USING KAHOOT! IN VOCABULARY LEARNING: EVIDENCE FROM A VIETNAMESE HIGHER EDUCATION CONTEXT

Thach Ngoc Pham[1*], Diem Thi Duong[2]

[1] Board of Trustees, Hanoi University, Km9, Nguyen Trai Road, Hanoi, Vietnam
[2] Faculty of English Studies, Hanoi University, Km9, Nguyen Trai Road, Hanoi, Vietnam

Abstract: This study aims to find out how undergraduate English students at a Vietnamese institution felt about utilizing Kahoot to learn vocabulary. Using a sequential explanatory mixed-methods design, the study collected and analyzed quantitative and qualitative data from 53 first-year English major students. The participants in the study regarded the game to be enjoyable, although their involvement was not consistent throughout the trial. Interaction, engagement, focus, competition, and motivation were also essential characteristics that contributed to students' pleasant learning experiences and helped them enhance their vocabulary learning, particularly in terms of retention. Based on these important findings, certain recommendations have been made addressing the necessity to incorporate more digital-game-based activities into classroom education in order to motivate students better and maintain classroom engagement.

Keywords: Kahoot, Vietnam, game-based activity, vocabulary learning

1. Introduction

In the context of technological developments, educators, teachers, and practitioners have sought innovative ways to support learning with the integration of modern technologies and facilities (Anh et al., 2021). The application of Information and Communication Technologies (ICT) has become increasingly popular for educational purposes too. ICT effectively promotes interaction between the teachers and students and among the students synchronously and asynchronously (Viet & Linh, 2021). Concerning English Language Teaching (ELT), the use of ICT has gained its standing because of its various positive impacts. For example, using ICT to teach English has increased learners' autonomy (Hussain, 2018; Tri & Nguyen, 2014). Chau (2021) analyzed prior research and concluded that ICT usage improved all aspects of speaking abilities. Furthermore, according to Nguyen (2021), technology in the EFL classroom encouraged students to participate more actively in classroom activities and collaborate with their peers more confidently and actively.

Traditionally, games were used to promote better learning, and they have still been used up to the present day. Gamification has been employed in the classroom and has been shown to encourage students' learning (Greijdanus, 2015; Ha & Lam, 2010). Gamification has also been employed in ELT and has been shown to improve good learning experiences. Some prominent game-based platforms that are widely used nowadays are Duolingo, Kahoot, Quizlet, Quizizz, and others. The application of Kahoot is said to boost student motivation and performance, foster autonomy, and encourage classroom

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* Corresponding author.

Email address: thachpn@hanu.edu.vn

collaboration (Chotimah & Rafi, 2018). This study aimed to find out how undergraduate English majors feel about using Kahoot as one of the most widely used gamified platforms for English language learning, particularly vocabulary acquisition.

2. Literature Review

2.1. Theoretical Framework

The theoretical underpinning for this study was Malone's (1981) idea of intrinsic motivation. According to Malone (1981), challenge, fantasy, and curiosity are the three fundamental qualities that make learning enjoyable. Malone (1981) emphasized the need to create a demanding learning environment, as a challenge is an essential factor in intrinsic motivation. According to Malone's (1981) ideas of intrinsic drive, fantasy is also a significant component. The players' drive is frequently sparked by their abilities and speed of response or by constructive feedback provided by the game fantasy. Curiosity is another important factor, as it is thought to signal a learner's desire to learn. Finally, music, colors, and audio effects are examples of gaming systems that can pique a player's interest.

2.2. Vocabulary Learning Through Digital Games

Game-based learning is defined by Kirriemuir and McFarlane (2004) as "activities that have a game at their core, either as the main activity or as a stimulus for other related activities and have learning as a desired or incidental outcome" (p. 7). Serrano (2019) did a thorough review of the effects of digital games on the learning of K12 students. According to the findings, digital game-based learning improves students' engagement and motivation. Furthermore, the review showed that the use of digital games that included both competition and collaboration had a substantial impact on students' achievement.

Rasti-Behbahani (2021) conducted a literature review to see how successful digital games were at teaching vocabulary. Motivation, repetition, engagement, and feedback were among the primary themes. Because digital games are interesting and inspiring to students, the researcher discovered that digital game-based learning was beneficial for vocabulary learning. Furthermore, these games can give pupils a variety of sources of repetition, which aids in retaining vocabulary. In the study, feedback and engagement were also observed to help with vocabulary development.

Li (2021) conducted a quasi-experimental study to see if digital vocabulary learning applications improved Chinese EFL students' vocabulary acquisition, motivation, and self-confidence. In terms of vocabulary achievement, pupils in the experimental group outperformed their counterparts in the control group. In addition, the researcher found that digital game-based vocabulary learning applications increased students' motivation and self-confidence.

2.3. Kahoot!

Kahoot was designed in 2013, and was initially released in 2015. It is a personal response system that makes quizzes, debates, and surveys easier to complete (Le, 2018). Kahoot was mentioned by Charbonneau (2018) as a game-based student response system (GSRS), which is a platform that allows teachers to create highly dynamic quizzes that students respond to using their digital devices in a game-show-like setting (Licorish et al., 2018). Kahoot can be used for teaching, learning, and assessment purposes and can also be used to collect student reflections after use. To put Kahoot into action, teachers can create a free account at https://create.kahoot.it in the classroom. Then teachers can choose from pre-made quizzes or modify them as needed, or they can design their own games. Kahoot is appropriate for a big classroom since it facilitates collaboration and interaction between teachers and students (Le, 2018).

