THE EFFECTIVENESS OF KAHOOT! IN IMPROVING VOCABULARY FOR FIRST-YEAR ENGLISH MAJORS: A CASE STUDY AT A PUBLIC UNIVERSITY IN HANOI

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Abstract: *This study was conducted to (1) discover the difficulties faced by first-year students at the Faculty of English of a public university in Hanoi when learning and memorizing vocabulary, and (2) evaluate the effectiveness of using Kahoot! in improving students' vocabulary. The participants included 161 first-year English majors. A mixed method was employed, with research instruments including a questionnaire, vocabulary tests (pre-test and post-test), and interviews. The findings revealed that participants encountered obstacles, including memorizing vocabulary in the long term, using the correct words in context, not having enough time to practice, and having low motivation. In terms of using Kahoot! for vocabulary learning, the experimental group scored higher on the post-test than the control group, demonstrating that Kahoot! is an effective resource for improving vocabulary acquisition and retention. Interviews with the experiment further confirmed that Kahoot! is engaging and beneficial. In general, the results support the integration of game-based learning tools to improve vocabulary learning.*

Keywords*: vocabulary, vocabulary learning, game-based learning tools, Kahoot!*

I. Introduction

Most of the first-year English majors learn how to gain extensive vocabulary, which helps to improve their major language skills, including reading, listening, speaking, and writing (Schmitt, 2000). Unfortunately, most vocabulary-learning strategies adopted by students lead to poor retention as a result of low motivation and limited opportunities for practice. Rote memorization and textbook exercises, traditional methods, may not engage students or provide sufficient context for language acquisition.

Kahoot!, a game-based learning platform, combines quizzes, real-time feedback, and gamification elements

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to increase student engagement and motivation. In language learning, Kahoot! aids active recall, reinforces vocabulary retention, and promotes a collaborative as well as competitive classroom setting (Plump & LaRosa, 2017).

Research shows that the reinforcement of digital tools is playing an important role in language education. Research by Bicen and Kocakoyun (2018) demonstrated that game-based learning platforms such as Kahoot! have a positive impact on future teachers by promoting student engagement and motivation. Plump and LaRosa (2017) similarly found that Kahoot! enhances classroom interaction and makes learning livelier.

Most previous studies tested other language skills; therefore, it is important to explore the use of Kahoot! in enhancing vocabulary learning for English majors. In Vietnam, research by Pham and Duong (2022) found that Kahoot! was perceived as a fun and beneficial classroom warm-up activity and improved student-to-student interaction.

However, very few studies have been done on using Kahoot! to help first-year English majors at universities improve their vocabulary. To bridge this gap, this research explores how Kahoot! impacts first-year English majors' vocabulary acquisition at a public university in Hanoi.

The following research questions have been made based on the set objectives:

- What difficulties do first-year English majors at a public university in Hanoi encounter during the process of vocabulary acquisition?

- To what extent does the employment of Kahoot! impact these students' vocabulary learning?

II. Literature review

2.1. Vocabulary and vocabulary learning

2.1.1. Definition of vocabulary

According to Hornby (2005), vocabulary is all the words that a person knows or uses; all the words in a language; and the words used when talking about a particular subject.

In vocabulary acquisition, input needs to convey meaning and be comprehensible so learners can attach form to meaning (Ismail, Zaid, Mohamed, & Rouyan, 2017). A student with an insufficient vocabulary size will not perform well in any aspect of language (Susanto, 2017). Therefore, mastering vocabulary enables learners to express ideas and meaning effectively.

In short, vocabulary is a collection of words in a specific language. Vocabulary plays a vital role in expressing ideas and emotions, and is a tool to understand and receive information in communication. As a result, vocabulary mastery is a must for language learners and users.

2.1.2. Aspects of vocabulary knowledge

The conventional understanding of vocabulary acquisition mostly refers to learning a word to get its meaning. Nevertheless, the process of learning a word involves far more than this simplistic view. Ur (1996) states that learners need to achieve some aspects of vocabulary, such as (1) spelling, (2) usage, and (3) pronunciation. Similarly, Nation (2001), drawing upon the study by Richards (1976), further points out nine aspects of a word that learners need to master, which can be categorized into three groups: (1) word form, (2) word meaning, and (3) word use.

In general, in order to master the vocabulary of a language, learners and users need to have a comprehensive understanding of its pronunciation, form, meaning, usage, and its relationship with other language units.

