The Impact of Gamification "Kahoot App" in Teaching English for Academic Purposes

Rabea Ali[1], & MOHAMMED ABDALGANE[2]

[1] Lecturer of Curriculum and EFL Instructions, Department of English & Translation, College of Science and Arts, Ar Rass, Qassim University, Saudi Arabia

[2] Assistant Professor of Applied Linguistics, Department of English & Translation, College of Science and Arts, Ar Rass, Qassim University, Saudi Arabia

Correspondence: Rabea Ali, Lecturer of Curriculum and EFL Instructions, Department of English & Translation, College of Science and Arts, Ar Rass, Qassim University, Saudi Arabia.

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Abstract

Incorporating gamification into foreign language learning is a successful and effective strategy for improving learners' level of language skills and helping them to master communication with others. This study aimed to determine the impact of Kahoot, a gamification-based technological application, on English language vocabulary for academic purposes and motivation. Thus, 60 students were selected from among the university students enrolled in the English Language for Academic Purposes course. These students were randomly split into two equal classes: the control and experimental groups. English vocabulary Test was given to both groups following a pre-test, with the experimental group receiving Kahoot instruction while the control group received traditional instruction. The teaching continued for ten weeks, after which the students were tested with a post-test on the same vocabulary learned. Moreover, a motivation scale was used to identify the effect of Kahoot in enhancing the students' motivation toward learning English for academic purposes. The results showed positive results on the extent of the positive impact (of the Kahoot learning tool based on gamification) in learning English vocabulary for academic purposes and motivation.

Keywords: gamification, Kahoot App, Teaching English for Academic Purposes

1. Introduction

Learning English has a vital role in the educational process for learners of English for General Purposes (EGP). General English courses are being introduced at every stage of the high education system, especially at the university in Saudi Arabia. The content of these courses focuses on learning general English vocabulary and grammar. Although the students are requested to pass these courses, most fail. One challenge facing these students is teachers' traditional teaching methods. After many studies proved the positive role of mobile devices like smartphones, laptops, and tablets in the learning process, especially in EFL classes, the researchers thought of a digital teaching method; especially all the students hold smartphones with the internet.

The value of technology in language acquisition is now well acknowledged (Elkot & Ali, 2020; Li et al., 2014). Technology helps language learners study more effectively and provide better outcomes (Galla, 2016). Technology has been shown to have a positive impact on various language learning aspects, including grammar (Kl çkaya, 2013), writing (Lee et al., 2013), vocabulary (Wang & Suwanthep, 2017), listening (Kim, 2013), speaking (Sun et al., 2017), reading (Tsai & Talley, 2013), and giving oral feedback (Xu & Peng, 2017).

Mobile device use can enhance language learning, which has improved over the past ten years, especially for those studying English as a foreign language (Dashtestani, 2015; Rosell-Aguilar, 2018). Accessibility and portability are two benefits of using mobile phones in language learning (Derakhshan & Khodabakhshzadeh, 2011; Richardson et al., 2013), while other benefits include authentic tasks and materials being made available online, allowing for "reflective practice" on the part of learners, "possible timing capabilities," and boosting motivation for language learning (Hsu, 2013).

Gamification is somewhat new in education, but some educational websites use game elements to motivate users and

help them participate more successfully. Websites can keep the spirit of the race alive to their users and strengthen the communication between them using gamification elements.

Gamification uses game mechanics and aspects in many situations, industries, and daily activities to engage people in problem-solving and accomplishing specified objectives. As a result, it can be claimed that the gamification of education is a recent development as well as a practical strategy for encouraging students to study while utilizing game mechanics to maximize engagement and enjoyment (Dicheva, D., & Dichev, C., 2015).

Gamification is considered one of the best practices in education (Dellos, 2015). Many studies have confirmed the effectiveness of educational games in the learning process because they involve learners in critical thinking, review of educational content, and problem-solving. Teachers utilize digital games as the updated iteration of learning-based games to get their students involved in enjoyable activities with a purpose. Technological development has made it easier for teachers to integrate learning-based games into classroom activities.