Figure 1

The Interface of the Kahoot Game
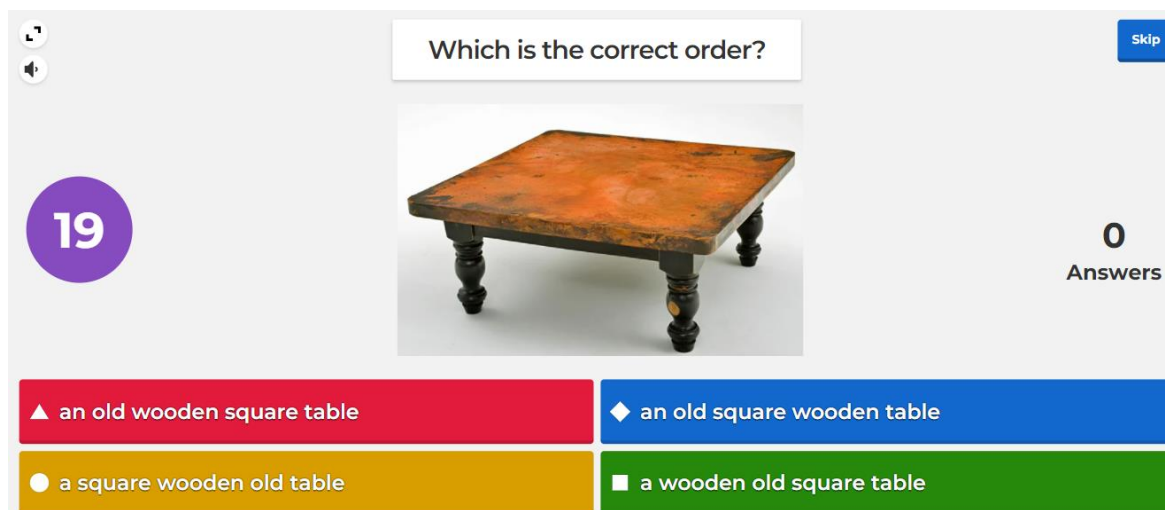
2.4. Usage of Kahoot as a Teaching and Learning Tool

Investigations into the use of Kahoot have been found to have a variety of good effects, including improved knowledge retention, increased engagement and participation, and speedy feedback (Ciaramella, 2017; Chotimah & Rafi, 2018; Hunsu et al., 2016). The surveyed students in Hunsu et al. (2016)'s study reported that Kahoot aided in the improvement of their ability to remember and recall information. Similarly, Chotimah and Rafi (2018) investigated the application of Kahoot as a tool for teaching reading in a quasi-experimental study. According to the findings, Kahoot effectively improved and focused students' attention on questions and texts. Participants in the study also stated that having better concentration aided them in comprehending the topic. Le (2018), who used a mixed-methods design to investigate the use of Kahoot with 154 year-two undergraduates, concluded that students' motivation, engagement, and collaboration were enhanced thanks to the use of Kahoot in classroom activities.

Kahoot has also been used in language classrooms for vocabulary learning. The impacts of Kahoot were investigated by Ciaramella (2017) whose participants were pupils with learning challenges and other health impairments. All study participants agreed that they could learn more new languages and found

the game simple to play. Medina and Hurtado (2017) used Kahoot in a quasi-experimental investigation in a study on the use of Kahoot as a tool for vocabulary learning among university undergraduate students from various faculties. With the use of Kahoot, it was discovered that students' motivation, engagement, and interaction all improved.

Several studies have also investigated how students felt about using Kahoot (Bicen & Kocakoyun, 2018; Le, 2018; Licorish et al., 2018). According to Bicen and Kocakoyun (2018), Competition in Kahoot improved students' performance in answering questions and classroom teamwork. In the same vein, the results of a study by Le (2018) indicated that using Kahoot improved students' involvement, teamwork, and learning experience. A study conducted by Licorish et al. (2018) revealed that Kahoot increased classroom dynamics, engagement, motivation, and learning experience. Similarly, according to Charbonneau (2018), Kahoot delivered feedback "in an engaging and playful fashion" (p. 43).

Despite the numerous advantages of Kahoot, the game, like many other GSRS platforms, may have a number of drawbacks, including technological issues such as a lack of an Internet connection. Furthermore, the anonymity of these online activities may enhance the possibility of pupils guessing incorrectly (Nielsen et al., 2013). As a result, the game's outcomes do not adequately reflect

students' actual comprehension and performance. Wang (2015) discovered that frequent use of Kahoot may reduce classroom dynamics, and students' motivation might wear out over time. Furthermore, according to Plump and LaRosa (2017), some students became demotivated after failing to get the correct answers a couple of times. This is because the leaderboard and ranking system, according to Singer (2016), are not always appealing to pupils. The final flaw of Kahoot lies in its other game mechanics.

