

The Effectiveness of Kahoot! for Fourth Grade Students' Vocabulary Mastery at MI Mambaul Ulum Dahu

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Abstract: Vocabulary mastery is an essential aspect of English language learning because it supports students' ability to understand, communicate, and develop other language skills. However, many elementary school students experience difficulties in acquiring and retaining English vocabulary. This study aims to examine whether Kahoot!-based learning is associated with improvement in fourth-grade students' vocabulary mastery. The study employed a pre-experimental design using a one-group pre-test and post-test approach. The participants were 26 fourth-grade students of MI Mambaul Ulum Dahu, selected through a total sampling technique. Data were collected through pre-test and post-test vocabulary assessments. Because the data were not normally distributed, the Wilcoxon Signed-Rank Test was used to examine the difference between pre-test and post-test scores. The findings showed that post-test scores were higher than pre-test scores. The highest score increased from 42 to 70, while the lowest score increased from 16 to 46. However, all students' scores remained below the predetermined Minimum Mastery Criterion (KKM) of 75. The Wilcoxon test produced a significance value of 0.001 ($p < 0.05$), indicating a statistically significant difference between the two sets of scores. These findings suggest that Kahoot!-based learning was associated with improved vocabulary scores, although the results should be interpreted cautiously because the study used a one-group pre-test and post-test design and the students did not reach the KKM. Kahoot! may therefore serve as a useful interactive medium to support vocabulary learning among elementary school students.

Keywords: Kahoot!, vocabulary mastery, English learning, elementary school students, gamified learning.

INTRODUCTION

Vocabulary is one of the most essential components in learning English because it serves as the foundation for developing the four language skills: listening, speaking, reading, and writing. Students who possess sufficient vocabulary knowledge are able to comprehend spoken and written texts, express their ideas effectively, and communicate appropriately in various contexts. Nation (2001) states that vocabulary knowledge plays a crucial role in language use because learners cannot communicate effectively without adequate vocabulary.

However, vocabulary learning remains a challenge for many elementary school students. Based on preliminary observations conducted at MI Mambaul Ulum Dahu, fourth-grade students encountered difficulties in memorizing English words, understanding word meanings, and using vocabulary appropriately during classroom activities. Furthermore, students tended to demonstrate low participation and motivation during English lessons because conventional teaching methods often created monotonous learning situations. Cameron (2001) argues that young learners require meaningful, enjoyable, and interactive learning experiences to facilitate effective vocabulary acquisition.

To overcome these problems, teachers need to integrate innovative instructional media into classroom practices. One of the digital learning media that can be implemented is Kahoot!, a game-based learning platform that allows teachers to create interactive quizzes and encourages active student participation. According to Wang and Tahir (2020), Kahoot! creates a motivating and engaging learning environment that positively influences students' learning outcomes.

Several previous studies have reported positive findings regarding the implementation of Kahoot! in language learning. Zulfirah, Darmawan, and Ma'ulana (2023) found that Kahoot! significantly improved students' vocabulary mastery by increasing motivation and engagement. Similarly, Awaludin (2023) revealed that students taught through Kahoot! achieved better learning outcomes than those taught using conventional methods. These findings suggest that Kahoot! has considerable potential to support vocabulary instruction.

METHODS

This study employed a quantitative approach using a pre-experimental design with a one-group pre-test and post-test design. The study was conducted at MI Mambaul Ulum Dahu during the first, second, and third weeks of May 2026. The population consisted of all fourth-grade students at MI Mambaul Ulum Dahu. Since the population was relatively small, total sampling was applied. Consequently, all 26 students participated as the research sample. The primary instrument used in this study was a vocabulary test consisting of multiple-choice questions administered as both a pre-test and post-test. The tests assessed students' vocabulary knowledge, including word meanings, synonyms, antonyms, and vocabulary usage in context.

Data collection was carried out through three stages. First, students completed a pre-test to identify their initial vocabulary mastery. Second, the researcher implemented Kahoot!-based vocabulary learning through three treatment sessions. During these sessions, students learned vocabulary related to "Between My Room" and practiced using prepositions through interactive quizzes. Finally, a post-test was administered to measure students' vocabulary mastery after the treatment.

The collected data were analyzed quantitatively using IBM SPSS Statistics. Since the data were not normally distributed, the Wilcoxon Signed-Rank Test was employed to determine whether there was a statistically significant difference between pre-test and post-test scores. The level of significance was set at 0.05.

RESULTS AND DISCUSSION

Research Question 1: How is students' vocabulary mastery before and after being taught using Kahoot!?

The findings indicate that students' vocabulary scores improved after the implementation of Kahoot!-based learning. Before the treatment, students' pre-test scores were relatively low and remained below the Minimum Mastery Criterion (KKM) of 75. The highest pre-test score was 42, while the lowest was 16, indicating that the students' initial vocabulary mastery was still limited and required improvement.

After participating in Kahoot!-based learning activities, students demonstrated higher post-test scores. The highest post-test score increased to 70, whereas the lowest increased to 46. Nevertheless, all students' scores remained below the KKM of 75. Therefore, the increase in scores should be interpreted as positive learning progress rather than evidence that the students had achieved the expected mastery criterion.