Gamification applications stimulate and improve students' commitment to their lesson activity and often positively impact learning and success. (Godwin-Jones, R., 2015; Chans, G.M.; Portuguez Castro, M, 2021). Kahoot is a digital platform based on learning by games as students respond to a set of multiple-choice questions designed in any topic or subject, using any language and at different levels in the classroom (Tan Ai Lin et al., 2018).

This paper aims to assess the success of the Kahoot app methodology in a class of English for Academic Purposes. This study will begin with a review of the literature regarding prior research on the Kahoot approach. Then it will illustrate the research methodology used and show the results.

2. Literature Review

2.1 Kahoot

Kahoot is a digital learning platform based on games. It is used in the educational systems in schools and high institutions as it is easy to create, play, and share different games based on learning. It enhances other learning abilities and motivates learners to participate in the learning process by making the learning environment entertaining and pleasurable. Many types of research have shown favorable effects on learning and teaching. (Iaremenko, 2017) inspected the motivational effect of the Kahoot app on English language learners. The result was positive as this App created an enjoyable and funny environment in the classroom. Moreover, the learners claimed they had learned the required skills quickly and flawlessly by using some engaging activities and games on their mobile devices.

According to Gebbels (2018) and Plump and LaRosa (2017), Kahoot is a free online SRS that enables students to respond rapidly to multiple-choice questions and receive immediate feedback. It is compatible with cellphones, tablets, and laptop P.C.s. Several pieces of research examining how SRS affected student performance and learning found a favorable attitude toward SRS (e.g., Gebbels, 2018; Zarzycka-Piskorz, 2016). These studies did identify some of the disadvantages of SRS programs, but their major was on these applications' benefits and advantages, and they did not give a more in-depth analysis of their disadvantages and distracting features. These studies mainly focused on the benefits and advantages of SRS apps, albeit mentioning some of the applications' disadvantages. They did not thoroughly explore the drawbacks and distractions of using Kahoot in the classroom and SRS. Students were distracted by using language learning applications on their mobile devices, a behavior that peers and teachers commonly observe in educational settings (Frisby, 2017).

Furthermore, Kahoot helped the learners to have positive enthusiasm and satisfaction towards the learning process, be motivated to learn and be assisted in knowledge acquisition. (Bicen & Kocakoyun, 2018; Sabandar et al., 2018; Ismail & Mohammad, 2017) . Minton, M. & Bligh, B. (2021) revealed in their study the influential role of using Kahoot in overcoming the symptoms of test anxiety and making the classroom environment funny and collaborative. It increases student motivation as game elements are applied in the learning process in this App, so using Kahoot brings learners fun, motivation, and involvement. (Bicen&etal2018; Lin& etal, 2018; Vranešic, P& etal, 2019).

According to (Plump & LaRosa 2017), Kahoot is one of the best applications based-games for teaching university students. It has many advantages like access to mobile devices, availability of Wi-Fi, adding fun and motivation to the classroom, and students' fondness for computer games. In their study (literature review), (Wang & Tahir, 2020) found forty-eight studies proving the positive effect of Kahoot on language learning, math, technical fields, business, science, and nursing. Additionally, (Ismail et al., 2018) claimed students' perception and motivation towards using gamification.

However, only a few pieces of research revealed contrasting outcomes, finding that increased student cell phone use in educational contexts decreased academic performance and memory.

2.2 English for Academic Purposes

In recent times, (EAP) learning English for academic purposes has spread among students who are not English majors in most universities worldwide. Most Saudi universities offer EGP (English for General Purposes) courses to non-English significant students. These courses are mandatory in their academic study plans. The credit hours of these courses are between three to six hours during their study years. Teaching these courses aims to provide students with general English vocabulary and grammar to prepare them for later studies in other major courses. (Huang & Yang, 2020).