In summary, Kahoot has been used widely in different EFL contexts, and the results of studies in the literature indicated that the game enhances students' motivation, engagement and interaction, despite some technological and academic drawbacks. In Vietnam, however, little is known about how the game was used in how it could enhance the learning experience for Vietnamese students. In the current study, an explanatory sequential mixed-methods design was used to investigate how students interpret the impact of using Kahoot on vocabulary retention. The following research questions were addressed:

1. What were the students' participation patterns in Kahoot in vocabulary learning?

2. What are the students' perceptions of the use of Kahoot in vocabulary learning?

3. Methodology

3.1. Research Setting

This study took place in a Vietnamese university's English language department, which provided English language education and training to students. Undergraduates at this college learned the four English language macro skills in the first two years of their curriculum before moving on to other disciplines, including linguistics, translation, and interpreting in their final years. In the first phase of their study, students mainly had lessons in four macro language skills: listening, speaking, reading, and writing. The teachers had to use textbooks that were prescribed in the university curriculum. However, they could also integrate other materials at their disposal to help the students achieve learning outcomes.

For this research, Kahoot was incorporated into the lessons of two classes. Before using Kahoot in the lessons, the researchers standardized all course materials to ensure that both classes got equal teaching on the contents. To ensure that everything worked well together, lesson plans, additional resources, teaching styles, and lesson delivery were all coordinated. Each class received a Kahoot session after every two lessons. Throughout the course, sessions were offered in weeks 3, 5, 7, and 9. For every Kahoot session, the students responded to the questions using personal devices, such as cellphones, tablets, or laptops, which were connected to the university's Wi-Fi system or their 3G network. The number of students that participated in the game was collected in an auto-generated report at the end of the session.

3.2. Research Participants

The participants were first-year English. The study's expected number of participants was 65 students from two classes where Kahoot was used. However, participants were only urged to participate in the game if they wanted to. As a result, people who took part in at least one Kahoot session completed the questionnaire survey, and only 53 did. Similarly, the participants in the qualitative phase were chosen using deliberate sampling, a non-probability sampling approach. The following criteria were used to choose interviewees for the focus-group interview: (i) they had participated in at least two Kahoot sessions, (ii) the chosen students must have recently participated in a Kahoot session so that they could accurately recollect their experience. Despite the disadvantage of not representing a significant population, Cohen et al. (2011) pointed out that this technique had certain advantages, such as being easier and less expensive to set up. The use of a purposive sample technique was beneficial because the primary goal of this study was not to extrapolate the findings to a larger population. Furthermore, the researchers decided to recruit an equal number of participants from each class for the interview to guarantee that the data acquired in the second phase was valid and not biased. Accordingly, six students, three from each class, were recruited for the follow-up interviews.

3.3. Research Design

The current study employed an explanatory sequential mixed-methods design. The quantitative data from the questionnaire survey was first collected and examined by the researchers. Qualitative data from the focus-group interview was collected and analyzed to follow up on the findings from the first phase. The quantitative phase's findings provided a general overview of students' perceptions of Kahoot usage, while the findings from the qualitative phase provided more insight into a number of features from what had previously been known based on students' responses. In addition, a website-created report documenting the number of students in each session was used to depict their patterns of participation in the game.

3.4. Data Collection and Analysis

After obtaining permission from the leaders of the participating faculty, the implementation of the Kahoot took place. Data from the survey were analyzed to check the reliability of the questionnaire. After the analysis, it was found that the adopted questionnaire had an acceptable Cronbach's alpha coefficient of 0.878. This indicated that the survey items were reliable for the official survey with 65 participants (Hair et al., 2010).

The time gap between each Kahoot session was two weeks. After the implementation, the 53 actual game participants (out of the initially intended 65 students – the total number of students from the two classes) were invited to participate in the questionnaire survey. In addition, it was required that the students who had played the game directly with their device at least once were eligible to take part in the survey. In addition, they were fully informed of the purpose of the study before joining the questionnaire survey that aimed to collect quantitative data regarding students' perceptions of the use of Kahoot in learning vocabulary.

3.5. Research Instruments

A 5-point Likert-scale questionnaire was used to obtain quantitative data for this investigation. It asked the participants questions about their impressions of Kahoot to brush up on vocabulary. The 5-point scale, in its original version, allowed pupils to express how strongly they disagreed with a proposition, with one equating to strongly disagree and five equating to strongly agree. The questionnaire was derived from Alawadhi and Abu Ayyash's (2021) study, which looked at how students felt about Kahoot in terms of focus and attention, interaction and engagement, etc. The questionnaire had a total of 16 questions in it. One rationale for adapting Alawadhi and Abu-Ayyash's (2021) questionnaire is that it was conducted in a higher-education institution and had comparable goals to the current study, which was to investigate students' perceptions of Kahoot. A pilot survey was conducted prior to the official one, with 20 students picked at random to complete the questionnaire. Any points of misunderstanding or ambiguity were carefully considered, and the researchers made any required changes to the questions. Besides the questionnaire, a web-created report was utilized to collect the number of students participating in each session of the game.

After the quantitative data from the first phase was analyzed, a focus-group discussion was held to delve deeper into topics such as fun and enjoyment (e.g., what do you think the factors are that make Kahoot fun?), interaction and engagement (e.g., how do you think Kahoot enhances classroom interaction?). A group of six students participated in the focus group discussion. Students were contacted by phone prior to the conversations to gauge their participation interest. They were also required to sign a consent form before participating in the focus group session. Before the interview began, the researchers requested that the participants consent to the interview being recorded, transcribed, and examined. Interview protocols in this study followed Creswell's (2009) guideline, which included a heading, instructions for the interviewers to follow, questions for interviewees, and a thank-you statement.