The improvement in scores may be related to the interactive features of Kahoot!. During the three treatment sessions, students responded to vocabulary questions through an interactive quiz format, received direct feedback, and participated in a game-like learning activity. These features may have encouraged active participation, repeated exposure to vocabulary, and greater motivation to answer questions. Wang and Tahir (2020) explain that Kahoot! can support learning performance and classroom dynamics, while Nupus and Qomaruzzaman (2026) report that its interactive, competitive, and enjoyable nature can support vocabulary learning through motivation, repetition, and feedback. In the present study, students also showed greater enthusiasm during the activities. Thus, the interactive and game-based format may have contributed to the observed improvement, although the one-group design does not allow the improvement to be attributed to Kahoot! alone.

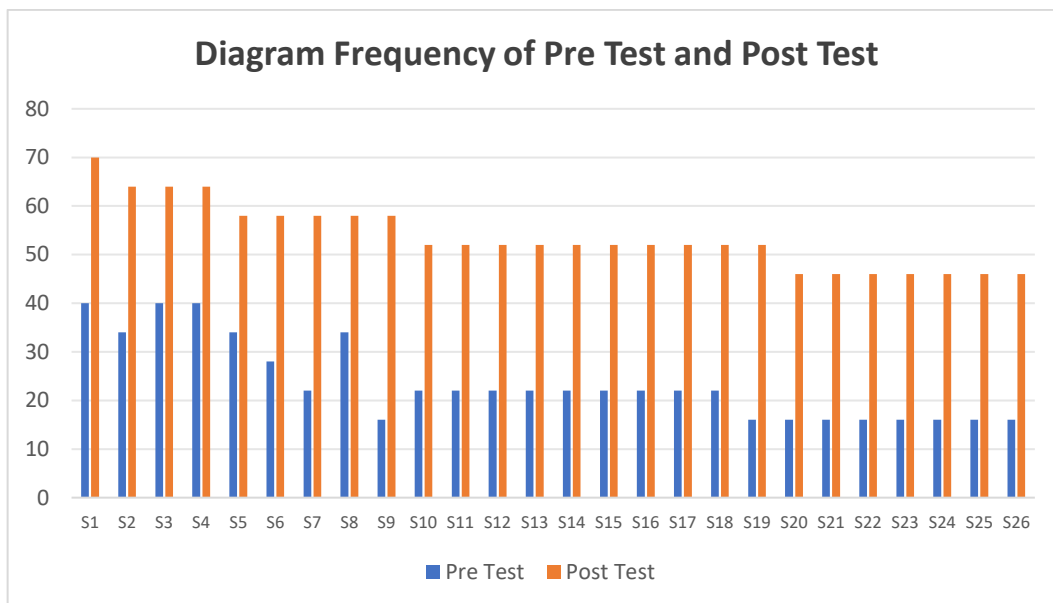


Figure 1. Pre-Test and Post-Test Scores

To examine the difference between the pre-test and post-test scores, the researcher conducted a Wilcoxon Signed-Rank Test. The results revealed that none of the 26 students experienced a decrease in their scores after the treatment. All students demonstrated improvement, as indicated by positive ranks. The mean rank was 13.50, and the sum of ranks was 351.00.

Furthermore, the hypothesis testing produced an Asymp. Sig. (2-tailed) value of 0.001, which was lower than the significance level of 0.05 ($0.001 < 0.05$). Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. This result indicates a statistically significant difference between students' pre-test and post-test scores. However, this statistical difference should not be interpreted as conclusive evidence of Kahoot!'s causal effectiveness because the study used only one group without a control group.

These findings are broadly consistent with previous studies reporting positive outcomes from Kahoot!-based vocabulary learning. Zulfirah et al. (2023) reported improved vocabulary mastery following the use of Kahoot!, while Awaludin et al. (2023) examined Kahoot! in vocabulary learning and found higher average scores in the experimental group, although the difference in that study was not statistically significant. Nupus and Qomaruzzaman (2026) also reported significant improvement after Kahoot!-based vocabulary instruction. These studies indicate that Kahoot! can support vocabulary learning, but the present study's findings should be understood within its specific sample, design, and mastery results.

The present findings also support the view that game-based and interactive learning environments can encourage student engagement. However, because the highest post-test score was 70 and the KKM was 75, the observed improvement did not result in mastery of the predetermined criterion. The most appropriate interpretation is therefore that Kahoot!-based learning was associated with a statistically significant improvement in vocabulary scores, while further research with a larger sample and a control group is needed to establish its effectiveness more conclusively.

CONCLUSION

The findings of this study demonstrate that students' vocabulary scores improved after the implementation of Kahoot!-based learning. The post-test scores were higher than the pre-test scores, with the highest score increasing from 42 to 70 and the lowest score increasing from 16 to 46. However, all students remained below the KKM of 75. Thus, the improvement represents positive learning progress, but it should not be interpreted as complete mastery. The Wilcoxon Signed-Rank Test showed a significance value of 0.001, which was lower than 0.05, indicating a statistically significant difference between the pre-test and post-test scores. These findings suggest that Kahoot!-based learning was

associated with improved vocabulary scores and may be a useful interactive medium for elementary English learning. Nevertheless, because this study used a one-group pre-test and post-test design without a control group and the students did not reach the KKM, the effectiveness of Kahoot! should be interpreted cautiously. Future studies using a control group and a larger sample are recommended to provide stronger evidence.

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