



The Influence of Game-Based Learning Using Kahoot on The English Vocabulary Mastery of Freshmen

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Abstract

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This research investigates the impact of game-based learning through the kahoot platform on the English vocabulary proficiency of first-year students enrolled in the English study program at Tribuana university of Kalabahi. Utilizing a quasi-experimental design featuring a single group with pre-tests and post-tests, the study include 22 students from the 2024/2025 academic year. Data collection methods comprised vocabulary tests, questionnaires, classroom observations, and semi-structures interviews. The findings indicated a statistically significant enhancement in students' vocabulary scores following the kahoot-based intervention ($p < 0.001$), with the average score increasing by 4 points. Insights from the the questionnaires and interviews highlighted elevated levels of student motivation, enjoyment, and engagement. Students expressed that kahoot's interactive elements, including real-time feedback and gamified quizzes, enriched their learning experience and facilitated more effective vocabulary acquisition.

Observations also revealed heightened participation and collaboration during the learning sessions. Despite encountering minor issues such as internet connectivity, these challenges did not substantially impede the learning process. It can be said that kahoot serves as an effective digital learning resource for improving vocabulary mastery while promoting a more dynamic, inclusive, and student-centered learning atmosphere. These results imply that incorporating gamified learning platforms can be a beneficial approach in English language instruction, especially with higher education settings taht cater to diverse learner needs

Keywords: Kahoot, vocabulary learning, game-based learning, student engagement, language education

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INTRODUCTION

Vocabulary mastery is one of the most crucial components in learning English. A strong vocabulary foundation not only facilities students' comprehension of the texts but also enhances their oral and written communication skills (Hiebert, 2020). Vocabulary plays a vital role in supporting language skills, including listening, speaking, reading, and writing (Ricketts et al., 2007). Without adequate vocabulary, language learnes often face difficulties in understanding and articulation ideas or infromation in English (Afzal, 2019). Effective vocabulary mastery allows individuals to articulate their thoughts clearly and comprehend messages accurately (McKeown, 2019). Conversely, insufficient vocabulary can hinder effective communication, even when grammatical structures and sentence composition are well understood (Solanki et al., 2020). Building a rich vocabulary

involves consistent practice and exposure to new words through various mediums, such as reading diverse texts, engaging in conversations, and utilizing vocabulary-building exercise (Kacani & Cyfeku, 2015).

At the higher education level, especially among first-year students, limited vocabulary mastery often becomes a significant barrier to learning English. This limitation can lead to challenges in both academic performance and social interactions, making it essential for educators to implement targeted strategies that support vocabulary development (Sari & Wardani, 2019). This challenge is particularly evident among students who come from learning environments where English is not integrated into daily conversation. Therefore, vocabulary mastery requires more innovative, interactive, and adaptive pedagogical strategies (Nancy et al., 2020). The integration of technology and digital resources has emerged as an effective strategy to enhance vocabulary acquisition by providing access to engaging and relevant materials (Rasti-Behbahani, 2021).

Kahoot, a game-based learning platform designed for creating an engaging, competitive, and interactive learning experience, is one of the most effective tools for improving vocabulary acquisition in English language learning. Kahoot's dynamic features encourage students to participate in real-time tests, boosting collaboration and communication among classmates while increasing their grasp of the terminology taught. Furthermore, this platform provides analytics on the findings, which can assist teachers in measuring student development and altering their educational approaches to better meet the needs of learners. The use of Kahoot in the learning context not only promotes student engagement but also fosters a dynamic and enjoyable classroom environment that encourages students to participate in active learning (Rojabi et al., 2022). Kahoot's customizable quiz topics and formats enable instructors to create relevant and interesting content that is suited to the learning material (Ulandari et al., 2022). As a result, the platform has developed as a valuable tool for improving the learning experience, enabling instructors to utilize technology in novel and participatory ways. Kahoot also gives rapid feedback from students, which can assist educators in discovering information that pupils do not yet understand and require extra explanation (Nadeem & Al Falig, 2020). Using this strategy, instructors can improve their teaching approaches to match the specific requirements of students, providing an inclusive and responsive learning environment. Kahoot not only increases student engagement but also encourages collaboration among students, making the learning experience more in-depth and sustainable. This study was motivated by the need to explore the effectiveness of game-based learning media in English vocabulary mastery among freshmen. As technology advances, innovative learning approaches such as the use of Kahoot become relevant to be applied in the language teaching process, especially in increasing student attraction and engagement. Therefore, the formulation of the problem that is the focus of this study includes three main things. First, what is the level of English vocabulary mastery of freshmen in the English Study Program, at Tribuana University of Kalabahi before and after the implementation of game-based learning using Kahoot? Second, to what extent does the use of Kahoot as a game-based learning media affect the improvement of English vocabulary mastery of freshmen? Third, what factors influence the effectiveness of using Kahoot in improving freshmen's English vocabulary