In terms of data analysis, the data from the questionnaire survey were analyzed using descriptive statistical approaches. The researchers calculated the percentage frequency of each item in the questionnaire. The answers to the questionnaire survey were then utilized to create follow-up interview questions. In the case

of qualitative data from the focus-group interview, thematic analysis with the coding technique was applied. The interview was first transcribed into texts because it was audio-recorded. After that, the data was analyzed using the thematic analysis approach, which included constant comparison, contrast, and classification (Miles & Huberman, 1994). Finally, the outcomes of the two data analysis processes were merged for additional interpretation and triangulation.

4. Findings

4.1. Quantitative Results

4.1.1. Patterns of Students' Participation

To respond to the first study question about Kahoot usage by participants, the researchers documented the number of participants in each session using a website-created report after each session in vocabulary acquisition. The findings are shown in Figure 2.

Figure 2

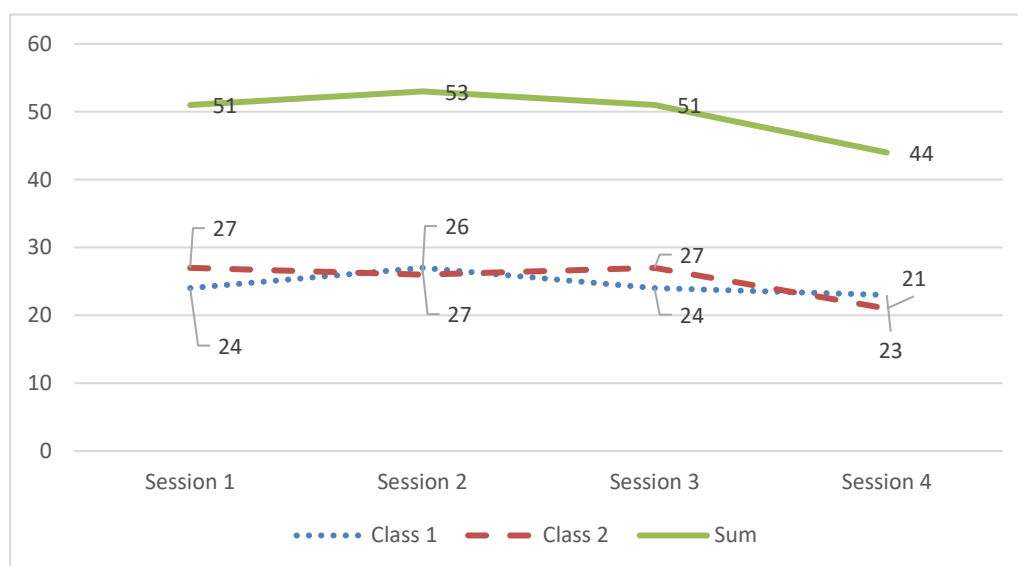*Patterns of Students' Participation in Four Kahoot Sessions*

Figure 2 shows that the number of students engaging in the Kahoot decreased slightly. Students' involvement in both classrooms (two bottom dotted and dashed lines) tended to diminish over time after Kahoot was implemented. While the total number of players differed between the first and last Kahoot. While Class 1 sessions were insignificant (21 versus 24), Class 2 sessions saw a higher reduction over the same time period (21 versus 27).

Initially, the researchers wanted to get more data from the students' involvement, such as their earned points and their time on activities. This was not achievable due to technical limitations and the breakdown of Covid-19. As a result, data from their questionnaire responses

were evaluated to understand more about how they felt about the five categories of fun and enjoyment, attention and focus, interaction and engagement, learning and information retention, motivation and competition.

4.1.2. Students' Perspectives on Using Kahoot

The participants' perceptions of utilizing Kahoot were the subject of the second study question. The researchers examined the data from the questionnaire and a focus group discussion. The survey confirmed that all of the categories mentioned above were present. The findings of the analysis are presented in Table 1 for each category.

Table 1

Participants' Perceptions of the Use of Kahoot

Category	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Fun and Enjoyment					
Fun	0%	1.90%	1.90%	24.50%	71.70%
Boring	45.30%	45.30%	5.70%	1.90%	1.90%
Proud and happy	1.90%	3.80%	11.30%	22.60%	60.40%
More interactive and lively	0.00%	1.90%	5.70%	32.10%	60.40%
Interaction and Engagement					
Engaging and enthusiastic	0.00%	1.90%	9.40%	47.20%	41.50%
No interaction with materials	24.50%	56.60%	13.20%	5.70%	0.00%
Attention and Focus					
Focusing more for higher ranking	0.00%	1.90%	11.30%	52.80%	34.00%
Helping to focus	0.00%	1.90%	24.50%	43.40%	30.20%
Being distracted	30.20%	34.00%	30.20%	5.70%	0.00%
Learning and Knowledge Retention					
Leading to a better learning experience	1.90%	3.80%	7.50%	50.90%	35.80%
Helping to learn vocabulary	0.00%	0.00%	15.10%	47.20%	37.70%
Explaining correct answers to peers	3.80%	7.50%	56.60%	24.50%	7.50%
Motivation and Competition					
More willing to play with nickname	0.00%	3.80%	13.20%	45.30%	37.70%
Fun to compete against peers	1.90%	3.80%	15.10%	45.30%	34.00%
Trying to win the game	0.00%	11.30%	28.30%	37.70%	22.60%
Important to play well	0.00%	7.50%	34.00%	43.40%	15.10%

