



The Influence of Kahoot in Improving Students' Vocabulary Mastery for The Fifth Grade at SDN 1 Tatura

Nanda Amaliah*, Nur Asmawati, Hijrah Syam

UIN Datokarama Palu

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*Correspondence: Nanda Amaliah

Email: amaliahnanda272@gmail.com

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Abstract: This research aims to examine the influence of Kahoot in improving students' vocabulary mastery for the fifth-grade at SDN 1 Tatura. This research employed a quasi-experimental design with a quantitative approach. Data were collected through pre-tests, treatment sessions, and post-tests. The experimental class received treatment using Kahoot. Two classes were selected as samples through purposive sampling: one experimental class and one control class. The data analysis included descriptive statistics, normality tests, homogeneity tests, and hypothesis testing using paired sample t-tests and independent sample t-tests. The findings revealed that the use of Kahoot significantly improved students' vocabulary mastery. This is evident from the t-test result (12.648), which was higher than the t-table value (2.064) at the 0.05 significance level. This indicates a statistically significant improvement. Based on the data analysis, it can be confirmed that the null hypothesis (H₀) is rejected and the alternative hypothesis (H_a) is accepted. Therefore, it can be concluded that the use of the Kahoot has a significant influence in improving students' vocabulary mastery for the fifth-grade students.

Keywords: Kahoot, Vocabulary Mastery

Introduction

In today's era of globalization, English proficiency has become an essential skill for the younger generation. English, as an international language, plays a vital role in facilitating communication, collaboration, and knowledge exchange among nations. It has attained global status as the most widely used language for communication (Rao, 2019). Its widespread use across the world makes it a crucial subject to be mastered from an early age (Husnul Huda, 2017). In Indonesia, this need is accommodated through various educational reforms, including the implementation of the Merdeka Curriculum, which places greater emphasis on English learning at the elementary school level.

The Merdeka Curriculum aims to develop well-rounded learners by promoting the profile of Pelajar Pancasila. This curriculum encourages student-centered and flexible learning approaches tailored to learners' needs and daily life contexts including English language learning. The curriculum gives educators the freedom to choose appropriate teaching methods and tools, including the integration of digital technology to make learning

more engaging and effective (Ella Masita, 2024). This flexibility is especially beneficial in English instruction, as it opens the door to interactive and meaningful vocabulary learning.

In line with the global demand for English proficiency, the government has redefined English not merely as an additional subject, but as a core competency necessary for future competitiveness (Husnul Huda, 2017). Mastery of the English language is foundational for effective communication and interaction, especially among elementary students who are at a critical stage in language acquisition (Rachmah Amalia, 2023). According to Harmer, four key skills must be developed listening, reading, speaking, and writing. However, all these skills are fundamentally supported by vocabulary mastery, which serves as the building block of language proficiency (Harmer, 2007).

Despite its importance, vocabulary mastery often becomes a major challenge for elementary students. Many students consider English a difficult subject, primarily due to limited vocabulary. Vocabulary is a collection of words in a language (Nurfadilah, 2018). Another opinion states that vocabulary is a collection of words known by an individual (Hidayatur Rohmah & Emi Lilawati, 2019). Vocabulary is crucial in English learning, as it becomes easier for children to learn English if they know the meaning of words (Holidazia & Rodliyah, 2020). Vocabulary mastery is essential for understanding texts, conversations, and written content. Without sufficient vocabulary, students will struggle to master other language skills (Yusran Pora, 2007). Therefore, vocabulary learning for children should be supported by innovative and varied media to maintain their attention and enhance learning outcomes (Purwanti, 2020).

To address these challenges, educators are encouraged to implement creative strategies, including the use of technology and games, to make vocabulary learning more enjoyable. Educational games allow students to learn while playing, thereby increasing their engagement and motivation. Games are highly favored by children because they are fun and create a natural need to use language (Legowo, 2022). Games can create a pleasant atmosphere and eliminate stressful moments (Gozcu, 2016). In games, students can interact with peers, discover new vocabulary, and strengthen memory in an enjoyable way (Michael Lewis, 1997).

Among various available learning tools, Kahoot has emerged as a widely used game-based digital platform to enhance learning through interactive quizzes. Kahoot combines visual and audio elements as well as competition to encourage active participation. This media creates a fun and competitive learning environment while increasing student engagement (Zulfirah Wulan, 2023). The use of Kahoot can enhance student engagement in the learning process (Ismail, 2017). Kahoot helps create a more active, fun, and competitive classroom atmosphere, which positively impacts student learning outcomes (Licorish, 2018).

