

### 83. University students' perceptions in Kahoot!-integrated game-based EFL classes

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#### Abstract

In today's digital landscape, students' lives are profoundly shaped by constant interaction with digital materials. In response, educators persistently seek innovative approaches to enhance educational practices. This research centers on unraveling the perceptions of English as a Foreign Language (EFL) students utilizing Kahoot! for language acquisition. A questionnaire was conducted to investigate students' perceptions regarding Kahoot! implementation in EFL classes, the role of Kahoot use in enhancing student motivation, and the effectiveness of using Kahoot in the language classroom. The study engaged 120 university-level EFL students, of whom 72 volunteers responded to the questionnaire. This survey was conducted among students who utilized Kahoot! throughout the semester, as the game-based tool was seamlessly integrated into the language learning curriculum in the North Cyprus context at the higher education level. Quantitative data was collected through an online questionnaire and evaluated using a four-point Likert scale. The findings illuminated students' positive perceptions of Kahoot!, underscoring its capacity to amplify motivation and engagement. The research proposes that dynamic tools like Kahoot! hold the potential to fashion an interactive, motivational, and effective milieu for language acquisition. These implications echo across curriculum development, technology fusion, and decision-making for educators and education administrators alike. By attaching the advantages of game-based learning platforms such as Kahoot!, educators can cultivate a more captivating and productive language learning atmosphere.

**Keywords:** Game-based learning, Kahoot!, university, EFL students, student perception, motivation, educational technology

### Üniversite öğrencilerinin Kahoot! entegre oyun tabanlı yabancı dil olarak İngilizce derslerine ilişkin algıları

#### Öz

Günümüz dijital çağında, öğrencilerin yaşamları sürekli olarak dijital materyallerle etkileşim içerisinde şekillenmektedir. Bu bağlamda, eğitimciler, eğitim uygulamalarını geliştirmek için sürekli olarak yenilikçi yaklaşımlar arayışı içerisindeyler. Bu arařtırmada, öğrencilerin, yabancı dil olarak İngilizce sınıflarında Kahoot! uygulamasına ilişkin algılarını, Kahoot! kullanımının öğrenci motivasyonunu artırmadaki rolünü ve dil sınıflarında Kahoot! kullanımının etkinliğini arařtırmak için bir anket yapılmıştır. Çalışma, üniversite düzeyinde 120 yabancı dil olarak İngilizce öğrencisi ile

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gerçekleştirilmiş olup, bu öğrencilerin içerisinde 72 gönüllü anketi yanıtlamıştır. Anket, Kahoot'un dil öğrenimi müfredatına oyun tabanlı bir araç olarak nasıl entegre edildiği bağlamında, sömestr boyunca kullanılan öğrencilere yöneltilmiştir. Nicel veriler, çevrimiçi bir anket aracılığıyla toplanmış ve dörtlü Likert ölçeği kullanılarak analiz edilmiştir. Bulgular, öğrencilerin Kahoot'a yönelik olumlu algılarını ortaya koymuş ve bu platformun motivasyon artırma ve öğrenme deneyimini zenginleştirme kapasitesine vurgu yapmıştır. Araştırma, Kahoot gibi dinamik oyun tabanlı araçların etkileşimli, motive edici ve etkili bir dil öğrenme ortamı oluşturabilme potansiyeline sahip olduğunu önermektedir. Bu çalışmanın sonuçları, eğitimciler ve eğitim yöneticileri için müfredat geliştirme, teknoloji entegrasyonu ve karar alma süreçlerinde kullanılabilir. Kahoot gibi oyun tabanlı öğrenme platformlarının avantajlarının kullanılmasıyla, eğitimciler daha etkileyici ve üretken bir dil öğrenme ortamı oluşturma imkânına sahip olabilirler.

**Anahtar kelimeler:** Oyun tabanlı öğrenme, Kahoot!, üniversite yabancı dil olarak İngilizce öğrencileri, öğrenci algısı, motivasyon, eğitim teknolojisi

## 1. Introduction

The development of new technologies has resulted in a variety of acquiring approaches as well as tools that can help improve the productivity of the language learning practice. Language learning is a challenging process and therefore learners can easily lose their desire and give up. Such an undesirable outcome may be due to a lack of technology-based educational materials (Wichadee & Pattanapichet, 2018). Thus, as Moylan et al. (2015) stated, in the twenty-first century, computer-driven technology is constantly pressuring higher education to transform and adapt to the advances brought about by the information revolution.