The majority of participants indicated a favorable attitude about Kahoot in the fun category, as shown in Table 1. The vast majority of those polled (more than 96 percent) believed that playing Kahoot was enjoyable. The sight of their names progressing up the game scoreboard made a large number of participants (83%) feel pleased. Leaderboards, a gamification feature of Kahoot, appeared to encourage a good learning experience. Students had a great need to express

themselves and compare themselves to their peers.

Table 1 shows that just a small percentage of participants (less than 2%) questioned the tool's effectiveness in terms of interaction and engagement. The data show that the vast majority of those surveyed (about 90%) strongly agreed or agreed with items 1 and 2 that the classroom atmosphere was "more engaged and livelier" and "engaging and enthusiastic" during Kahoot sessions.

The third item in the survey asked about students' perceptions of attention and focus during Kahoot in the classroom to revise vocabulary. One surprising discovery was that during the Kahoot session, the students were extremely attentive and focused. Specifically, approximately 90% of the participants in the survey said they paid greater attention during Kahoot sessions to achieve a high position on the leaderboards. Furthermore, just a small percentage of respondents (5.7%) believed that playing Kahoot in the classroom made them feel preoccupied.

The survey also aimed to explore students' perceptions of the benefits of using Kahoot in facilitating learning and knowledge retention. Remarkably, 86.7% of the respondents thought that Kahoot provided them with a better learning experience. However, regarding collaboration and peer learning, an inconsistent result was found between the data for each category. While over half of the surveyed remained neutral when asked if Kahoot activities helped to facilitate peer learning, and only a third reported interacting with and explaining the answers to their friends. Nearly two-thirds (60.4%) reported that a higher level of interaction was visible in the classroom with the help of Kahoot. This inconsistency in the result suggests that the effectiveness of Kahoot in improving students' collaboration is still an open question that needs further investigation. The data in this category also reveals that, despite some neutral opinions, most of the participants (nearly 85%) believed that their vocabulary retention was enhanced with support from Kahoot.

Finally, as for anonymity, the majority of the participants (80%) agreed that they were in favor of using a random nickname when playing Kahoot. This feature increased the number of students that wanted to participate in Kahoot-based activities. In terms of motivation and competition, it appears that just 58.5 percent of participants took the game seriously as a competition, with only roughly 60 percent attempting to win. Despite this, more than three-quarters of the students polled (79.3%) said they enjoyed competing against peers when playing Kahoot.

4.2. Qualitative Results

This study used an explanatory sequential mixed-methods design, as indicated in the methodology section. Following the collection and analysis of quantitative data, the researchers held a focus group discussion in which the participants were presented with the categories listed above. They took turns expressing their thoughts on the quantitative findings. The results of combining quantitative and qualitative data on the five categories described before are presented in the next section.

4.2.1. Fun and Enjoyment

Subthemes: music, game, interactiveness, variety

According to the results of the focus-group interview, Kahoot was thought to be a nice game for the students. The respondents' remarks revealed that a variety of variables contribute to the success of Kahoot. The interaction between the teacher and the students and among the students made the game an entertaining experience.

> "I believe the characteristic that distinguishes Kahoot. The interaction between teachers and students is enjoyable. "For example, when we use Kahoot, we interact with one other." Students will work in groups and engage with one another as well as with the teacher and respond to questions posed by the teacher. It's a lot of fun" (St. 1)

While interactiveness was a common theme among most interviewees, the range of questions in the Kahoot also played a vital role in ensuring that participants had a great learning experience. Furthermore, one student stated that using Kahoot before the lecture is a terrific warm-up activity. This was partly due to the

game's lively background music, which was said to make students anxious to compete with each other. In addition, the fact that Kahoot was used as a game itself created enjoyment.

> "I believe that the range of questions makes students more enthusiastic to answer all of them. And I think having a warm-up activity before studying is quite intriguing" (St. 2)

> "Because it's simply a game, and we can learn while having fun" (St. 3)

4.2.2. Interaction and Engagement

Subthemes: competition, teamwork

Most of the interviewed participants agreed that Kahoot helped to increase classroom interaction and enhance students' engagement in the classroom. The competition was reported as one of the critical factors that improved students' interaction and increased motivation.

> "I believe that, first and foremost, Kahoot makes us more competitive with one other, which encourages individuals to interact more" (St. 4)

In addition, interviewees stated that Kahoot helped to improve the class's collaborative spirit. Specifically, one St. commented that during the Kahoot activities, some teams or groups were formed to discuss the question and find the correct answer. Another student added that she discussed with other students to understand more about vocabulary usage.