Kahoot can also boost students' competitiveness among peers and increase their interest and motivation to learn English (Henukh & Guntara, 2020). Its features are highly beneficial in classroom settings (Lin et al., 2018). Kahoot encourages students to engage in active learning by considering and understanding vocabulary items in order to answer correctly and quickly (Wan, et al., 2020). It also helps students acquire new vocabulary (Kusumayanthi & Rusmiyanti, 2021).

Several recent studies support the use of Kahoot in vocabulary instruction. (Fajar Muhammad, 2021) found that Kahoot promotes interactive and enjoyable vocabulary learning. Similarly, (Neilan Sabila Awaludin, 2022) concluded that it increases student interest and participation, while (Lidya Febriani, 2022). highlighted Kahoot's effectiveness in supporting long-term vocabulary retention. However, these studies tend to address vocabulary learning in general terms and are primarily conducted at the junior high school level. They lack specific attention to vocabulary types or classifications (nouns, verbs, adjectives), and do not focus on elementary learners.

This research attempts to fill that gap by exploring the influence of Kahoot on vocabulary mastery among fifth-grade students at SDN 1 Tatura. Compared to adolescents, elementary students have distinct learning characteristics and respond more positively to visually appealing and game-based instruction like Kahoot.

Based on the background above, the research problem is formulated as follows: Is there any influence of Kahoot in improving students' vocabulary mastery for the fifth grade at SDN 1 Tatura? Accordingly, the aim of this research is to determine whether the use of Kahoot influences vocabulary mastery among fifth-grade students at SDN 1 Tatura.

Methodology

According to John Creswell, quantitative research is a method aimed at testing specific theories by examining the relationships between measurable variables. These variables are assessed using research instruments, allowing the numerical data collected to be analyzed through statistical techniques (John W. Creswell, 2018).

Based on this approach, this research employed a quantitative method with a quasi-experimental design to investigate the influence of using Kahoot as a vocabulary learning tool for fifth-grade students at SDN 1 Tatura. The experimental design was used to examine whether there was a difference between the experimental class, which was taught using Kahoot, and the control class, which was taught using conventional teaching methods. The quasi-experimental design was chosen because the participants were not randomly assigned.

The population of this research consisted of all fifth-grade students at SDN 1 Tatura, totaling 76 students. The sampling technique used was purposive sampling, as two classes were considered the most suitable for the research objectives. These two classes were identified as having faster learning abilities compared to other classes. Therefore, the researcher selected class VB (25 students) as the experimental group and class VC (26 students) as the control group.

Data collection was carried out through tests designed to measure students' learning outcomes in the cognitive domain. The test consisted of 20 multiple-choice questions. It was administered in two stages: a pre-test and a post-test, to assess the students' vocabulary mastery in both the experimental and control groups before and after the treatment.

The treatment was conducted over four sessions. In each session, the students in the experimental group learned vocabulary through interactive exercises using Kahoot. The learning scenario began with a brief explanation of vocabulary topics (such as nouns, verbs, or adjectives), followed by a Kahoot-based quiz involving image recognition, multiple-choice questions, and quick-response games. Students responded to the quizzes directly

using their own devices. The teacher facilitated discussions to review the answers and provided immediate feedback. In contrast, the control class received instruction using conventional methods, such as lectures without the aid of digital media.

The collected data were analyzed using SPSS version 27 for Windows through several steps: Descriptive statistics to determine the average pre-test and post-test scores, normality test to examine the distribution of the data, Homogeneity test to assess the equality of variances between groups, Paired sample t-test to measure score improvements within each group, Independent sample t-test to compare the post-test results between the experimental and control groups.

Result and Discussion

Result

In this research, the researcher presents the results of data analysis related to the influence of Kahoot on improving vocabulary mastery among fifth-grade students at SDN 1 Tatura. This research employed a quasi-experimental design, consisting of one experimental class that received treatment (using Kahoot) and one control class that did not receive treatment (using conventional teaching methods). There were two variables in this study: Kahoot (X) as the independent variable and students' vocabulary mastery (Y) as the dependent variable. The researcher used a test as the data collection instrument, which consisted of 20 multiple-choice questions. The collected data were then analyzed using SPSS software to obtain a more detailed overview of the research findings. The results of the pre-test and post-test calculations are presented in the following descriptive table. summarize the collected data and the analysis performed on those data relevant to the issue that is to follow.