Recently, a range of technological tools and software, including games and simulation programs, have been incorporated into the established educational model to support and encourage students' learning (Chiang et al., 2011). According to Eltahir et al. (2021), educational games are a sort of focused game that is based on certain strategies, and resources that instructors develop and test with before directing students to practice achieving specific goals. According to Mei et al. (2018), smart tools comprising iPods, tablets, and smartphones have proved helpful for both students and teachers during the learning and teaching processes, especially when educational games are used. Although existing educational techniques utilize new technology, Belkhouche et al. (2014) claim that they do not address the learning processes, infrastructures, curriculum frameworks, or evaluation methodologies that consistently support e-learning. This void is also observed in a systematic review (Zhang and Yu, 2021) and recent studies (Chen et al., 2022; Janković et al., 2023). Because of this, there is an urgent need for innovative learning models that incorporate technology and instructional programs, as well as for enhancing the use of suitable tools for presenting, processing, and cooperating with knowledge. Teachers of a foreign language in the context of North Cyprus face the problem of delivering engaging lectures and encouraging students to study the foreign language in an effective manner to increase student motivation and academic accomplishment (Degirmencioglu et al., 2023). The researchers believe that incorporating gamification components into the learning process is one possible solution. Gamification of the learning process is feasible by utilizing the Kahoot! platform (Resmayani & Putra, 2020). The study also argues that Kahoot! when utilized in a range of settings and fields, can improve learning more than conventional learning environments and conventional learning tools and approaches (Resmayani & Putra, 2020). Based on the research gaps and further needs mentioned above, the purpose of this research is to ascertain the opinions of EFL students utilizing Kahoot! in North Cyprus contexts for

language learning environments. The literature study then looks at classroom dynamics, whether Kahoot! has an impact on students' motivation, achievement, and enthusiasm, as well as how Kahoot! affects the learning performance of students while using technological teaching methods and technologies. The following research questions were asked to achieve the stated goal of the study:

1. What are the general perceptions of university students regarding using Kahoot! in language classrooms?
2. To what extent does Kahoot! play an important role in enhancing university students' motivation in language classrooms?
3. To what extent do university students believe in the effectiveness of using Kahoot! in language classrooms?

## 2. Literature review

Numerous studies have demonstrated that game-oriented education is a significant and novel teaching strategy in the teaching and learning process, and thus might assist learners to enhance and develop their language learning performance, as well as their collaboration and motivation to continue studying (Adnyani et al., 2022; Alharthi, 2020; Baydas & Cicek, 2019; Bicen & Kocakoyun, 2018; Kraus et. al., 2020; Wang & Tahir, 2020; Zarzycka-Piskorz, 2016). The findings of these studies suggest that gamification and game-based learning facilitate students' acquisition of English language skills by creating a highly effective multimedia learning environment.

### 2.1 Gamification

Gamification can be produced as a novel learning experience that enhances student motivation. Incorporating a gamification method increases students' ambition for achievement and engagement in the class. Furthermore, this method has a positive impact on student motivation. Moreover, Kahoot! may be used effectively to gamify classes, so gamification has a beneficial impact on students, enhancing their desire and incentive to study (Bicen & Kocakoyun, 2018).

Gamification, which is a developing trend in education that uses a more ethical method of incorporating games in the classroom, has already been addressed. Gamification, as opposed to game-based learning, is the use of game components and game thinking in non-game contexts to boost motivation and engagement and to affect user behavior (Marczewski, 2013). Therefore, incorporating game mechanics into education might turn the entire learning experience into a game that creates an interesting environment and keeps students wanting more. Through the use of game components like achievement badges, points, leaderboards, levels, quests, and progress bars, teachers will be able to direct their students' learning and encourage active learning and motivation in their language classes.

To create a gamification technique that boosts learner enthusiasm, it is also essential to concentrate on the mechanics that make up the fundamental characteristics of student-friendly video games. It has been demonstrated that these gaming mechanisms increase motivation during active learning processes (Baydas & Cicek, 2019).

