
Academia Open



By Universitas Muhammadiyah Sidoarjo

Academia Open

Vol. 10 No. 1 (2025): June
DOI: 10.21070/acopen.10.2025.11919

Table Of Contents

Journal Cover	1
Author[s] Statement	3
Editorial Team	4
Article information	5
Check this article update (crossmark)	5
Check this article impact	5
Cite this article	5
Title page	6
Article Title	6
Author information	6
Abstract	6
Article content	7

Originality Statement

The author[s] declare that this article is their own work and to the best of their knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the published of any other published materials, except where due acknowledgement is made in the article. Any contribution made to the research by others, with whom author[s] have work, is explicitly acknowledged in the article.

Conflict of Interest Statement

The author[s] declare that this article was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright Statement

Copyright © Author(s). This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licences/by/4.0/legalcode>

Academia Open

Vol. 10 No. 1 (2025): June
DOI: 10.21070/acopen.10.2025.11919

EDITORIAL TEAM

Editor in Chief

Mochammad Tanzil Multazam, Universitas Muhammadiyah Sidoarjo, Indonesia

Managing Editor

Bobur Sobirov, Samarkand Institute of Economics and Service, Uzbekistan

Editors

Fika Megawati, Universitas Muhammadiyah Sidoarjo, Indonesia

Mahardika Darmawan Kusuma Wardana, Universitas Muhammadiyah Sidoarjo, Indonesia

Wiwit Wahyu Wijayanti, Universitas Muhammadiyah Sidoarjo, Indonesia

Farkhod Abdurakhmonov, Silk Road International Tourism University, Uzbekistan

Dr. Hindarto, Universitas Muhammadiyah Sidoarjo, Indonesia

Evi Rinata, Universitas Muhammadiyah Sidoarjo, Indonesia

M Faisal Amir, Universitas Muhammadiyah Sidoarjo, Indonesia

Dr. Hana Catur Wahyuni, Universitas Muhammadiyah Sidoarjo, Indonesia

Complete list of editorial team ([link](#))

Complete list of indexing services for this journal ([link](#))

How to submit to this journal ([link](#))

Academia Open

Vol. 10 No. 1 (2025): June
DOI: 10.21070/acopen.10.2025.11919

Article information

Check this article update (crossmark)



Check this article impact ^(*)



Save this article to Mendeley



^(*) Time for indexing process is various, depends on indexing database platform

Kahoot Improves Elementary Students Vocabulary Mastery in Experimental Study

Indah Putri Lestari, indahputriilestarii15@gmail.com (*)

Universitas Muhammadiyah Sidoarjo, Indonesia

Yuli Astutik, yuliasutik@umsida.ac.id

Universitas Muhammadiyah Sidoarjo, Indonesia

(*) Corresponding author

Abstract

General Background: The integration of gamified digital tools in education has been widely recognized as a means to increase student engagement and motivation. **Specific Background:** Interactive platforms such as Kahoot provide time-based quizzes, instant feedback, and competitive elements that may support language learning in elementary classrooms. **Knowledge Gap:** Despite extensive research on motivation and general outcomes, limited empirical evidence addresses concrete linguistic gains, particularly vocabulary mastery among young learners. **Aims:** This study investigates whether Kahoot-based instruction leads to greater vocabulary acquisition than conventional teaching methods among fourth-grade elementary students. **Results:** Using a true experimental pre-test-post-test design with 36 students, both groups improved, but the Kahoot group achieved substantially higher gains, with a statistically significant difference in post-test scores ($p = 0.012$) and a large effect size. **Novelty:** The study contributes direct experimental evidence focusing on vocabulary mastery rather than engagement alone in elementary English education. **Implications:** The findings indicate that integrating game-based digital platforms into language instruction can support active participation and measurable vocabulary development, suggesting practical value for teachers seeking interactive approaches aligned with contemporary curricula.

Highlights:

- Learners using interactive quizzes achieved markedly larger score gains than those taught with textbooks and worksheets.
- Both instructional approaches produced progress, but the digital game group demonstrated a substantially wider improvement margin.
- Statistical testing confirmed a significant difference between groups, indicating strong educational relevance of the treatment.

Keywords:

Kahoot; Gamified Learning; Vocabulary Mastery; Elementary English Education; Experimental Study

Published date: 2025-06-21

Introduction

The advancements in technology in education have facilitated the emergence of a diverse array of digital learning mediums that are increasingly characterized by their innovative and interactive nature. In contemporary educational paradigms, technology serves not merely as an instrument for learning but also as a mechanism to enhance student motivation and engagement throughout the educational process [1]. The younger demographic, particularly those enrolled in elementary education, demonstrates a heightened interest in the learning experience when utilizing media beyond textbooks, such as visual and interactive educational tools, thereby underscoring the necessity for learning media that can effectively captivate their attention [2].

One of the main challenges in English language instruction at the elementary level is maintaining students' interest and encouraging active participation. Conventional learning media, such as textbooks, often fail to foster engagement and can limit opportunities for interactive language practice [3]. To address this, various types of instructional media—visual (pictures, flashcards, videos), audio (songs, voice recordings), interactive (apps, games), and print (storybooks, posters)—can be integrated into English language learning to increase motivation and involvement [4]. These tools promote active learning and help students participate meaningfully in the classroom.

In recent years, Kahoot has emerged as one of the most popular interactive platforms in education. As a game-based learning tool, it integrates features like time-based quizzes, instant feedback, and competitive scoring to encourage participation. Research shows that Kahoot can foster student engagement and simultaneously enhance learning outcomes [5], as its competitive and interactive features make learning more enjoyable and motivating [6]. A study by Stakhova et al [7] highlighted that Kahoot not only enhances student engagement but also helps improve teachers' digital competence. Additionally, [8] found that Kahoot positively influences classroom dynamics and student motivation, while [9] emphasized its potential to create more engaging environments that lead to improved outcomes. Even in higher education contexts, such as in a medical course, Kahoot has been shown to improve and predict final grades [10].