2.1.3. Methods of learning vocabulary

There are numerous vocabulary learning methods introduced by different scholars. The following are some of the most common ones:

Spaced Repetition: This strategy improves long-term vocabulary retention by guaranteeing learners go over words before they forget them and therefore fortifies memory encoding.

Active Recall: Active recall means to bring knowledge back from memory rather than passively rereading it. Active engagement with words helps to improve memory speed and retention over time in vocabulary acquisition (Nation, 2001).

Contextual Learning: Contextual learning underlines the need to acquire vocabulary in isolation through relevant contexts (Oxford & Scarcella, 1994). This method shows students how words are used in sentences, stories, or real-life events and therefore helps them to grasp them.

Mnemonic Devices: Mnemonic tools are memory aids that enable students to relate new vocabulary to known information. Mnemonic techniques can be effective in early vocabulary learning by providing memorable "hooks" for retention (Hulstijn, 1997).

2.1.4. Learning vocabulary using technology

According to Long (1996), language acquisition is furthered by meaningful interaction. Technology helps students with vocabulary interact via online language communities, games, and chatbots. Interactional possibilities, especially those involving contextual vocabulary usage, are key to improving practical use and retention.

Vocabulary learning apps can improve students' intrinsic drive by allowing customized goal setting and progress tracking. These tools give learners control over their study path and a sense of accomplishment.

2.2. Introduction to Kahoot! and its application in vocabulary learning

Kahoot!, designed in 2013 and initially released in 2015, is an interactive, game-based learning platform that enhances engagement and motivation in language learning. The platform allows students to study vocabulary through quizzes, flashcards, and interactive challenges, making learning more enjoyable and effective. Research suggests that game-based learning tools like Kahoot! can improve students' vocabulary retention and motivation compared to traditional methods (Plump & LaRosa, 2017).

Kahoot! uses ideas from game-based learning theory, which claims that games inspire learners by means of rewards, feedback, and difficulties. Kahoot! changes vocabulary exercises into interactive tests, hence creating a competitive but enjoyable atmosphere that research shows increases motivation and engagement (Plass et al., 2015). This system enables students to learn and keep vocabulary through repeated exposure, which helps build intrinsic motivation and a good view of language learning.

III. Methodology

3.1. Research methods

This study adopted a mixed-methods approach, incorporating both quantitative and qualitative research methodologies. The quantitative aspect involved administering pre-tests and post-tests to measure vocabulary acquisition and retention. Statistical analysis was applied to evaluate the effectiveness of Kahoot! as an instructional tool. The qualitative aspect included a survey through a questionnaire and interviews to gain insights into students' experiences, engagement, and perceptions of learning vocabulary through Kahoot! Thematic coding was used to analyze qualitative data and identify key trends.

3.2. Participants

The research focused on first-year English students at a public university in Hanoi during the 2024-2025 academic year. A selection of 161 students was chosen randomly to represent various levels of language skills.

The participants were split into two categories:

- Experimental group (81 students): Engaged in vocabulary learning through Kahoot!.

- Control group (80 students): Used traditional methods for vocabulary instruction without Kahoot! such as note-taking and dictation, reading books and magazines, and doing vocabulary exercises.

3.3. Research instruments

To ensure comprehensive data collection, the study employed multiple research instruments, including tests, questionnaires, and interviews.

Questionnaires: The questionnaire explored students' attitudes, habits, challenges, and methods in learning English vocabulary, as well as their familiarity with Kahoot!. There are five multiple-choice questions asking students about their perception of vocabulary, their vocabulary learning, and their engagement in Kahoot!

Tests: Pre-test and post-test were used to assess students' vocabulary knowledge before and after the intervention. The pre-test established a baseline understanding of their vocabulary proficiency, while the post-test measured improvements following the use of Kahoot! Both of the tests had the same format and the same number of question items, and were marked by the authors.

Interview: The semi-structured interview, which consists of 5 questions, aimed to gather qualitative insights into the effectiveness of Kahoot! and its impact on vocabulary acquisition. The students interviewed were coded S1, S2, S3, and S4.

3.4. Data collection and analysis procedures

- **Survey data analysis:** Initially, questionnaires were distributed to all participants (N = 161) to gather information on their attitudes toward the importance of vocabulary, their study habits, preferred learning methods, difficulties encountered, and awareness of the Kahoot! platform. This survey was conducted before the intervention.