mastery? Based on the formulation of the problem, this study aims to analyze the level of vocabulary mastery of students before and after the use of Kahoot, to determine the extent of the positive influence of this media on vocabulary learning achievement, and to identify factors that support or hinder its implementation in the learning process. The benefits of this research are expected to contribute to the development of more interactive and enjoyable English teaching methods, as well as being a reference for lecturers and educational institutions in integrating game-based technology to improve student learning outcomes, especially in terms of vocabulary mastery.

METHODS

This study took a quantitative approach, employed a quasi-experimental research method with a one-group pre-and post-test design. This design was chosen because it allows the researcher to assess the impact of a treatment on a specific group of individuals before and after it is provided. The primary goal of this research is to determine how much game-based learning using Kahoot platform can promote English vocabulary mastery among first-year students in the English study program at Tribuana University of Kalabahi.

The study's subjects were 22 first-year from the 2024/2025 academic year who were chosen specifically for their active participation in the basic English learning process. This group was not divided into experimental and control groups; rather, all participants received the same treatment: English vocabulary acquisition using the Kahoot platform. Purposive sampling was utilized in this study, taking into account that the students who participated had generally similar backgrounds in basic English knowledge and had access to digital to participate in Kahoot quizzes.

This study's instruments included three types: a vocabulary proficiency test, a Likert scale questionnaire, observation sheets, and semi-structured interviews. The vocabulary test included 30 multiple-choice questions in general vocabulary, thematic vocabulary, synonyms, and antonyms. This test was given twice: before (pre-test) and after game-based learning sessions. The Likert-scale questionnaire was used to assess students' impressions of the effectiveness and learning outcomes of Kahoot. The questionnaire included 20 statements about the independent variable (Kahoot usage), 20 statements about dependent variable (vocabulary mastery), and several additional items for the control variable (such as self-study frequency, technological experience, and learning motivation).

The research methodology was executed across four distinct sessions, each with a duration of 90 minutes. In the initial session, students took a pre-test and received an introduction to the utilization of the Kahoot platform. Throughout the second to fourth sessions, students engaged in vocabulary acquisition through interactive Kahoot quizzes, which were meticulously designed in alignment with thematic topics such as professions, hobbies, the environment, and daily life. Each session encompassed explanations, exercises, reflection, and vocabulary reinforcement through repeated engagement with the gameplay. Following the conclusion of the final session, a post-test was administered to assess the advancement in students' vocabulary mastery.

Furthermore, the researcher took direct classroom observation during the instructional sessions to meticulously document students' levels of participation, interaction, enthusiasm, and any challenges encountered. This observation employed a structured observation sheet specifically designed based on indicators of learning engagement. To enhance the robustness of data, semi-structured interviews were conducted with five randomly selected students to delve more profoundly into their perceptions of learning via Kahoot, as well as the factors they perceived to either facilitate or impede the efficacy of the learning process.

RESULTS & DISCUSSION

This section presents the result of the study and detailed discussion based on the analysis of the quantitative and qualitative data. The primary objective was to determine the effectiveness of Kahoot-based game learning in improving English vocabulary mastery among second-semester students in the English study program at Tribuana University of Kalabahi. The rationale behind this investigation stems from the increasing need to modernize instructional strategies in language learning, especially to accommodate the learning preferences of today's digital-native students.