While most studies emphasize motivation and engagement, this study focuses on language-specific outcomes, namely, vocabulary mastery and pronunciation. These linguistic aspects are often underrepresented in existing studies of Kahoot. At the elementary level, students still struggle with English vocabulary and pronunciation due to limited exposure and the prevalent use of conventional, passive instructional methods [11][12][13]. Moreover, the lack of digital and interactive tools in many classrooms can reduce student interest and participation. Studies suggest that integrating tools like Kahoot can overcome these barriers by promoting interactive and responsive learning environments [14][15].

Therefore, this study investigates the role of Kahoot in enhancing elementary students' English vocabulary mastery, distinguishing itself from prior research by emphasizing specific linguistic outcomes. By comparing the use of Kahoot with textbooks, student worksheets, and teacher explanations using a whiteboard as a learning media, this study provides insights into how digital gamification can support young learners in acquiring core language skills more effectively. Thus, the research question is: To what extent does the use of Kahoot improve vocabulary mastery compared to textbooks, student worksheets, and teacher explanations using the whiteboard as a learning media among elementary school students?

Method

A. Research Design

This study employed a quantitative approach using a true experimental design to examine the effect of Kahoot in enhancing elementary school students' vocabulary mastery. A pre-test was administered to both the experimental and control groups to assess students' baseline vocabulary knowledge before any instructional intervention. Following this, the treatment phase was conducted over several English learning sessions, during which the experimental group received instruction using Kahoot-based interactive quizzes, while the control group was taught using textbooks, student worksheets and whiteboard explanations as learning media. After the instructional period, a post-test with the same format as the pre-test was given to both groups to measure the improvement in vocabulary mastery and to determine the effectiveness of the respective teaching methods. The design involved two groups: an experimental group that used Kahoot as an interactive learning tool, and a control group that uses textbook teaching media, student worksheets, and explanations from the teacher using a whiteboard. The research was conducted from January to February 2025, during several English learning sessions with 4th-grade elementary school students with two classes, 4A and 4B, a total of 36 students, each class consisting of 18 students. The study was carried out in schools that had sufficient access to technological devices such as laptops, projectors, or mobile phones to ensure the effective implementation of Kahoot. The rationale for selecting this grade level was that elementary students are in the early stage of language development, and thus are more likely to benefit from interactive learning tools like Kahoot.

B. Participants

The participants consisted of 36 fourth-grade students from SDN Wunut 2, a school equipped with adequate technological facilities. The students were drawn from two classes, 4A and 4B, with each class comprising 18 students. They were divided evenly into two groups: Experimental group: 18 students received instruction using Kahoot as the learning medium. Control group: 18 students received instruction using conventional methods, such as textbooks and whiteboard explanations. The students were selected from two intact classes and were randomly assigned as control and experimental groups.

C. Instruments and Procedures

Vocabulary mastery was measured using pre-tests and post-tests administered to both groups. These tests assessed students' comprehension of English vocabulary in both written and oral formats and were designed based on the theme "**Daily Activities**", aligned with the fourth-grade English curriculum.

The test consisted of six parts with various task types to evaluate different aspects of vocabulary mastery:

1. Short Answer Questions (e.g., mentioning daily activities),
2. Translation Tasks (translating vocabulary items from English to Indonesian)
3. Sentence Reordering (arranging jumbled words into proper English sentences)
4. Gap-Fill Exercises (selecting appropriate verbs to complete simple sentences)
5. Free/Guided Writing (writing 3 simple sentences about daily routines)
6. Multiple Choice/Matching Tasks (in post-test only).

Each test included approximately **15-18 items**, and a clear **assessment rubric** was used to score responses objectively. Each section carried a specific score weight, with the total maximum score being 100 points.

The tests were validated through expert assessment by two English language education lecturers and one English teacher at SDN Wunut 2, who reviewed the relevance of the content, clarity, and alignment of the items with the curriculum. Additionally, a pilot test was conducted with a different fourth-grade class to ensure the reliability and clarity of the instructions and question format.

The pre-test (Q1) was administered before the learning intervention to determine the baseline vocabulary knowledge of the students. After the series of instructional sessions, a post-test (Q2) was conducted using the same format to assess improvements. The treatment for the control group involved conventional instructional methods, including the use of textbooks, printed worksheets, and explanations from the teacher using whiteboards or visual aids. In contrast, the experimental group used Kahoot quizzes as the primary instructional tool. First, the teacher teaches the "daily activity" material using PPT. Before teaching with Kahoot, the teacher first explains Kahoot as a learning medium to the students. After that, the teacher uses Kahoot, which contains vocabulary quizzes relevant to the material being taught, which students complete individually or in groups using the device. Feedback and explanations are provided based on the Kahoot responses, especially focusing on incorrect answers.

D. Data Analysis

The quantitative data collected from the pre-test and post-test scores were analyzed using statistical tests. Paired sample t-tests were conducted within each group to examine improvements before and after the intervention. An independent sample t-test was used to compare the post-test scores between the experimental and control groups. A significance level of 0.05 was used to determine the statistical significance of the results.

Results and Discussion

A. Result

This section presents the results of the statistical analyses conducted to examine the effect of Kahoot in improving elementary school students' vocabulary mastery. The data analysis included descriptive statistics, paired samples t-tests, and independent samples t-tests.

1. Descriptive Statistics

Table 1 shows the mean scores, standard deviations, and standard errors of the pre-test and post-test results in both control and experimental groups.