- **Pre-test and Post-test analysis**: Before the intervention, both groups

underwent a pre-test to evaluate participants' vocabulary competence at the start of the experiment. After three weeks, both sets did a post-test designed to evaluate vocabulary enhancement. SPSS and Microsoft Excel were used to evaluate data from both tests. Between the experimental and control sets and within every group, comparisons started to be run.

- **Interview Analysis**: At the end of the experiment, four students from the experimental group, chosen at random, took part in interviews lasting 5-8 minutes each. All four students responded to five standardized semi-structured questions about their learning experience with Kahoot!. Quantitative data were then gathered and analyzed.

IV. Findings and discussions

4.1. Research findings

4.1.1. Findings from the survey questionnaire

4.1.1.1. Student's attitude towards vocabulary and vocabulary learning

To gather data related to students' attitudes toward learning English vocabulary, the researchers examined the data from the questionnaire.

Based on the survey results, the majority of students (87%) perceived vocabulary as very important for English language learning. Meanwhile, 13% of the respondents rated vocabulary as important, and none of the participants indicated a neutral or negative view (0% neutral, 0% not important).

Besides, most students (79.5%) believed vocabulary has a *very significant* impact on their listening, speaking, reading, and writing abilities, while 20.5% see it as *significant*. Notably, no respondents reported a minor or no impact.

4.1.1.2. Students' methods in learning English vocabulary

A survey of 161 students showed that there are four main methods they use to learn English vocabulary.

- Traditional Note-Taking and Study Methods: 110 students (about 68%) relied on traditional methods like writing down new words and reviewing their notes.

- Learning through Reading: 92 students (about 57%) learned vocabulary by reading books, newspapers, stories, and watching films. This helped them see words used in context.

- Using Digital Tools: 87 students (about 54%) used apps and websites like Anki, Quizlet, and Duolingo to study vocabulary. These tools offered interactive and flexible ways to review words.

- Active Usage in Daily Conversation: 61 students (about 38%) improved their vocabulary by applying new words in everyday conversations, which helped them remember and use the words in real situations.

4.1.1.3. Student's difficulties in learning English vocabulary

Based on the survey, our study revealed several significant challenges that hinder effective vocabulary acquisition.

Accordingly, the most prominent challenge was the difficulty in retaining vocabulary over the long term, with 123 students (approximately 76.4%). Another major obstacle was that 90 students (about 55.9%) indicated they had trouble applying vocabulary appropriately within different contexts. Time constraints were

also highlighted as a significant barrier by 78 students (approximately 48.4%). Finally, 69 students (around 42.9%) reported that a lack of motivation affects their vocabulary learning.

4.1.2. Results of the tests (pre-test and post-test)

4.1.2.1. Pre-test results

After conducting a pre-test for both the experimental group and control group, the data were analyzed using SPSS to calculate the mean, median, and standard deviation (SD), and the results are shown in table 1.

Table 1. Pre-test results

Descriptive Statistics				
	N	**Max score**	**Mean**	**Std. Deviation**
Experimental group	81	9.25	6.1481	1.45494
Control group	80	9.00	6.2094	1.51388

The results indicate that the Experimental Group (M = 6.14, SD = 1.45) and the Control Group (M = 6.2, SD = 1.51) had quite similar average scores before the intervention. The Mode (the most frequently occurring score) was 6.5 (Mod=6.5), suggesting that most students scored around this level. These findings suggest that both groups exhibit a similar proportion of students achieving Excellent scores (around 8.7%). However, there was a notable difference in the distribution of Average and Below Average performers. In the experimental group, 69.14% (56 students) of students fell into the Average category compared to 62.50% (50 students) in the control group, while the percentage of Below Average performers was lower in the experimental group (22.22% with 18 students) than in the control group (28.75% with 23 students).

4.1.2.2. Post-test results

After applying Kahoot! to the experimental group to learn vocabulary, the researchers conducted a post-test for both the experimental group and the control group. The data were analyzed, and it is shown in table 2.

