

THE EFFECTIVENESS OF KAHOOT! IN IMPROVING STUDENTS' VOCABULARY SKILLS OF EIGHTH GRADE STUDENTS

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Abstract

The investigation conducted in this study aims to examine the efficacy of the Kahoot! application in enhancing students' vocabulary proficiency in the eighth grade of junior high school. The research was conducted at SMP N 3 Brebes, involving eighth grade students during the academic year 2025/2026. The experimental design was conducted using a true experimental approach, whereby a treatment group was administered the application and a control group was subjected to conventional teaching methods. The assessment comprised pre-tests and post-tests to evaluate students' vocabulary skills, with the data subsequently analyzed using SPSS version 26. The experimental group demonstrated a substantial enhancement in performance, as evidenced by a mean post-test score of 73.67, in contrast to the control group's score of 45.67. The paired sample t-test results indicated a significant positive correlation between the use of Kahoot! and the motivation and vocabulary acquisition of students, as evidenced by a p-value of 0.000. The findings indicate that the application is an impactful instrument for advancing students' vocabulary proficiency within educational environments.

Keywords: Kahoot, Vocabulary Skills; Learning Motivation;

1 INTRODUCTION

Vocabulary mastery is a fundamental component of English language because it significantly influences students' ability to communicate and comprehend texts effectively (Brown, 2007). Despite its importance, many students struggle to develop adequate vocabulary mastery due to monotonous instructional practices such as memorization and repetitive exercises. Interactive quizzes such as Kahoot! have emerged to address this issue. Previous studies have emphasized the need for interactive and technology-supported learning environments to foster meaningful engagement and enhance learning outcomes (Hamzah, 2023; Amala Alkhotiyah & Wahyuningsih, 2024). Similarly, Molla and Sucipto (2019) stated that that interactive and media-supported instruction can enhance students' learning outcomes, which supports the use of game-based learning tool such as Kahoot! to improve vocabulary learning. Additionally, previous empirical studies have consistently reported that the use of Kahoot! can substantially improve learners' motivation and vocabulary development (Li et al., 2024; Yu, 2023; Rasti-Behbahani, 2021).

At SMP Negeri 3 Brebes, eighth-grade students exhibited relatively low levels of vocabulary mastery and learning motivation in English classes. Classroom observations revealed that the predominance of conventional teaching approaches led to passive participation and limited student engagement.

One widely used interactive quiz platform is Kahoot!, a game-based learning tool that integrates multimedia features and immediate feedback. Studies have reported that Kahoot! promotes active participation, increases motivation, and improves knowledge retention (Ratih et al., 2024; Febriani et al., 2024). The effectiveness of interactive quizzes is theoretically supported by the Testing Effect (Roediger & Karpicke, 2006), which highlights the role of retrieval practice

in strengthening memory, and Cognitive Load Theory (Sweller, 1988), which emphasizes structured instructional design to optimize learning.

This study's objective was to determine the impact of Kahoot! on students' vocabulary proficiency, especially in comparing those taught using the platform and those taught using conventional methods. The findings are anticipated to contribute both theoretically and pragmatically to the domain of English language instruction, with particular implications for vocabulary instruction.

This study is anticipated to make a meaningful theoretical contribution to the advancement of interactive quiz-based instructional strategies, particularly in the context of vocabulary teaching. The present research aims to contribute to the extant body of knowledge on technology-enhanced language learning by examining the effectiveness of digital quiz platforms in facilitating vocabulary acquisition. It also aims to provide empirical evidence in support of the integration of gamified learning principles within established pedagogical frameworks for English language instruction.

From a practical perspective, the findings are expected to offer valuable implications for multiple stakeholders. For teachers, the study provides pedagogical insights into how interactive quizzes can be systematically implemented to foster active participation, increase motivation, and improve students' vocabulary retention. For students, it highlights the potential benefits of engaging with digital learning tools that promote immediate feedback and meaningful practice. Furthermore, for future researchers, this study serves as a reference point for further investigations into the use of digital technologies in English language teaching, particularly in exploring different contexts, learner characteristics, or instructional designs.

2 METHODOLOGY

2.1 Type of Research

This research employs a qualitative research approach and utilizes a true experimental research design.

2.2 Time and Place of Research

The research was conducted from July 23 to August 7, 2025. It took place over eight meetings. Six of these meetings were for treatment. The other two meetings were for pre-test and post-test. The study's sample comprised students from two classes: the control group (VIII I) and the experimental group (VIII E) at SMPN 3 Brebes during the 2025/2026 academic years.

2.3 Research Target/Subject

The participants in this study were eighth-grade students at SMP N 3 Brebes for the 2025/2026 academic year which consist of 11 classes, each class consists of 30 students, and there are 330 students for the population. The researcher involved two classes of eighth-grade students: The experimental group, designated as Class VIII E, consists of 30 students. The control group, designated as Class VIII I, consists of 30 students. The total sample size for this research consisted of 60 students. Additionally, This study utilizes cluster random sampling as its sampling method.

2.4 Procedures

The procedure was initiated with the administration of a pre-test to both the experimental and control groups, with the objective of measuring the students' initial vocabulary skills. The examination incorporated 20 multiple-choice inquiries encompassing vocabulary definitions, synonyms, antonyms, and sentence usage. Before the first pre-test, a try-out test was done to check if the instrument was valid and reliable. This try-out test was done in another class of eighth graders.

Following the pre-test, the treatment phase was conducted. The experimental group was instructed using Kahoot!, whereas the control group was taught utilizing conventional teaching method. The treatment was administered during a series of meetings concomitant with the review of text material.