Kahoot, as a game-based learning platform, has gained popularity due to its interactive features and capacity to transform passive learning environments into active ones (Cameron & Bizo, 2019). Its real-time feedback, visual stimulation, and game mechanics offer an innovative alternative to conventional vocabulary teaching methods. This section therefore delves into how such feature not only influenced students' achievement, as shown by improvements in test scores, but also shaped students' motivation, participation, and overall learning experiences. Furthermore, the integration of both statistical data and students' reflections allows for a multidimensional understanding of the research outcomes. The quantitative component provides measurable evidence of academic improvement, while qualitative insights reveal the emotional and cognitive engagement of learners throughout the learning process. The convergence of these two data sources enriches the validity and depth of the conclusions drawn.

Through this combined approach, this section aims to provide a comprehensive overview of the pedagogical value of Kahoot. It also seeks to contribute to broader discussions on the implementation of educational technology in language classrooms, particularly in resource-limited contexts like many rural regions of Indonesia. The findings are expected to inform educators, curriculum developers, and policy makers about the potential of integrating game-based platforms into university-level English instruction.

Results

Quantitative Results

Pre-test and Post-test Analysis

To evaluate the impact of the Kahoot-based vocabulary learning intervention, a paired samples t-test was employed to compare participants' performance before and after the treatment. This statistical method is particularly suitable for measuring changes within the same group over time, allowing for robust assessment of the intervention's effect (Li et al., 2021). The pre-test yielded a mean score of 79.45 (SD = 1.438), while the post-test mean increased to 83.45 (SD =

1.765), demonstrating a mean improvement of 4.00 points. The descriptive statistics for both tests are summarized in table 1.

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

Test	N	Mean	Std.Deviation
Pre-test	22	79.45	1.438
Post-test	22	83.45	1.765

To determine the statistical significance of this improvement, a paired samples t-test was conducted. As shown in Table 2, the t-value was -13.594 with 21 degrees of freedom, and the two-tailed significance level (p-value) was less than 0.001.

Table 2. Paired Sample t-Test

Mean Difference	T	df	Sig. (2-tailed)
-4.000	-13.594	21	<0.001

The negative mean difference (-4.000) indicates an increase in performance from the pre-test to the post-test. The extremely low p-value signifies that the observed improvement is statistically significant and unlikely to have occurred by chance. In the other words, the intervention had a measurable and reliable effect on vocabulary acquisition among the students. Additionally, the small standard deviations in both test results suggest that the score were relatively homogeneous, indicating a consistent pattern of improvement across the sample.

These finding provide strong empirical support for the effectiveness of using Kahoot as a digital tool for vocabulary instruction. The results align with the principles of active learning and gamification, which emphasize the importance of learner engagement, interactivity, and immediate feedback in enhancing cognitive outcomes (Khaleel et al., 2020). Active learning theory suggests that students retain more information when they are actively involved in the learning process rather tahn passively receiving information (Dogani, 2023) Kahoot supports this by encouraging students participationm desicion-making, and real-time response to question.

Moreover, gamification theory, as discussed by Kutun et al., (2021), highlights how game elements such as points, competition, and instant feedback can increase motivation and tas engagement. In this study, Kahoot incorporated these elemements to create a dynamic and enjoyable learning experience, which likely contributed to the increase in vocabulary score. The competitive yet low-stakes environment fostered by Kahoot may also help reduce the affective filter (Wang, 2020), allowing students to engage more freely and confidently with new vocabulary.

Furthermore, the equitable improvement observed accross all participants suggests that the intervention was inclusive and accessible, benefiting students regardless of their initial proficiency level. This supports the notion that digital

tools, when properly integrated into instruction, can bridge learning gaps and promote more equitable educational outcomes (Wang, 2020). In this study, Kahoot not only served as a means of assessment but also as an instructional strategy that contributed meaningfully to the development of English vocabulary mastery.

Questionnaire Analysis

The students perception questionnaire was designed to assess learners' attitudes regarding kahoot. It comprised 20 meticulously formulated items that investigated students' perspective on effectiveness, engagement, motivation, and user-friendliness of employing kahoot in the context of vocabulary acquisition. The data collected from these items were subjected to descriptive statistical analysis, yielding profound insights into students' reactions to the incorporation of this game-based learning tool.