Moreover, Hyland (2007) added that the contents and activities of EGP courses are general for all specializations. According to Evseeva (2015), "education for life" has given way to "lifelong learning," which is defined as an ongoing, self-driven pursuit for information for a variety of goals, whether professional or personal." Therefore, a new teaching pedagogy was required to transform the teacher's function from knowledge distributor to learner coach and assistant.

A clear development has been observed in the use of various modern trends in teaching English for academic purposes, including using modern technological means such as programs and portable devices based on the Internet (Bahrami et al., 2019; Hyland & Shaw, 2016). EAP is a language explicitly created to meet the demands of students enrolled in higher education programs where English is the primary language. A subset of English for particular purposes is English for Academic Purposes (EAP) (Richards & Schmidt, 2010). Attention should be paid to the aspect of effective teaching methods in the field of teaching English for academic purposes (Bell, D. E, 2022).

In general, findings from many studies (i.e., Dixon & Christison, 2021; Reinhardt, 2021; Reinhardt and Thorne, 2016) proved the positive effect of using DGBLL (Digital Game-Based Learning Language) in foreign and second language acquisition. These studies were related to different areas in language learning like students' motivation (Mivehchi, L., & Rajabion, L, 2020; Hong, Z. & et al., 2022), language skills (Atmaja, T. A, 2022; Pasqualotto, A & et al., 2022; Oktavia, D., & Lestari, R, 2022), and language competence (Pusari, R. W., & Karmila, M., 2018; Kosheleva, E. M., 2020). The current study looked at how Kahoot affected academic English language learners. In this investigation, the following research inquiries are addressed:

(1) Are there any discernible differences in the experimental group's English vocabulary acquisition from the control group?

(2) Are there any appreciable changes in the experimental group's desire to study English for academic reasons from the control group?