Table 1. Descriptive Statistics of Pre-Test and Post-Test

Class	Test	Mean	minimum	maximum	Std. deviation
control	Pre test	50.00	20	75	13.784
control	Post test	57.69	25	85	18.068
experiment	Pre test	47.00	20	75	13.314
experiment	Post test	74.00	35	100	17.912

Descriptive statistics show that both classes had relatively comparable pre-test mean scores, with 50.00 for the control class and 47.00 for the experimental class. However, the post-test results revealed a significant difference: the experimental class that used Kahoot as a learning medium achieved a mean score of 74.00, while the control class, which used conventional teaching methods, only reached a mean score of 57.69.

After completing the descriptive analysis, the researcher proceeded with the normality test as the next step. This test is conducted to find out the data follows a normal distribution or not. The results of the normality test, conducted using the Shapiro-Wilk method in SPSS, are presented in the following table.

Table 2. Test of Normality

Kelas	Kolmogorov-Smirnov		Shapiro-Wilk	
	statistik	Sig	statistic	sig
Pretest (control)	.128	.200	.958	.352
Posttest (control)	.166	.063	.934	.099
Pretest (experiment)	.143	.198	.970	.636
Posttest (experiment)	.170	.059	.954	.308

Referring to the SPSS output table, it is found that the significance value of the control class pre-test is $0.352 > 0.05$, the control class post-test is $0.099 > 0.05$, the experimental class pre-test is $0.636 > 0.05$, and the experimental class post-test is $0.308 > 0.05$. Based on the decision-making criteria for the normality test using the Shapiro-Wilk method, which is recommended for sample sizes less than 50, it can be concluded that the data is normally distributed.

To ensure accuracy of the data, a homogeneity test was administered to check if the variances were consistent across groups. This test was conducted using SPSS, and the outcome is shown in the table below:

Table 3. Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig
.011	1	49	919

Based on the results of Levene’s Test, the Levene Statistic was 0.011 with a significance value (Sig.) of 0.919. Because this value is well above the 0.05 threshold, it indicates that both groups have equal or homogeneous variances. Establishing homogeneity is crucial to ensure that the comparison of mean scores (which will be analyzed using the paired sample t-test) is reliable and not affected by differing levels of variability between the two data sets.

Table 4. Independent Samples Test

		Levene's Test for Equality of Variances				
		F	Sig.	T	Df	Sig. (2-tailed)
Score	Equal variances assumed	.011	.919	3.236	49	.002
	Equal variances not assumed			3.236	48.952	.002

The independent sample t-test was conducted under the assumption of equal variances. Based on the table above, the significance value (2-tailed) obtained is 0.002, which is less than 0.05. Therefore, it can be concluded that there is a difference in students' vocabulary mastery between those taught using the Kahoot application and those taught using conventional methods.

By comparing the average post-test results between the experimental and control classes, it is evident that students taught using the Kahoot application demonstrated a higher level of vocabulary mastery than those taught with the conventional method

After obtaining the results of the Independent Sample t-test comparing two different groups, a Paired Sample T-test was conducted to determine whether there is a significant difference between the pre-test and post-test results in the experimental class. The result of the Paired sample T-test is shown in the following table:

Table 5. Paired Sample T-Test

	Mean	Std.dev	T	df	Sig(2-tailed)
Pre test	26.80000	10.59481	12.648	24	.000
Post test					

A paired sample t-test was conducted to determine whether the use of the Kahoot application had a significant effect on students' vocabulary mastery. Based on the output results, the t-value for the experimental group was -12.648. The negative sign indicates that the average post-test score was higher than the pre-test score. In this case, the negative t-value can be interpreted as a positive value, which is 12.648, with a significance level of 0.000. Since the significance value (2-tailed) is less than 0.05, H_0 is rejected and H_a is accepted.

The hypothesis was also tested by comparing the t-test result with the t-table value. The degrees of freedom (df) were 24, and the significance level used was 0.025 (0.05/2). Based on the t-distribution table, the critical t-value was 2.064. Because the t-test value is greater than the t-table value ($12.648 > 2.064$), H_0 is rejected and H_a is accepted. Therefore, it can be concluded that the use of the Kahoot application has a significant influence in improving students' vocabulary mastery for the fifth-grade students at SDN 1 Tatura.