> "They could form a team and work together to figure out what those words are" (St. 4)

> "I just agree, personally, when I play Kahoot, I sometimes have a talk with my friends around me, and after the game, we also ask each other about the answer and the terms we don't understand so that we may help each other increase vocabulary" (St. 5)

4.2.3. Attention and Focus

Subthemes: warm-up, curiosity, game mechanics

Quantitative data suggested that students' attention and focus were improved

during Kahoot sessions. The qualitative phase yielded similar results, indicating that students were able to focus more in the classroom due to this. The background music that triggered students' motivation to play the game could be one of the plausible explanations. Furthermore, several students believed the game's anonymity drew their attention. One student, for example, acknowledged that as the game continued, he desired to know the true identities of the top scorers on the scoreboard. This finding is supported by Malone's (1981) theory, which suggested that music and sounds in games tended to pique players' interest.

> "I've noticed that when my students encounter anonymous or amusing nicknames, they strive to figure out who they are" (St. 2)

> "When most of our students do not use their true names, they feel as if they are in another world, a mystery." They are trying to figure out who is at the top and who is at the bottom" (St. 4)

Because the length of the class had a significant impact on students' focus, especially in the researcher's teaching context, where each lesson lasted over 3 hours, students needed to have the opportunity to take a break between activities. As a result, the Kahoot vocabulary revision gave the students a breather, allowing them to recharge for the following classroom activity. The findings are consistent with those of Alawadhi and Abu-Ayyash's (2021) study, in which participants admitted that their concentration and focus were aided by taking part in Kahoot session. One participant viewed: *"I think having a warm-up activity before studying is extremely intriguing"* (St. 2). Similarly, another one noted that *"Kahoot allows me to study vocabulary in a fun method rather than the traditional way"* (St. 3)

Students' enhanced attentiveness had also been attributed to game mechanics. The interviewees cited the time limit and awards in response to the question asking them to provide more specific remarks on how they used Kahoot. They were able to concentrate better as a result of this.

"We were pressed by the time limit. We have to stay laser-focused in order not to miss the inquiry" (St. 3)

"We were excited since there were occasions when questions received a double score, therefore we tried our hardest to complete such questions" (St. 4)

4.2.4. Learning and Knowledge Retention

Subthemes: self-assessment, better retention, word use enhancement

While it was found from the quantitative phase that Kahoot enhanced vocabulary retention, interviewed participants were divided in stating the usefulness of Kahoot in improving their vocabulary retention. What is remarkable is that Kahoot was also seen as a self-assessment tool for the students in terms of vocabulary learning. Two students even reported that their habit of learning vocabulary was changed thanks to Kahoot.

"In terms of the benefits, when I try to learn the terminology after a while and then test myself, it gives me inspiration and recognition" (St. 2)

"Actually, the vocabulary I learned! did not assist me in any way throughout the exam. However, I developed the practice of revising my vocabulary" (St. 5)

Furthermore, the majority of the participants stated that they could recall the vocabulary more easily and utilize the new phrases in a variety of situations. One student explained this by noting that if the words were arranged in a phrase, she could guess what they meant, while another said the Kahoot aided in broadening her vocabulary and deepening her knowledge of new terms, "*Occasionally, when I play Kahoot, I can demonstrate how to use it and set a good example"* (St. 2). Another participant said, "*Yes, I am aware that this word is used in a certain context*" (St. 3). Another one admitted, *"I believe Kahoot is a fantastic approach for us to expand our vocabulary and gain a thorough knowledge of the new word we learned*" (St. 6)

One student pointed out that this development was partly due to the teacher's support and hints, as well as the game itself. This was something that a few other students agreed

on as well, *"So it does not help me recall all the words because I sometimes remember the answer but guess the meaning other times. It's not really something I recall"* (St. 2). Similarly, one participant pointed out that: *"it's not just what the word is or what it means; it's also the teacher who used the word in a specific statement, so we had to read the entire sentence to figure out the correct response"* (St. 5).

Another theme that was observed to impact students' vocabulary retention substantially was peer learning. Students frequently worked together with their classmates to discuss the questions and develop the correct solutions. One participant said: *"I believe I have a better idea. I believe in Kahoot because it encourages our competitiveness with other students, it improves our learned knowledge. So, we may call it peer-learning because we can learn with other students and work together"* (St. 4).

4.2.5. Motivation and Competition

Subthemes: Anonymity, mystery, self-expression

When it came to motivation and competition, the majority of the interviewees agreed that the game's competition encouraged them to participate in Kahoot classroom activities. Kahoot was a great game for competitive students and was thought to be the ideal technique to communicate with others. For example, one interviewee said: "I want to be recognized, therefore if my true name is on the board, that will help. It serves as motivation for me to work harder in order to correctly answer all of the questions" (St. 2). Another added:

"I'm competitive by nature, so when I compete with my classmates and see where I am in the class, I feel more inspired and determined to develop myself, and I believe that some of my students have felt the same way" (St. 6).

However, regarding the modes of self-expression, viewpoints differ. Shyer students felt compelled to express themselves and obtain acceptance from their peers. However, they preferred to remain anonymous during the game by choosing a playful pseudonym rather than their true names. As a result, anonymity is another prominent feature motivating students to

play the game. The comments below show the participants' views:

> "Because there were instances when I didn't understand the question or the word. So, I believe that utilizing the nickname helps me avoid being embarrassed when I'm wrong" (St. 3).

> "And no one will know or even they will know if they are at the bottom of the board. It's a game, after all, and they can try again, so there's no reason. There's no reason why they shouldn't take part in the game" (St. 4).