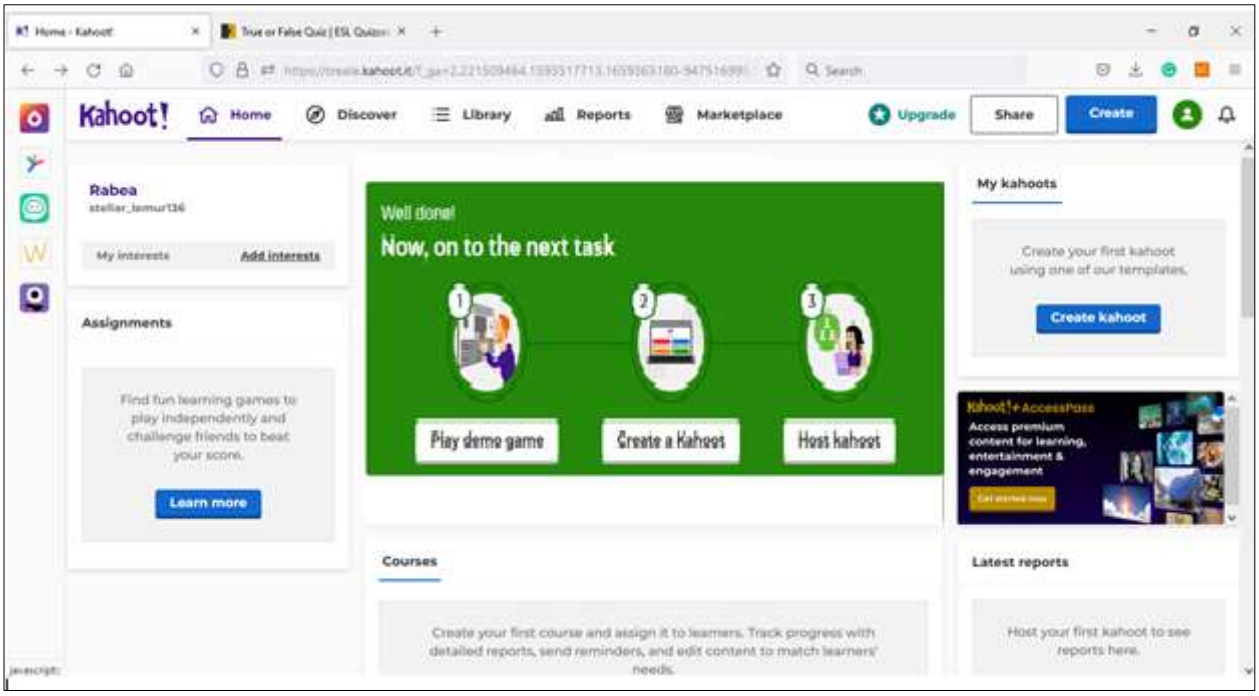

Figure 1. Shows the main screen of the App

3. Research Methodology

A quantitative methodology and a quasi-experimental research design were employed in the current study. Students studying English grammar and vocabulary for academic purposes served as the dependent variable in this study, while Kahoot App served as the independent variable. Students must complete a compulsory course (English for Academic purposes) as a prerequisite.

3.1 Participants

The participants of this study were 60 students in English for academic purposes course. The author split these respondents into two groups (experimental group and control group). The experimental group's pupils used the Kahoot app to complete their coursework. The control group conventionally went through the course. The participants were in the first level in the university stage and learned the English language for eight years in elementary and secondary schools before joining the university.

3.2 Data Collection Method

The authors used the experimentation-based research design. This study aimed to find out how the "Kahoot" app improved the vocabulary and motivation of EAP students. Data were collected via the pre-post test and motivation questionnaire towards using Kahoot App in learning English vocabulary.

3.3 Research Instruments

3.3.1 Vocabulary Achievement Test

This tool is essential in our study as it helps us to get the data precisely. Each object has four pieces. These questions assessed vocabulary in various methods, including word classification, word matching, word use in context, and sentence rearrangement. Five distinct Kahoots were employed in the experimental group, all similar to the exam questions. Participants in these had to connect English words to pictures. The exam comprised multiple-choice questions with four alternative responses and only one valid answer (akin to Kahoot's Quiz), and it was administered on-site but using a computer through the university's Moodle platform. Correct answers received a 25% reduction in the question's value penalty. The exam was 50 minutes long, and each question may only be answered in one-minute games.

3.3.2 Learning Motivation Scale

The researchers, with expert input, prepared the learning motivation scale to assess the effect of the Kahoot app on students' learning motivation among university students. This scale was used before and after the experiment with the experimental and control groups. To determine to what extent the students had motivation toward learning English for Academic purposes using Kahoot!, a learning motivation scale was administered after the course was completed but before the test. Because Kahoot! was already well-known to the pupils! It was agreed to use this instrument to administer the scale. For this reason, the scale statements were written with the following possible responses for each one: strongly agree, agree, disagree, and strongly disagree. Specifically, the Kahoot! Each student finished the scale during a session while the game was in assigned mode. The Kahoot scoring mechanism was disabled to prevent influencing the students' replies. The motivation scale results were recorded and statistically analyzed using the T-test. The comparison of the two groups of the sample on the pre-test is shown in Table (2).

3.3.3 Kahoot App

The Kahoot application was used as a teaching tool for the presented four-week course. The two groups took the pre-test in the first class, but the post-test was given in the last lesson. The same researchers served as teachers for both groups, delivering the same lesson material; the main distinction was how it was delivered. Through Kahoot, the test group practiced vocabulary. The control group used conventional techniques like worksheets and activities on the whiteboard. Various Kahoots! Kahoot! was used to develop games for four of the subject's five subjects. Website. Every Kahoot! included ten questions, and for the more extended themes, two distinct Kahoot! were born at different times. The quiz type (four possible responses, only one of which is accurate) and true-false (T/F) questions were created, with maximum response lengths of 60 and 30 seconds, respectively. Similar to final examinations, the questions were made utilizing data from the slides shown during the training sessions. The Kahoot! game was used in the last moments of synchronous courses. Each student played a game individually and in real-time, following the standard teaching method. Thirty-nine students registered for the course, and the Kahoot session lasted about 10 minutes. Although there are not many participants in this study, it represents all students enrolled in a topic, and everyone has unique personal circumstances; therefore, we anticipate the findings to be comparable to those of a

study with larger sample size. After developing the Kahoot games, the information was taken off the server, imported into Excel-like files, and analyzed using straightforward mathematical processes.