Table 2. Post-test results

Descriptive Statistics				
	N	**Max score**	**Mean**	**Std. Deviation**
Experimental group	81	9.50	7.4167	1.23554
Control group	80	9.00	6.3531	1.38464

The post-test scores show that the experimental group, which used Kahoot for vocabulary learning, had a higher mean score (M = 7.4167, SD = 1.23554) than the control group (M = 6.3531, SD = 1.38464). The Mode of the control group was 6.5 (Mod=6.5), no changes compared to the pre-test. Conversely, that of the experimental group (Mod=7.75) has increased 1.25 from the pre-test. The Experimental Group, which used Kahoot! as a vocabulary learning tool, exhibited a higher proportion of students reaching the Excellent performance level (21 students, 25.9%) compared to the Control Group (6 students, 7.5%). Moreover, the number of students in the Below Average category was significantly lower in the Experimental Group (4 students, 4.9%) than in the Control Group (13 students, 16.3%).

4.1.2.3. Normalize gain scores

Table 3. Normalize gain scores

Descriptive Statistics				
	Experimental group		Control group	
	Mean	Std. Deviation	Mean	Std. Deviation
Pre-Test	6.1481	1.45494	6.2094	1.51388
Post Test	7.4167	1.23554	6.3531	1.38464
Normalize Gain	0.4538	0.17284	0.0289	0.14444

The results from the normalized gain scores show that there was a considerable improvement in vocabulary learning among the experimental group (M = 0.4538, SD = 0.17284) when compared to the control group (M = 0.0289, SD = 0.14444).

4.1.3. Findings from the interview

The discussions held with four students chosen randomly from the experimental group offered valuable perspectives on the advantages and difficulties of utilizing Kahoot! in vocabulary education.

Each of the four participants expressed that Kahoot! made learning new words more exciting and enjoyable than typical studying techniques. S1 noted: *"Kahoot! feels like a game, so I'm not stressed when learning new terms. Competing with my friends encourages me to get better."*

Three out of the four students mentioned the advantage of receiving immediate feedback, which allowed them to correct errors right away. S3 stated, *"When I pick the incorrect option, I see the right answer instantly, which helps me remember it for next time."*

Two of the students remarked that participating in several rounds of Kahoot! was beneficial for solidifying their vocabulary knowledge. S2 said, *"Because we play so often, I encounter the same words repeatedly, which assists in remembering them".*

In spite of its positives, several students pointed out some drawbacks. One participant raised a concern about the quick pace of Kahoot!: *"At times, I don't have enough time to think things through, so I end up guessing the answers"* (S4). Another student remarked that while Kahoot! was helpful for revising familiar words, it was less beneficial for acquiring entirely new vocabulary (S2).

4.2. Discussions

The outcomes reveal that students understand how crucial vocabulary is for learning a language. An impressive 87% view vocabulary as very important, while the other 13% see it as important. Moreover, students recognize vocabulary as vital for improving their overall English abilities, with no one believing it has little or no effect. These results support earlier studies that highlight the key part vocabulary plays in language skills (Nation, 2001). Because students are well aware of the value of vocabulary, this positive perception can be used to create more engaging and effective teaching methods.

Moreover, students utilize different learning techniques, with traditional notetaking being the most used method (68%), followed by reading (57%), digital resources (54%), and practicing in

conversation (38%). The variety of learning techniques indicates that students gain from using multiple methods, supporting the idea that a mixed approach—which includes both traditional techniques and modern digital resources - produces the best outcomes in vocabulary learning (Wang, 2015).

Even though students are dedicated to learning vocabulary, they encounter several challenges. The most common issue is having trouble remembering new words over time. This situation points out the necessity for strategies like spaced repetition and active recall, which are known to improve memory retention (Saksittanupab, 2024). More than half of the students find it hard to use the vocabulary they have learned in real-life situations. This finding shows the need for context-based learning methods, such as reading genuine texts and taking part in meaningful discussions. Besides, almost half of the students mention a shortage of time as a significant hurdle, indicating that effective and time-efficient learning strategies are necessary. Finally, Around 42. 9% of students view motivation as an issue, suggesting that engagement-focused strategies - like gamification - might be essential in keeping their interest in vocabulary learning.

The incorporation of Kahoot! into vocabulary teaching showed a beneficial effect on students' learning results. The group that used Kahoot! exhibited a notable rise in their post-test scores (M = 7.42, SD = 1.24) in comparison to those in the control group (M = 6.35, SD = 1.38). Furthermore, the normalized gain score was significantly higher for the experimental group (0.4538) than for the control group (0.0289), reinforcing the usefulness of Kahoot! in enhancing vocabulary retention.