The analysis indicated that the majority of students strongly agreed with positive statements about kahoot's impact. This trend suggests that the platform not only enhanced their understanding of vocabulary but also influenced their emotional and motivational involvement in the learning process. Over 86.4% of students strongly agreed that kahoot helped them understand, retain, and recall vocabulary more easily. Students emphasized that kahoot made vocabulary learning enjoyable and far more interactive than traditional methods. They highlighted specific features such as its dynamic interface, time-bound questions, instant feedback, and competitive leaderboard, all of which contributed to maintaining high levels of engagement. Many students reported looking forward to vocabulary sessions when kahoot was used, a clear indication of increased intrinsic motivation.

Furthermore, the questionnaire results showed that kahoot supported their learning autonomy. It several times revealed that students used the feedback from kahoot quizzes to identify areas where they needed improvement. This reflects an important shift toward learner-centeredness, where students are empowered to take charge of their learning progress. Interestingly, the game-based environment also appeared to lower anxiety levels for some students. It is because the platform allowed for anonymous participation and immediate correction, learners felt more confident trying to answer without fear of public embarrassment. The motivational feedback loops built into kahoot, such as earning points and seeing progress, also helped students feel a sense of achievement. The responses from this questionnaire underscore kahoot's potential to transform vocabulary instruction from a passive, memorization-based task into an active, student-centered experience. It fostered not only cognitive growth through vocabulary acquisition but also affective benefits such as enjoyment, confidence, and enthusiasm for learning. These insights strongly advocate for the wider adoption of interactive tools like kahoot in language education.

Qualitative Results

Observations

Classroom observations during the implementation of game-based learning through kahoot indicated a remarkable transformation in the overall classroom environment. There was a widespread sense of enthusiasm, vibrancy, and focus that set these sessions apart from more conventional, lecture-driven classes. Students were willing and often excited to engage in the activities, frequently displaying heightened motivation and involvement. The anticipation before each quiz round,

the thrill during the countdown, and the celebration of impressive scores illustrated a profound emotional connection to the learning experience.

The engagement was multifaceted. Students went beyond merely answering questions; they actively discussed the meaning of vocabulary, clarified responses with their peers, and even encouraged one another. This level of interaction among students represented a significant transition from passive listening to active collaboration. The competitive yet supportive atmosphere created by Kahoot inspired even the more introverted students to participate vocally and assertively, suggesting that the tool helped dismantle the emotional barriers often encountered in language learning environments.

Remarkably, students who had previously shown minimal engagement in class were observed volunteering answers, posing clarifying questions, and expressing enthusiasm during feedback sessions. The game elements such as music, vibrant visuals, avatars, and rankings, provided a form of multisensory engagement that sustained attention and prevented disengagement. These gamified features transformed vocabulary exercises into opportunities for curiosity and enjoyment, reinforcing the idea that learning can be both rigorous and delightful. Furthermore, the lecturer's role transitioned from being the main source of knowledge to that of a facilitator and guide. The instructor observed and supported rather than controlled the learning environment, empowering students to take greater ownership of their educational journey. The increased independence of students fostered a heightened sense of responsibility in adhering to rules, managing their time, and assisting one another during activities.

While minor challenges emerged, particularly in the form of internet connectivity disruptions, these were addressed promptly. Both students and the instructor adapted swiftly, demonstrating resilience and digital competence. The necessity to navigate these occasional technical difficulties became an unintentional opportunity for students to collaborate and devise solutions. Rather than hindering the learning process, such challenges enriched it by promoting adaptability, patience, and mutual support.

Kahoot significantly enhanced the learning environment. It bridged the divide between content delivery and learner engagement, rendering vocabulary instruction more meaningful. These observations reaffirm the importance of integrating interactive digital tools in the language classroom, not only to improve academic outcomes but also to enrich classroom culture and empower learners.

Semi-Structured Interviews

To enrich the quantitative findings and classroom observations, semi-structured interviews were conducted with five students randomly selected from the research group. These interviews aimed to delve deeper into the students' lived experiences, perceptions, and reflections concerning their engagement with Kahoot-based learning. A thematic analysis of the interview transcripts uncovered five key themes that collectively illuminate the overall impact of the Kahoot intervention.