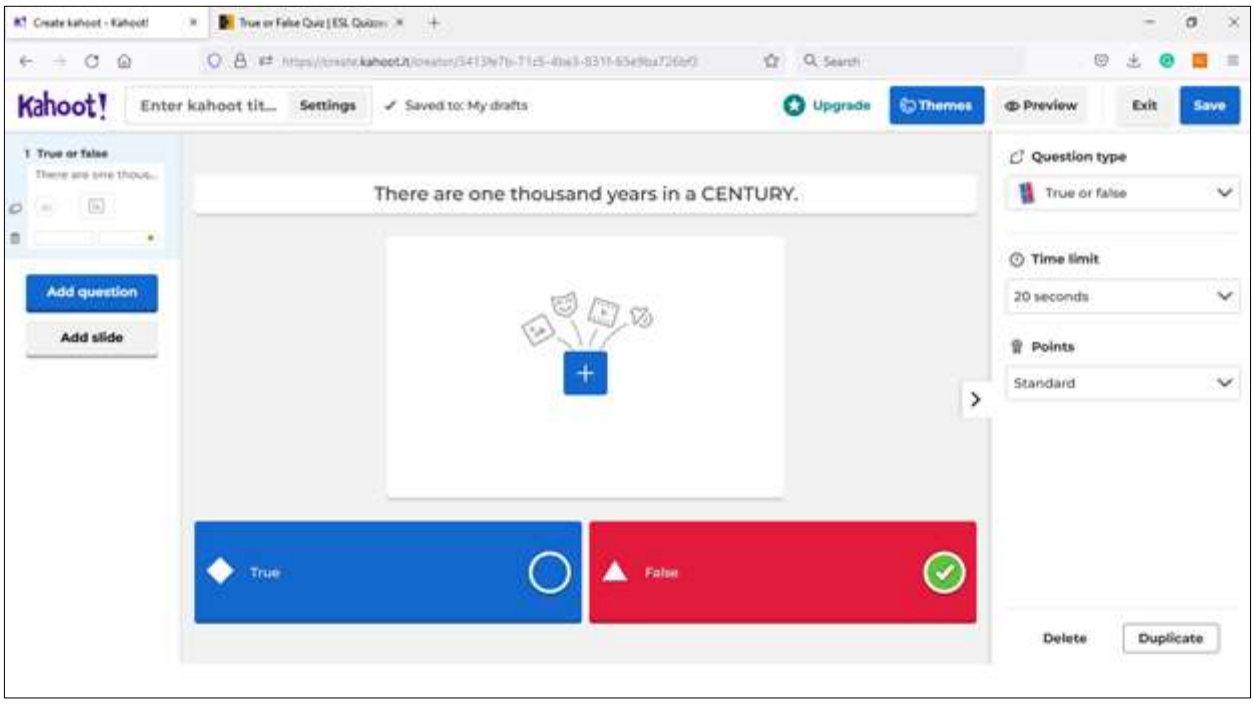

Figure 2. Shows the activity diagram of the App

4. Results & discussion

The statistical analysis program (SPSS) was used to analyze the data collected after the basic research procedures were completed. To respond to the first research query:

RQ1; Are there any significant differences between the control and experimental group in gaining English vocabulary?

