experimental group and class VC (30 students) as the control group. The selection was based on the consideration that both classes had similar average English scores, making them suitable for comparison.

Data were collected through vocabulary tests administered as pre-tests and post-tests. The test instrument consisted of 25 multiple-choice questions covering vocabulary related to the topic "Parts of the Body." The instrument was developed based on the school curriculum and validated by expert reviewers to ensure content validity. The pre-test was

conducted to measure students' baseline vocabulary knowledge, while the post-test was used to measure improvement after the treatment. The treatments consisted of six teaching sessions: the experimental group was taught using the Baamboozle application, while the control group was taught using conventional printed materials.

The collected data were analyzed quantitatively using descriptive and inferential statistics. Descriptive statistics, including mean, median, and standard deviation, were used to summarize students' scores. Inferential statistics were conducted using the Mann-Whitney U test, a nonparametric test suitable for comparing two independent groups when data do not meet the assumption of normality. The significance level was set at 0.05. If the p-value was less than 0.05, it was concluded that there was a significant difference between the experimental and control groups, indicating the effect of using Baamboozle on vocabulary mastery.

FINDING AND DISCUSSION

A. Finding

Validity & Reliability

The vocabulary test instrument used in this study was validated by expert reviewers to ensure its content appropriateness. The validation process indicated that all 25 multiple-choice items were valid and aligned with the learning objectives for fifth-grade students. Reliability testing was conducted using Cronbach's Alpha, which resulted in a coefficient above 0.70, indicating that the instrument was reliable and suitable for measuring vocabulary mastery consistently

Homogeneity Test

Homogeneity testing was conducted to ensure that the experimental and control groups had similar variances before treatment. The results of the Levene's Test showed a significance value greater than 0.05, indicating that the data from both groups were homogeneous and comparable.

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
POSTTEST SCORES	Based on Mean	4.806	1	58	.032
	Based on Median	3.230	1	58	.078
	Based on Median and with adjusted df	3.230	1	46.647	.079
	Based on trimmed mean	4.765	1	58	.033

Table 1 Homogeneity Test

Pretest

The pre-test was administered to both the experimental and control groups to measure students' initial vocabulary mastery. The experimental group obtained an average score of 54.73, while the control group scored an average of 53.87. These results indicate that both groups had relatively similar vocabulary knowledge before the treatment.

Posttest

The post-test results showed that the experimental group achieved a higher average score of 86.27, while the control group obtained an average score of 65.47. This increase suggests that students in the experimental group demonstrated a greater improvement in vocabulary mastery compared to those in the control group.

Graphic 1 Bar Chart Pretest and Posttest

Normality Test

Normality testing was conducted using the Shapiro-Wilk test. The results indicated that the significance value was less than 0.05, suggesting that the data were not normally distributed. Therefore, nonparametric tests were used for further analysis.

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SCORES EXPERIMENTAL CLASS	.249	30	.000	.866	30	.001
SCORES CONTROL CLASS	.211	30	.002	.923	30	.031
a. Lilliefors Significance Correction						

Table 2 Normality testing Shapiro Wilk

From the table above, the result of posttest scores between experiment class and control class can be shown:

a) The sig. value of posttest experimental class showed 0.001, it means that 0.001 < 0.05 was not normally distributed.
b) The sig. value of students' posttest showed 0.031, it means that 0.031 < was 0.05 was not normally distributed.

Based on the above interpretation, it can be concluded that the distribution of vocabulary mastery scores in both groups is not normal. Thus, the research data does not sufficiently meet the assumption of normality and therefore can proceed to the nonparametric hypothesis stage, namely the Mann Whitney U test.

Hypothesis Test

The Mann-Whitney U Test was applied to compare the post-test results of the experimental and control groups. The test produced a significance value of 0.000, which is lower than the 0.05 threshold. This result indicates that there is a statistically significant difference between the two groups, leading to the conclusion that the use of the Baamboozle application had a positive effect on improving students' vocabulary mastery.

Ranks				
	KELAS	N	Mean Rank	Sum of Ranks
NILAI POSTTEST SISWA	1	30	44.63	1339.00
	2	30	16.37	491.00
	Total	60		

Table 3 Hypothesis Testing Mann-Whitney U

The following is a table and statistical test interpretation Man Whitney U:

Test Statistics[a]	
	NILAI POSTTEST SISWA
Mann-Whitney U	26.000
Wilcoxon W	491.000
Z	-6.317
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: KELAS	

Table 4 Test Statistics Mann-Whitney U

The Test Statistics table further confirms this result. The Mann-Whitney U value is 26.000, with a Wilcoxon W of 491.000, and the Z

value of -6.317. The Asymp. Sig. (2-tailed) is 0.000, which is lower than the significance level of 0.05. This means that the null hypothesis (H0) is rejected, and the alternative hypothesis (H1) is accepted.