Fun and Engagement

All participants uniformly described their experiences with Kahoot as "fun", "entertaining", and "motivating". Unlike traditional learning methods, which students often found dull or stressful, Kahoot provided a refreshing break from the usual routine. Students conveyed that the inclusion of vibrant visuals, sound effects,

point systems, and real-time leaderboards turned vocabulary learning into an enjoyable activity. This transformation not only sustained their interest but also made students more enthusiastic about tackling challenging content. One student remarked, *“I didn’t feel like studying—it felt like playing, but I was learning a lot.”*

Increased Attention and Focus

Students noted that the fast-paced and competitive nature of kahoot compelled them to stay focused throughout the lesson. They observed that the countdown timer and scoring system kept them engaged and mentally active. This heightened level of attentiveness, they claimed, aided in better retention of vocabulary items. Words encountered in the quizzes were more likely to stick because they were associated with moments of excitement or competition. The urgency to respond quickly also trained them to think rapidly and recall vocabulary with improved efficiency.

Instant Feedback and Learning from Mistakes

Another prominent theme that emerged was the significance of kahoot’s instant feedback feature. Students appreciated being promptly informed about their correct and incorrect answers, which they believed helped them identify their knowledge gaps in real time. The feedback from the system served as a self-regulation tool, encouraging students to reflect in their performance and improve their skills in subsequent rounds. As one student stated, *“When I got an answer wrong, I made sure to remember the right one the next time. That stuck in my mind better than normal exercises.”*

Peer Learning and Collaboration

Although kahoot is primarily an individual quiz platform, it fosters an environment of informal peer learning. Students often engaged in discussions about questions and answers with their peers during and after the sessions. This social interaction nurtured a sense of camaraderie and collective learning. Rather than creating divisions, friendly competition inspired mutual support. Participants shared that they frequently exchanged strategies and helped one another understand challenging vocabulary, emphasizing the collaborative potential of a tool typically regarded as competitive.

Challenges and Recommendations

While the feedback was largely positive, students highlighted specific areas that could benefit from enhancement. Intermittent internet issues caused interruptions, particularly when students were caught off guard and disconnected during quizzes. A commonly raised issue was the inadequate time provided for answering questions, particularly concerning more complex vocabulary items. Students suggested that future sessions could be improved with slightly longer response times or a review period before the quiz begins. Despite these minor hurdles, all participants expressed their enthusiasm for ongoing use of kahoot in additional courses and subjects, viewing it as a significant enhancement to traditional teaching methods.

These interview findings emphasize the various benefits of kahoot—not merely as an educational tool but also as a facilitator of social-emotional learning. The platform encouraged resilience, collaboration, and metacognitive awareness among students. It fostered a learning experience that went beyond simple

vocabulary acquisition, supporting the development of essential soft skills that are vital for success in both academic and professional settings.

Discussion

The findings of this study reinforce the established literature regarding the advantages of game-based learning in the realm of language acquisition. The statistically significant improvements in vocabulary performance, as demonstrated by the pre-test and post-test outcomes, along with the favorable perceptions highlighted in the questionnaire and interview data, confirm that kahoot functions as an effective educational innovation. This is consistent with earlier research, such as that conducted by Wang (2020), which underscored the importance of gamification in enhancing learning motivation, engagement, and overall results.

When effectively integrated, game-based learning invigorates both cognitive and emotional dimensions. The result of this research bolsters the notion that learners excel in settings that are dynamic, interactive, and emotionally nurturing. Kahoot effectively fulfills these criteria by delivering immediate feedback, engaging visual elements, and a competitive structure that captivates students' attention and enthusiasm throughout the learning process. These features cater to diverse learning styles and reinforce knowledge retention through repetition and reinforcement.

From a theoretical perspective, the findings also align with constructivist theories, which regard learners as proactive participants in their knowledge construction. Kahoot offers a platform that enables students to derive meaning from vocabulary items through repeated contextual exposure and thoughtful feedback. Rather than simply memorizing disconnected words, students engaged in the process of meaning-making that are enhanced by game dynamics, social interaction, and digital support.