A T-test (Table 1) was performed to compare the differences in vocabulary gains between the control and experimental groups after four weeks of learning using the Kahoot App. Between the two groups, the results revealed a significant difference (p 0.05). This means that the experimental participants (mean= 16.6) are better at gaining English vocabulary than the control participants (mean= 12.8). This shows the positive effect of the Kahoot App in teaching English vocabulary among the participants who learned English for academic purposes. These results agree with (Lee et al., 2019; G€oksün & Gürsoy, 2019; Dolezal et al., 2018; Ares et al., 2018).

Table 1. Descriptive statistics of pre-test and post-test between the control and experimental groups

items	Control Mean S.D.		Experimental Mean S.D.		t	df	sig
Pre-test	12.000	1.472	12.5	2.37	-2.088	58	.04
Post-test	12.800	1.384	16.6	1.43	-1.027	58	.31

Furthermore, Table 2 demonstrates the difference between the pre-test mean score (mean = 24.70) and the post-test mean score (mean = 35.33), T = 28.516 at a mean level (p =.000) less than the value of = 0.05 in favor of the post-test of the experimental group. This indicates that the Kahoot App assisted the participants in expanding their English vocabulary.

Table 2. Difference between the pre and post-test in the experimental group

Experimental Group	Mean	N	Std.D	Std.Err	t	P (2-ailed)
pre	24.70	30	3.51499	.64175	-28.516	.000
post	35.33	30	2.77095	.50590		

The researchers stated that using Kahoot App is a variation of the traditional learning pattern and a significant cause of the previously mentioned results. This means that the current App has an impact on acquiring vocabulary.

As shown in Table 3, the paired-sample T-test was used to determine the difference between the mean scores of the pre-test and the mean scores of the post-test of the control group for improving English vocabulary.

Table 3. shows the differences between pre-test and post-test with the control group students using a paired-sample t test

Control Group	Mean	N	Std.D	Std.Err	t	P (2-ailed)
pre	24.36	30	3.90	.713	3.010	.000
post	24.70	30	3.83	.700		

The previous table clearly shows that there was a statistically substantial variation between the average pre-test scores (mean = 24.36) and the average post-test scores (mean = 24.70), T = 3.010 at a level of significance (p =.000) less than the value of = 0.05 for the post-test. This indicated that vocabulary for the control group of traditionally studied students had improved. In comparison to the observed improvement rate between the pre-test and post-test in the experimental group, it was noticed that the difference between the pre-test and post-test means is hardly noticeable. The researchers stated that in the traditional form of learning, English language skills, particularly vocabulary skills, face many difficulties and obstacles in creating an interactive environment between the student and the teacher with direct and immediate feedback. This result is constant (Hermagustiana & Rusmawaty, 2017) and (Heil & et al., 2017).

The experimental group's mean post-test scores and the control group's mean post-test scores for enhancing English vocabulary were compared, as shown in Table 4, using an independent-sample T-test to determine the difference and confirm the homogeneity of the two groups.

Table 4. Difference between the post-test for the experimental group and control group

Group	Mean	N	Std.D	Std.Err	t	f	df	sig
Exp	34.6000	30	2.69	.492	25.984	.366	38	.484
Control	23.8333	30	3.28	.599				

The findings of the preceding table reveal that (F) =.366 and the significance level is.484. This result is more than 0.05 and hence not statistically significant (the two groups are homogenous); t-test = 25.98, df = 38, and Sig. As the value of Sig, (2-tailed) = 0.000. If the (2-tailed) value in the table is less than the = 0.05 value, it shows a statistically significant difference in mean scores between the experimental and control groups in favor of the experimental group. This showed that the experimental group's English vocabulary development and improvement were more significant than the control group.

RQ2; Are there any significant differences between the control and experimental group in motivation toward learning English for academic purposes?

The researchers employed a T-test (Table 2) to compare the desire of the control and experimental groups to study English for academic objectives. The results revealed a significant (p0.05) difference between the two groups. This means that the experimental participants (mean= 4.92) are better than the control participants (mean= 4.48) in motivation toward learning English vocabulary. This shows the positive effect of the Kahoot App in enhancing motivation toward learning English vocabulary among the participants who learned English for academic purposes. These findings support Licorish et al. (2018) .'s study, which was a qualitative examination in which the researchers spoke with students about their Kahoot! based on their observations, students can maintain concentration when utilizing Kahoot! ; (Nicolaidou,2018). Students liked the introduction of Kahoot, according to his thesis. The satisfaction survey shows that Kahoot helped them spot their deficiencies in real time.