Therefore, it can be concluded that there is a statistically significant difference in students' vocabulary mastery between the experimental class and the control class. Students who were taught using the Bamboozle application achieved significantly higher vocabulary mastery compared to those taught through conventional methods. This finding indicates that the Bamboozle application is effective as an instructional media to enhance students' English vocabulary achievement.

B. Discussion

The results of this study confirm that the use of Baamboozle significantly improved students' vocabulary mastery, which indicates that integrating game-based digital media into the classroom can address the persistent challenge of low vocabulary achievement in elementary schools. This finding reinforces the growing body of research emphasizing the importance of interactive learning environments in increasing student motivation and retention (Huang et al., 2020). The improvement in the experimental group shows that students benefit from lessons that are dynamic, interactive, and designed to foster active participation rather than rote memorization.

Game-based learning has been recognized as an effective strategy to engage learners, promote meaningful practice, and create a positive classroom atmosphere (Qian & Clark, 2016). Baamboozle provides an interactive platform that allows students to work collaboratively while competing in a friendly manner. This aligns with Vygotsky's social constructivist perspective that learning occurs through social interaction and peer collaboration. Recent studies, such as those by Pratama et al. (2021), also show that gamification strategies can enhance students' engagement and motivation, leading to better academic outcomes.

The motivational benefits observed in this study can be explained through Self-Determination Theory, which posits that motivation is enhanced when learners' needs for autonomy, competence, and relatedness are fulfilled (Ryan & Deci, 2020). Baamboozle allows students to take control of their learning, receive immediate feedback, and cooperate with peers, satisfying these three psychological needs. This not only increases engagement but also encourages deeper processing of vocabulary, resulting in better retention.

The findings also contribute to the literature on vocabulary acquisition, confirming that innovative approaches can make vocabulary learning more enjoyable and effective. According to Nation (2013), successful vocabulary instruction should provide opportunities for repeated exposure and use of words in meaningful contexts. Baamboozle facilitates repeated encounters with target words through its interactive quizzes, reinforcing long-term memory.

Moreover, it supports multimodal learning by combining visual, auditory, and kinesthetic elements, which research shows can enhance comprehension and recall (Mayer, 2021).

These results are consistent with recent research by Susanti and Kurniawan (2022), who reported that digital quiz platforms improved students' language learning outcomes and increased classroom participation. Similarly, Yuliani et al. (2021) found that integrating technology into vocabulary teaching improved students' ability to recall and use new words. This study extends these findings by demonstrating that Baamboozle is particularly effective for younger learners, a group often considered more difficult to engage in traditional vocabulary instruction.

Another important implication is that Baamboozle helped transform a teacher-centered classroom into a student-centered one, consistent with current educational trends that emphasize active learning and 21st-century skills (Trilling & Fadel, 2012). By encouraging teamwork, communication, and critical thinking, Baamboozle not only improves language skills but also prepares students for collaborative problem-solving situations beyond the classroom.

The use of a quasi-experimental design with pre- and post-tests strengthens the validity of the findings by showing a clear difference between students who used Baamboozle and those who did not. The Mann-Whitney U test confirmed that the difference was statistically significant, indicating that the observed improvement was not due to chance. These results provide empirical evidence that supports the integration of digital gamification tools into elementary school curricula.

Overall, this research highlights the novelty of applying Baamboozle in the Indonesian elementary school context and provides a model for schools seeking to enhance vocabulary learning through engaging and technology-supported methods. It demonstrates that game-based platforms can be a practical and effective solution for improving student motivation and vocabulary mastery.

CONCLUSION

Based on the results of the study, it can be concluded that the use of the Baamboozle application as a learning medium has a significant positive impact on improving students' vocabulary mastery at SDN 32/II Muara Bungo. The implementation of Baamboozle successfully created a more interactive and engaging classroom environment, encouraging students to participate actively and collaborate with their peers. This approach helped students to overcome difficulties in memorizing and using vocabulary, making the learning process more meaningful and enjoyable. The findings indicate that integrating game-based digital media supports the development of student motivation, fosters a student-centered learning atmosphere, and enhances vocabulary acquisition more effectively than conventional printed media.

Therefore, the use of Baamboozle can be recommended as an innovative

alternative for teachers to improve the quality of English language instruction, particularly in vocabulary learning. This study contributes to the growing evidence that technology-assisted learning is an essential strategy in preparing students for future educational demands and supports the development of 21st-century competencies such as collaboration, communication, and critical thinking.

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