The results of the focus-group interview revealed several intriguing data that help explain why the number of participants has decreased. The interviewed students, for example, attributed the decreasing trend to both objective and subjective factors. Some objective reasons may have prevented them from participating in the game, such as the availability of an Internet connection, whether 3G, 4G, or Wi-Fi. Talking about this issue, an interviewee said: *"There are external variables at work here. When students are unable to play the game due to a lack of Internet access, they may create a group to play as a team"* (St. 2).

Another objective element is the wear-out effects of using Kahoot repeatedly. However, Wang (2015) revealed that Kahoot wear-off effects were not as strong as previously thought; this was not a big issue in terms of motivation, engagement, and perceived learning. For example, one interviewee said: *"I believe that the frequent usage of Kahoot, particularly the repetitive use of numerous question kinds in the game, made it more dull, and hence the students refused to participate"* (St. 4). This view was echoed by another participant:

> "I concur. There are now a few of comparable apps, such as Quizizz, which I find more intriguing because of its game mechanics, which allow players to restart the game and re-answer difficult questions" (St. 2).

Subjective variables may include competent players' unwillingness to join in the game because they do not see the necessity to compete against their peers to win. This was described by Malone (1981), who argued that one of the key drivers of intrinsic motivation among students is competitiveness. However, one of the participants noted that *"Aside from its wear-off effects, I believe another factor is that many high-level students are unmotivated to play the games."* (St. 2)

4.2.6. Interaction, Collaboration, and Competition

The quantitative results revealed that using Kahoot to help with classroom dynamics improved classroom dynamics significantly, particularly the interactions between teachers and students and between students themselves. Many of the participants stated that they felt inspired to compete with their peers during the game. Initially, it was thought that the higher the level of competition, the less interaction there would be in the classroom. However, both findings appeared to be at odds with one another. The results of the focus group interview, on the other hand, were intriguing. One possible explanation for the high levels of both interaction and competition at the same time was that interaction among peers took place at an in-group level rather than at a whole-class level. One participant explained:

> "As desk mates, we didn't actually compete against one another because we were well aware of our colleagues' abilities. As a result, we frequently debated the topic inside our group in order to compete with our classmates. This is partly because we want to learn more about the abilities of our classmates" (St. 2).

It was also interesting to discover in the interview that students had a tendency to wait for the teacher to explain the correct answers to them rather than seeking an explanation from their peers. On the other hand, sometimes, the students knew the correct answer because they turned to the coursebook or dictionary, *"Every now and then, we'd look it up in the coursebook or dictionary"* (St. 4).

5. Discussion

The current study investigated five categories that arose in students' participation in Kahoot using theories of intrinsic motivation and

social interaction. The findings of this study will be compared to those of earlier research in the section that follows.

First and foremost, Kahoot is a lot of fun to use thanks to the accompanying music, interactiveness while playing, and various game activities that were evident in the sessions. This discovery matched the findings of a study by Ryan and Deci (2000), which found a significant positive association between enjoyment and learning engagement. This finding has also been reported in the literature (Bicen & Kocakoyun, 2018; Wang, 2015). According to the findings of this study, the fun component of the game also led to high motivation and engagement, which are compatible with those of Wang (2015) and Plump and LaRosa (2017), who discovered Kahoot to be an effective tool for increasing student participation in classroom activities and increasing in-class activities. Because of Kahoot, the student's motivation and participation may improve concentration. These findings are also consistent with Wang and Liberoth (2016), who found that using points and music in GSRS helped students concentrate more.

Second, the participants greatly valued the advantages of Kahoot in enhancing knowledge retention and learning. Specifically, through participating in the Kahoot, students' understanding, retention, and recall of vocabulary could be improved, and their use of newly acquired terms. These findings are consistent with the results of other research that suggest GSRS improves pupils' vocabulary (Medina & Hurtado, 2017). The current research, on the other hand, contradicts the earlier findings. Wang et al. (2016) discovered no detectable significant difference in students' academic performance between using GSRS and not using it in a study on the usefulness of GSRS on vocabulary learning. As a result, while Kahoot was a great way to brush up on vocabulary, it did not necessarily help students boost their grades.

Thirdly, it is interesting to learn that competitiveness, or winning the game, was not an essential aspect. For this group of students, it appears that having fun while playing the game was more significant. While playing the game, the players were not consciously competing with one another, but they did wish to outperform the other groups. In other words, there was collaboration and engagement inside the group, but not at the whole-class level. This conclusion contradicts the findings of Malone (1981), who claimed that intrinsic motivation is raised when students feel their accomplishments are recognized, particularly in the game's leaderboards. One reason is that not all students felt competition to be a powerful motivator (Ryan & Deci, 2000).

Finally, the results of the focus-group discussion provided a more detailed explanation for the quantitative data. The fact that it was performed like a game and the game music was revealed to be the factors that made the students enjoy themselves while participating in Kahoot - based activities in the classroom. Nonetheless, students' enjoyment was not the only thing that kept them engaged in the game. Kahoot was useful in providing an opportunity for students to communicate with one another and collaborate as a group. However, competition also took place in the presence of teamwork and collaboration among these participants, as the needs to express oneself may differ from one learner to another. Another important theme was focus and attention. Due to its fun nature and some game mechanisms like bonus points, music, and time limit, the Kahoot helped to increase the level of students' concentration. Additionally, vocabulary retention was improved thanks to the high level of interactivity and opportunities for collaboration offered by this technological application.