The flexibility of kahoot further enhances differentiated instruction. Educators can customize vocabulary quizzes to accommodate varying levels of difficulty, themes, and educational goals. Moreover, kahoot promotes self-paced learning and encourages autonomy, empowering students to take greater responsibility for their learning journey. The data from this study revealed that even students who typically lack confidence or shy away from traditional classroom participation were more engaged, suggesting that kahoot fosters inclusivity within learning environments. Nonetheless, despite the promising potential of kahoot, the implementation of game-based learning is not without its obstacles. As highlighted during the study, technical challenges such as unreliable internet connections and time constraints for short answers were concerns raised by students. These challenges indicate the necessity for schools and institutions to invest in robust technological infrastructure and to offer professional development for educators to effectively utilize digital tools. Additionally, instructors must be attentive to striking a balance between the pace of the game and the cognitive processing time, particularly when addressing more complex language material.

Moreover, the positive influence of kahoot reaches beyond academic success. The platform was found to cultivate soft skills, including collaboration, digital communication, and resilience. Students reported enjoyment in competitive collaboration, demonstrating support and encouragement for one another. These findings emphasize that thoughtfully designed game-based activities can contribute

to a holistic educational experience—not only enhancing test score but also fostering both interpersonal and intrapersonal skills.

In light of these discoveries, educational stakeholders, including curriculum developers, administrators, and educators are urged to incorporate platforms such as Kahoot into their everyday teaching methods. Its ease of use, versatility across various subjects, and capacity to enhance students' engagement render it an invaluable resource, particularly in situations where conventional approaches have fallen short in capturing students' interest or catering to diverse learning requirements.

The integration of Kahoot in vocabulary instruction signifies a significant step forward toward more interactive, inclusive, and adaptive teaching methodologies. It connects the divide between formal education and learner expectations in an increasingly digital landscape. As educational environments continue to transform, particularly with a growing focus on hybrid and online learning, resources like Kahoot are likely to become essential to the future of language instruction.

CONCLUSION

This study shows that Kahoot is an excellent resource to improve vocabulary acquisition in university-level English language learners. Strong evidence for the effectiveness of game-based learning in formal educational settings can be found in the post-test results, which show a significant statistical improvement in students' vocabulary proficiency, as well as the overwhelmingly positive feedback received from surveys and interviews. These findings demonstrate that Kahoot serves as more than just an extra tool; it is a key element in changing the dynamics of language instruction by promoting a more participatory, interesting, and goal-oriented learning environment.

Students' intrinsic motivation is stimulated, and their involvement in the learning process is enhanced by Kahoot's unique blend of real-time interaction, gamified content, and rapid feedback. Its entertaining yet educationally sound design promotes active recall, memory retention, and conceptual reinforcement, all essential elements of successful vocabulary learning. Additionally, its ability to foster emotional involvement and a spirit of cooperation helps students develop soft skills like communication, flexibility, and self-assurance in addition to improving their academic success.

The study highlights Kahoot's potential to promote equity in the classroom, which is significant. The platform's ability to foster an inclusive learning environment that accommodates a range of learning requirements was demonstrated by the active participation of students with different levels of language proficiency. The findings also highlight the importance of moving away from teacher-centered models and toward learner-centered strategies that give students more authority over their learning paths.

Despite certain drawbacks, like reliance on internet connectivity and time constraints for question-answering, the overall learning outcomes and enhancements to the classroom environment indicate that these issues are manageable with improved instructional design and technology support. The

promising result of this study demonstrate the wider possibilities of using digital learning platforms across academic levels and disciplines.

Future research should improve on the result of this study by evaluating the long-term retention benefits of kahoot-based learning through longitudinal studies. A more thorough understanding of the function of gamification in language instruction might be possible with larger and more varied sample populations, as well as comparisons with other gamified platforms (such as Quizizz, Blooket, of Gimkit). Furthermore, investigating kahoot's performance in several language proficiency domains, such as speaking, grammar, and reading comprehension, may provide more information about how adaptable this digital teaching tool is.

This study concludes by reaffirming the revolutionary potential of game-based learning platforms such as kahoot in contemporary schools. Incorporating captivating, student-centered digital technologies will be essential to developing meaningful, equitable, and successful learning experiences as educational paradigms continue to change to accommodate the demands of learners in the twenty-first century. In an increasingly digital environment, educators and institutions are urged to embrace innovation not only for its own sake but also to improve the calibre and inclusivity of education.

CONFLICT OF INTEREST

Concerning the research, authorship, and publication of this paper, the author reported no potential conflicts of interest.

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