Finally, a post-test was administered to both groups using a similar vocabulary test to measure students' improvement after the treatment.

2.5 Data, Instruments, and Data Collection Techniques

The data utilized in this study is of a quantitative nature, specifically encompassing students' vocabulary test outcomes. The data came from pre- and post-test assessments of the groups. These assessments were utilized to gauge learners' vocabulary proficiency prior to and following the implementation of the treatment.

The instrument employed for the collection of data was a vocabulary test comprising 20 multiple-choice questions encompassing word definitions, synonyms, antonyms, and proper sentence usage. The identical test was administered prior to and following the intervention to ensure the measurement of students' vocabulary skills remained consistent.

The data were collected through the result of pre-test and post-test of experimental and control groups that were analyzed through IBM SPSS 26 to determine the effectiveness of Kahoot! in improving students' vocabulary skills.

2.6 Data Analysis Techniques

Researchers analyzed the effectiveness of Kahoot! in improving students' vocabulary skills using SPSS. This entailed comparing the results of pre- and post-tests from the experimental and control groups, respectively. Assumptions were met through the use of normality and homogeneity tests. Then, a paired sample t-test was utilized to examine the improvement of vocabulary skills within the experimental group, while an independent sample t-test compared the experimental group taught using Kahoot! to the control group taught using conventional methods. Researchers interpreted the results to answer the research questions and determine if Kahoot! significantly improved students' vocabulary skills.

3 RESULTS

3.1 Test Instrument Data Analysis

3.1.1 Normality Test

Table 3.1 Normality Test Result

group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
score						
Control Pretest	.103	30	.200*	.969	30	.514
Control Posttest	.103	30	.200*	.969	30	.514
Experimental Pretest	.093	30	.200*	.980	30	.838
Experimental Posttest	.099	30	.200*	.971	30	.568

a. Lilliefors Significance Correction

The normality test results showed that the pre-test and post-test scores of both the experimental and control groups were normally distributed, as the significance values were greater than 0.05. This indicates that the data fulfilled the assumption of normal distribution required for parametric statistical analysis.

3.1.2 Homogeneity Test

Table 3.2 Homogeneity Test

		Levene Statistic	df1	df2	Sig.
Score	Based on Mean	.015	1	118	.902
	Based on Median	.004	1	118	.952
	Based on Median and with adjusted df	.004	1	117.902	.952
	Based on trimmed mean	.015	1	118	.904

Subsequent to the implementation of the homogeneity test, it was ascertained that the variability between the two groups was consistent, as evidenced by a significance value that surpassed 0.05. This confirms that both groups had similar variance and were statistically comparable prior to hypothesis testing.

3.1.3 Descriptive Statistics

Table 3.3 Descriptive Statistics Result

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Control Group	30	20	70	40.67	12.914
Post test Control Group	30	25	75	45.67	12.914
Pretest Experimental Group	30	40	90	63.83	12.504
Post test Experimental Group	30	50	95	73.67	12.172
Valid N (listwise)	30				

A subsequent descriptive analysis of the experimental group demonstrated a significant improvement in vocabulary scores after the treatment. The experimental group exhibited a post-test mean score of 73.67, whereas the control group attained a mean score of 45.67. This discrepancy signifies a substantial enhancement in the group instructed using Kahoot! in comparison to the conventional approach.

3.1.4 Paired Sample T-Test

Table 3.4 Descriptive Analysis Result

Table 8.11 Descriptive Statistics Result										
		Paired Differences						t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	Experimental pre test - Experimental post test	-9.833	,913	,167	-10.174	-9.492	-59.000	29	,000	

The findings of the paired samples t-test analysis demonstrated that the Sig. (2-tailed) value obtained for the experimental group was 0.000, which is substantially below the predetermined

alpha level of 0.05. This result indicates that there was a statistically significant difference between students' pre-test and post-test scores within the experimental group. In other words, the improvement observed after the implementation of the treatment was not due to random variation, but reflected a meaningful increase in students' vocabulary performance following the use of the interactive quiz.

Additionally, the results of the independent samples t-test yielded a significant result. The two-tailed value was recorded as 0.000, which falls below the 0.05 significance level. The present analysis corroborates the hypothesis that a statistically significant disparity in post-test scores was observed between the experimental group and its corresponding control group. The comparison indicates that students who received instruction through the interactive quiz demonstrated higher vocabulary gains than those who were taught using conventional methods. The statistical results show the treatment improves students' vocabulary.

4 CONCLUSIONS

The results of this research indicate that the implementation of Kahoot! has a significant positive impact on students' vocabulary achievement. Learners who received instruction through Kahoot! obtained higher post-test scores than those who were taught using traditional teaching approaches. Statistical analyses further verified that the observed improvement was statistically significant, both in terms of the progress within the experimental group from pre-test to post-test and in the comparison between the experimental and control groups.

The application of Kahoot! in vocabulary learning aligns with the theoretical foundations of the Testing Effect and Cognitive Load Theory. Through repeated retrieval practice and immediate feedback, students are encouraged to actively recall vocabulary items, thereby strengthening memory retention. At the same time, the structured and interactive format of Kahoot! helps manage cognitive load by presenting learning materials in an organized and engaging manner. Based on these findings, Kahoot! can be regarded as an effective and motivating instructional medium for improving vocabulary mastery among junior high school students. For further investigation, it is advisable that future studies include a larger number of participants, extend the duration of the treatment, and explore its impact on other language skills to generate more comprehensive and generalizable results.

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