6. Conclusion, Implications and Limitations

This research project aimed to explore English major students' perceptions of the use of Kahoot in vocabulary learning, for example, fun and enjoyment, interaction and engagement, focus and attention, motivation and competition, and learning and knowledge retention.

Kahoot was found to have favorable perceptions from the survey participants. Kahoot was perceived by all participants to be a fun and beneficial classroom warm-up activity. Furthermore, the use of Kahoot dramatically improved classroom dynamics, particularly student-to-student interaction. With various characteristics like incentives and leaderboards,

it was revealed that the game inspired students to participate in classroom activities. More importantly, the use of Kahoot triggered students' need to express themselves. However, it was unexpected to find out that anonymity also helped boost students' learning motivation. Concerning vocabulary and knowledge retention, the effects of Kahoot is still open to question, as it was not clear whether the use of Kahoot or teachers' instructions were responsible for students' improvement.

Based on the findings of this study, several conclusions can be taken. To begin, more GSRS platforms for teaching and learning should be promoted to aid in achieving desired learning outcomes. Furthermore, as the study found, implementing Kahoot in the classroom boosted students' attentiveness and interaction. As a result, incorporating digital learning platforms into tertiary education settings can enhance active learning while removing distracting variables like mobile phones, which are increasingly widely available among university students. According to the findings of this study, teachers should employ these tools to promote engagement with and among students. Another conclusion is that employing these interactive GSRSs may provide students with a safe and non-threatening learning environment. The findings of this study demonstrated that leveraging anonymity as a game element attracted more people to play.

Moreover, the findings of this study showed that the popular game-based method should be implemented in the classroom as a type of continuous formative evaluation. Kahoot is being used in Vietnamese higher education as a game-based learning platform; it may aid vocabulary learning, particularly word retention. The findings of this study also show that teachers can use Kahoot to encourage peer learning and perform digital-based scaffolding. As a result, teachers are encouraged to use and customize Kahoot to enable effective learning and discussion in the classroom. Naturally, in order to conduct such a game-based vocabulary, classrooms need to be equipped with modern facilities (Anh et al., 2021)

Despite the study's achievements, there are a number of significant limitations to consider. The first limitation is the number of people who filled out the questionnaire survey. Because the sample size was small (n = 53), the results should be interpreted with caution. The findings are limited to a small sample and cannot be applied to the entire population. As a result, it is strongly suggested that future research be conducted with a bigger sample size. Another limitation lies in the selection of participants in the questionnaire survey. Those who were invited to participate in the survey must have played Kahoot at least once. However, the number of participating times varied, which may have become a threat to the validity of their responses. To circumvent this limitation, further studies may be required to synchronize the number of times students play the game.

One more important limitation is that the effects of Kahoot were investigated based on students' self-reported feedback with no concrete measurements. As perceptions are complex and sometimes considered unreliable, further investigation into the effects of using Kahoot in vocabulary learning may be necessary to validate findings from the present study. A longitudinal study, for example, can be conducted to investigate how these perceptions from students may change over time. Future studies may also focus more on the effectiveness of using Kahoot for vocabulary learning by examining students' scores in exams or students' academic achievements, providing more reliable findings. Lastly, an issue that was not addressed in this study was that teachers' perspectives were not considered when evaluating the effects of Kahoot. Hence, a study on instructors' perceptions of Kahoot as a GSRS may help provide a new understanding of this subject matter.

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SỬ DỤNG TRÒ CHƠI KAHOOT ĐỂ HỌC TỪ VỰNG: NGHIÊN CỨU TẠI MỘT TRƯỜNG ĐẠI HỌC Ở VIỆT NAM

Phạm Ngọc Thạch, Dương Thị Diễm

Trường Đại học Hà Nội, Km 9, đường Nguyễn Trãi, quận Nam Từ Liêm, Hà Nội, Việt Nam

Tóm tắt: Nghiên cứu này tìm hiểu hoạt động sử dụng trò chơi Kahoot để dạy học từ vựng tiếng Anh cho sinh viên ở một trường đại học ở Việt Nam. Sử dụng phương pháp nghiên cứu kết hợp định lượng và định tính, nghiên cứu thu thập dữ liệu khảo sát và phỏng vấn từ 53 sinh viên năm thứ nhất. Kết quả nghiên cứu cho thấy việc sử dụng Kahoot để học từ vựng mang lại hứng thú cho người học cho dù sự tham gia của họ không ổn định trong quá trình thử nghiệm. Trò chơi Kahoot giúp tăng cường sự tham gia, tương tác, tập trung, ganh đua và động lực học tập nói chung, học từ vựng nói riêng, đặc biệt là khả năng nhớ từ. Nghiên cứu đưa ra một số đề xuất về việc lồng ghép các trò chơi kỹ thuật số vào việc dạy học nhằm thúc đẩy động cơ học tập và duy trì sự tham gia của sinh viên tốt hơn.

Từ khóa: Kahoot, Việt Nam, hoạt động dựa vào trò chơi, học từ vựng