Interviews conducted with four students from the experimental group revealed various benefits and difficulties associated with using Kahoot!. First, Students expressed that Kahoot! was fun and inspiring, thanks to its gamelike design, which corresponds with earlier findings on how gamification affects student enthusiasm (Wang, 2015). Second, the platform provided immediate responses, allowing students to fix errors promptly and showing the importance of quick feedback in the learning process (Jácome, 2025). Third, the repetitive format of Kahoot! quizzes enabled students to see vocabulary repeatedly, supporting better memory retention through spaced repetition (Nation, 2001). Some students also felt the rapid pace of Kahoot! was overwhelming, which sometimes led them to make guesses instead of thoroughly understanding the words. Moreover, although Kahoot! was good for reviewing, students mentioned that it was not as helpful for acquiring completely new vocabulary.

V. Conclusion and recommendations

This research shows that first-year English majors at the investigated university can improve both vocabulary acquisition and retention by using Kahoot! for vocabulary learning. Clearly suggesting increased vocabulary performance, the experimental group using Kahoot! had much higher post-test scores and normalized gain scores than the control group. Qualitative data from student interviews also showed more involvement, drive, and active recall when Kahoot! was used, even though small issues, including time restrictions and sporadic guesses, were noted. Taken together, the data back the use of game-based learning applications such as

Kahoot! in vocabulary teaching. This method helps to develop a more dynamic and fun learning environment as well as improve students' results.

Despite the significant findings regarding the effectiveness of Kahoot! in vocabulary learning, this study has several limitations that should be acknowledged. To begin with, the participants were solely first-year majors at a university, which limits how widely the results can be applied. Additionally, the study lasted only three weeks, which might not have adequately assessed long-term retention of vocabulary. Furthermore, data obtained from surveys and interviews based on self-reporting could contain biases, so it's essential for upcoming studies to include objective measures of performance.

Based on the results, it is advisable for upcoming studies to consider the following strategies to further confirm the effectiveness of Kahoot! in vocabulary acquisition: increase sample size, broaden the scope of the study, and extend the duration of the experiment. By following these suggestions, researchers can achieve more reliable and widely applicable findings, ultimately offering stronger support for the use of Kahoot! in vocabulary learning methods.

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HIỆU QUẢ CỦA KAHOOT! TRONG VIỆC CẢI THIỆN VỐN TỪ VỰNG CHO SINH VIÊN CHUYÊN ANH NĂM NHẤT: NGHIÊN CỨU TẠI MỘT TRƯỜNG ĐẠI HỌC CÔNG LẬP Ở HÀ NỘI

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Tóm tắt*: Nghiên cứu này nhằm (1) tìm ra những khó khăn mà sinh viên năm nhất Khoa tiếng Anh của một trường đại học công lập ở Hà Nội gặp phải khi học và ghi nhớ từ vựng, và (2) đánh giá hiệu quả của việc sử dụng Kahoot! trong việc cải thiện vốn từ vựng của sinh viên. 161 sinh viên năm nhất chuyên ngành Ngôn ngữ Anh tham gia khảo sát. Các tác giả sử dụng phương pháp nghiên cứu kết hợp, với các công cụ nghiên cứu bao gồm bảng câu hỏi khảo sát, các bài kiểm tra từ vựng (tiền kiểm và hậu kiểm) và phỏng vấn. Kết quả cho thấy sinh viên gặp khó khăn khi ghi nhớ từ vựng trong thời gian dài, sử dụng đúng từ trong ngữ cảnh, không có đủ thời gian để thực hành và động lực học từ vựng thấp. Về hiệu quả của Kahoot! để học từ vựng, nhóm thực nghiệm đạt điểm cao hơn trong bài kiểm tra hậu kiểm so với nhóm đối chứng, chứng minh rằng Kahoot! là một nguồn tài nguyên hiệu quả để cải thiện khả năng tiếp thu và ghi nhớ từ vựng. Kết quả phỏng vấn với những nhóm thực nghiệm đã xác nhận thêm rằng Kahoot! thực sự hữu dụng. Nhìn chung, kết quả hỗ trợ việc tích hợp các công cụ học tập dựa trên trò chơi để cải thiện việc học từ vựng.*

Từ khóa*: từ vựng, học từ vựng, công cụ học tập dựa trên trò chơi, Kahoot!*

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