Discussion

The aim of this research is to determine the influence of Kahoot in improving students' vocabulary mastery at SDN 1 Tatura. The data showed that students who received treatment using Kahoot achieved better post-test results compared to those who learned through conventional teaching methods. The results of the T-test also indicated a significant difference between the experimental and control classes. This finding demonstrates that Kahoot has a significant influence in enhancing students' vocabulary mastery at SDN 1 Tatura.

This significant improvement in the experimental class indicates that digital game-based learning such as Kahoot is capable of creating a more interactive, enjoyable, and motivating learning environment, encouraging students to be more actively involved in the learning process. This finding aligns with the studies by (Ismail, 2017) and (Licorish, 2018) who stated that Kahoot can enhance student participation and foster a competitive and fun classroom atmosphere.

This result not only highlights the influence of Kahoot on learning outcomes but also on the students' learning experience. Kahoot provides an enjoyable experience through visuals, sounds, and healthy competition, making it easier for students to understand information when it is delivered using concrete and interactive media. In addition, Kahoot serves as a learning tool that promotes interaction and collaboration, both between teachers and students, as well as among peers.

Furthermore, this game-based approach is particularly relevant in the context of vocabulary learning, which is a key component of language mastery. In the context of vocabulary learning, the use of games such as Kahoot is also supported by (Michael Lewis, 1997) who stated that games are very popular among children because they enjoy playing. According to Lewis, games can increase student motivation and create a real need to use language. This aligns with the idea that through play, students are encouraged to use new vocabulary in meaningful and enjoyable contexts. Through games, students not only learn to recognize words but also learn to use them in challenging and engaging situations.

In other words, Kahoot functions not only as an assessment tool but also as an effective learning medium that helps students retain and understand new vocabulary more effectively. Features such as multiple-choice questions, time limits, and image-based prompts make students more focused, motivated, and eager to recall and understand the words they have learned.

This finding is also supported by previous studies such as (Neilan Sabila Awaludin, 2022), and (Lidya Febriani, 2022), which demonstrated that the use of Kahoot significantly improves vocabulary mastery and student engagement in English language learning.

Furthermore, a learning approach that incorporates elements of play is highly suitable for elementary school students, who are naturally active, enjoy exploring, and are easily engaged in enjoyable activities. Therefore, integrating Kahoot into vocabulary learning is not only relevant but also aligned with their needs and learning styles.

The findings of this study are also supported by research conducted by (Wedayanthi, 2024) which emphasizes the importance of optimizing game-based learning in the implementation of the Merdeka Curriculum. This approach has been proven to encourage students to learn more independently and effectively. Thus, this study makes a significant contribution to the literature on the effectiveness of gamification in developing English vocabulary mastery among elementary school students in the digital era

Conclusion

Based on the findings of this research, it has been proven that the use of the digital platform Kahoot is highly effective as a vocabulary learning tool. This is evident from the T-test result (12.648), which is significantly higher than the T-table value (2.064). It can be confirmed that the null hypothesis (H₀) is rejected and the alternative hypothesis (H_a) is accepted. This means that, compared to conventional teaching methods, the use of Kahoot has a significant influence in improving students' vocabulary mastery. The use of Kahoot in the classroom helps students understand and remember vocabulary in a more enjoyable and meaningful way. This undoubtedly has a positive impact on students' English language skills, as vocabulary serves as the foundation of language proficiency.

This finding is highly relevant in the current educational context, where mastery of foreign languages especially English is a key factor in enhancing the quality of Indonesia's human resources. Vocabulary is a fundamental component of language skills, and its mastery from an early age is essential. In practice, many students struggle to understand and retain vocabulary due to unengaging teaching methods. The use of Kahoot as a game-based digital learning medium addresses this challenge by creating a more enjoyable, competitive, and interactive learning environment. Thus, Kahoot can serve as a strategic alternative to support more effective and sustainable vocabulary learning at the elementary school level.

Based on the result, this research serves as the final contribution of the researcher, which is expected to be utilized by others as a foundation for developing and implementing interactive learning media such as Kahoot in the context of language learning, particularly in vocabulary mastery. The researcher suggests that teachers begin to consider the use of game-based technology in the teaching and learning process to enhance students' motivation and engagement. Furthermore, future researchers are encouraged to explore the use of Kahoot in other language skills such as reading, writing, listening, and speaking, or to examine its effectiveness at different educational levels. In this way, the findings of this study can serve as an initial reference for broader learning innovations that positively impact the quality of education.

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