The results show that pupils who perform well in class exercises also do well in their academic studies. (Budiati, 2017) who discovered Kahoot! in order to enhance pupils' English learning. The learning process will benefit from this application's ease of use. According to the table data, Kahoot! effectively catches the interest of the class. Laremenko (2017) has shown that online games may encourage intrinsic motivation, encouraging students to engage in educational activities. His study examined how gamified learning may encourage language acquisition and affect students' behavior by boosting motivation. Gamification can provide pupils with meaningful interactions, as seen by Kahoot! Intrinsic motivation is increased when there is a chance to win or earn something. As a result, the instructor can add to, amend, or condense the complicated linguistic content in this area. The survey's findings indicate that students appreciate particular objectives and adhere to the rules when working in teams. Creating a more welcoming learning environment is one of the advantages of gamification in ESL instruction.

4.2 Effects of Kahoot App on Students' Motivation

Table 5. Descriptive statistics of motivation questionnaire

motivation	Control		Experimental		t	df	sig
	Mean	S.D.	Mean	S.D.			
1. this App can develop my English language skills	4.19	.77	4.70	.54	2.944	52	.00
2. this course is helpful for me	4.67	.48	4.92	.25	2.693	44	.01
3. the activities of this App are desirable.	4.48	.57	4.84	.38	2.929	50	.01
4. the tasks of this App are easy	4.10	.71	4.57	.73	2.510	58	.01
5. this App can help me to be confident in learning English	3.80	.71	4.30	.84	2.489	58	.02
6. I enjoy learning English vis Kahoot.	4.49	.57	4.83	.46	2.484	55	.02
7. this App motivates me to learn the English language.	4.31	.89	4.70	.47	2.206	44	.03
8. this App helps me to participate more	4.20	.81	4.50	.63	1.608	58	. 11
9. the content of this course is suitable for me.	4.64	.54	4.57	.63	.435	58	.66
10. I am satisfied with the Kahoot app	4.70	.47	4.77	.77	.404	58	.69
Average	4.35	.38	4.67	.29	3.587	58	.00

5. Conclusion

This study summarized the effectiveness of Kahoot application in English vocabulary teaching and motivation. The study's findings also have practical implications regarding the influence of the variables involved in the study. The study's findings can help certain parties, including students, instructors, and schools, completely use the Kahoot application, which has a good effect on the teaching and learning process in the classroom. Despite the study's limited sample size of students, it was nonetheless feasible to verify the effectiveness of using common tests, particularly Kahoot! The platform significantly diminished these biases, and many kids learned how to utilize Kahoot! The researchers thought it was beneficial and would suggest it for other topics.

This conclusion implies that frequent quizzes should be utilized to identify areas where students require review prior to exams. It is also important to note that more people are using Kahoot! Students who played games did better on their final exam, suggesting that professors should encourage more student involvement to raise the success rate of online learning.

Abbreviations

EAP: English for Academic Purposes

EGP: English for General Purposes

ESL: English as a Second Language

EFL: English as a Foreign Language

SRS: Student Response Systems

DGBLL: Digital Game-Based Learning Language

Moodle: Modular Object-Oriented Dynamic Learning Environment

Availability of data and materials

All data and information recorded or analyzed throughout this study are included in this paper.

Competing Interests

The authors declare that they have no relevant financial or non-financial interests.

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Ethics statement

Ethical review and approval were not required for the study on human participants by the local legislation and institutional requirements.

Consent statement

Written informed consent from the [patients/ participants OR patients/participants legal guardian/next of kin] was not required to participate in this study following the national legislation and the institutional requirements.

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