

An Experimental Study of Kahoot in Enhancing Vocabulary Mastery for Elementary Students

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Introduction

Background of The Study

- English vocabulary learning remains a challenge for elementary school students in Indonesia due to limited exposure to interactive and engaging learning tools. Observations of 4th-grade students at Wunut 2 Elementary School indicate that many still rely heavily on textbooks and passive learning methods, resulting in low participation and limited vocabulary retention. In recent years, digital tools such as Kahoot have emerged as innovative platforms that can boost student motivation and engagement through gamified learning features such as real-time quizzes, instant feedback, and competitive assessments. However, most existing research focuses on how Kahoot improves motivation, rather than on concrete language skills such as vocabulary mastery. Therefore, this study was conducted to examine the effectiveness of Kahoot in improving vocabulary learning outcomes in the context of elementary English education.

Introduction

Data Collection Gap

Previous Research	This Research
<ul style="list-style-type: none">• The research conducted by Muhridza et al. (2018) used Kahoot to foster student engagement and improve learning outcomes through interactive classroom activities.• The research conducted by Licorish et al. (2018) implemented Kahoot to enhance classroom dynamics and increase student motivation during learning sessions.• The research conducted by Garza et al. (2023) applied Kahoot in higher education, specifically in medical courses, and found that it could improve and even predict students' final exam results.	<ul style="list-style-type: none">• Focuses on vocabulary mastery, not just engagement.• Targets elementary-level students, a group often overlooked in digital gamification studies.• Uses a true experimental design with pre- and post-tests to measure vocabulary learning outcomes directly.• Seeks to determine whether Kahoot can significantly improve vocabulary acquisition compared to conventional teaching media.

Research Question

- “Can the use of Kahoot improve students' vocabulary mastery in English learning at the elementary school level?”

Methods

- **Design**

Using quantitative methods of true experimental design with control and experimental groups.

- **Participants**

36 fourth-grade students from an elementary school with sufficient digital facilities:

- a) 18 students in the experimental group (used Kahoot)
- b) 18 students in the control group (used conventional methods)

- **Instruments:**

- a) Pre-Test: measured students' vocabulary knowledge before treatment
- b) Treatment:
 - 1. Experimental: interactive quizzes using Kahoot
 - 2. Control: textbook-based learning and teacher explanations
- c) Post-Test: same format as pre-test to measure improvement

Methods

- **Assessment**

Vocabulary comprehension and usage in both written and oral forms.

- **Data Analysis**

Using paired sample t-test (for within-group comparison) and independent sample t-test (for between-group comparison) with SPSS version 26.

Results

Paired Samples T-Test

	Mean Difference	Std. Deviation	Std. Error Mean	95% CI (Lower)	95% CI (Upper)	t	df	Sig. (2-tailed)
Pair 1 (Control)	-6.33333	4.75271	1.12022	-8.69687	-3.96987	-5.654	17	0.000
Pair 2 (Kahoot)	-26.27778	12.52201	2.95147	-32.50483	-20.05073	-8.903	17	0.000

- Control Group

Pre-test: 61.06 | Post-test: 67.39

→ There was an increase in scores after the treatment. The paired-sample t-test showed a p-value of 0.000 (<0.05), indicating a significant difference between the pre-test and post-test. This indicates that the conventional method still had a positive effect on improving vocabulary mastery.

- Experimental Group (Kahoot)

Pre-test: 54.06 | Post-test: 80.33

→ The increase in scores was significantly greater after the treatment. The p-value of 0.000 (<0.05) indicates a highly significant increase. This means that using Kahoot as a learning medium can improve vocabulary mastery more effectively than conventional methods.

Results

Independent Samples T-Test for Post-Test Scores

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI (Lower)	95% CI (Upper)
Equal variances assumed	-2.660	34	0.012	-12.944	4.867	-22.835	-3.054
Equal variances not assumed	-2.660	32.582	0.012	-12.944	4.867	-22.851	-3.038

- Post-test average:

Control: 67.39 | Experimental: 80.33

→ The experimental group's final score was higher. The independent samples t-test yielded a p-value of 0.012 (<0.05), indicating a significant difference between the two groups. The average difference in scores was 12.94 points, and the effect size (Cohen's d) of 0.89 indicated a significant statistical and educational impact. This proves that Kahoot is more effective than conventional methods in improving students' vocabulary mastery.

Discussion

Discussion

- The use of Kahoot significantly improves elementary school students' vocabulary mastery compared to conventional methods.
- Aligned with constructivist theory: interactive learning encourages engagement and deeper understanding.
- The gamification design (quick quizzes, scoring, and immediate feedback) increases student engagement, motivation, focus, and retention.
- Relevant to the national curriculum, which supports an active and digital-based approach.

conclusion

This study concludes that Kahoot is an effective digital tool for improving vocabulary mastery among elementary students. Its integration into English lessons resulted in significantly higher learning outcomes compared to traditional methods. Its interactive and game-based features support not only language development but also create a more dynamic and enjoyable classroom atmosphere. These findings suggest that incorporating technology like Kahoot can modernize vocabulary instruction and better meet the learning needs of young students in today's digital age.

Documentation