## 2.2 Game-based learning in EFL contexts

In recent years, game-based learning has garnered substantial interest. The digital generation embraces mobile applications (Dahalan et al., 2023; Petrović et al., 2022). The debate over the most effective technique for English language students continues, as well as the effect of smart tools on English as a foreign language (EFL) acquisition is unknown. To be more precise, little is known about the opinions of EFL students regarding mobile applications (Benhadj et al., 2019). Game-based learning has gained popularity in recent years as an effective pedagogical approach to teaching various subjects, including EFL (Alawadhi & Abu-Ayyash, 2021; Ruiz, 2021). Many researchers have investigated the use of games in language learning and have reported positive outcomes in terms of increased motivation, engagement, and language proficiency among learners (Nadi-Ravandi & Batooli, 2022; Tao & Zou, 2021).

Learning that is "facilitated by the use of a game" is also referred to as game-based learning. In other words, it refers to the use of games for education. Despite having a simple concept, game-based learning has many different uses, styles, and objectives. Game-based learning, for instance, can be used at the preschool level (for kids under the age of five) and the university level (for more advanced students). It could be a straightforward game played in person or a complicated game utilizing contemporary technologies. Additionally, any sort of learning can be included in game-based learning.

Game-based learning "involves using game components, such as incentive systems to drive players to engage in an activity they might not otherwise find enjoyable," claim Plass, Homer, and Kinzer in their 2015 study. Games promote a positive learning atmosphere in language lessons, making game-based language learning an effective tool. It guarantees students' active participation, which is essential to the success of language learning.

Based on the literature, there is a growing consensus that Kahoot! can be used with students of all ages. Among the other game-based learning systems, students perceive Kahoot! to be useful for boosting motivation and encouraging and reinforcing learning (Tan et al., 2022). Kahoot! also motivates students to learn, fosters a positive classroom environment, helps them regain focus, and promotes effective competition. This is also observed in a study by Żammit (2022) found that "game-based" learning is a powerful technique for individuals learning Maltese. Tao and Zou (2021) found that Chinese learners perceive Kahoot! as a beneficial tool that can boost learning enthusiasm toward English courses. Another research conducted by Fuster-Guilló et al. (2019) revealed that Kahoot-based experience boosts student motivation. Although the aforementioned studies expand our understanding, still little is known about the University Students' Perceptions of Kahoot!-Integrated Game-Based especially in EFL Classes.

Extant literature also underlines that Kahoot! is a platform for a game-based approach that can be used to test students' comprehension, as a tool for formative assessment, or as a respite from more traditional classroom activities. The usage of Kahoot is beneficial for learning in K-12 and higher education, language acquisition, technical and engineering disciplines, science, math, business, and nursing (Wang & Tahir, 2020). According to Wang and Tahir's study in 2020, students' opinions of using Kahoot! in the classroom were generally quite good. Students' motivation, engagement, concentration, perceived learning, attention, enjoyment, happiness, and confidence were all found to be positively impacted by this perspective. A review of related studies found that Kahoot! can improve learning results, classroom dynamics, and student and instructor attitudes, and reduce students' anxiety (Wirani, Nabarian &

Romadhon, 2022). Parallel to this, our study also closely aligns with the concept that Kahoot! can contribute to providing a holistic understanding of how Kahoot! can positively impact the educational process, which matches the authors' aim to highlight the transformative potential of Kahoot! in education.

Another study examined the use of Kahoot! tool in higher education in order to explore students' opinions, perceptions, attitudes, preferences, and satisfaction with the technology's practical utility for concept learning (Pinna et al., 2019). In this study, there were no negative responses to the instrument, and 66% of students would advocate for its use in higher education. The most frequently acknowledged benefits of Kahoot! were its utility and its ability to engage and motivate learning by boosting classroom dynamics, enjoyment, participation, and competition. As digital natives are dissatisfied with traditional classroom settings, encouraging alternative teaching and learning tactics and engaging and inspiring students through techniques such as the flipped classroom is strongly advised (Pinna et al., 2019).

All in all, Kahoot is more than a technological tool—it is a catalyst for pedagogical transformation. By augmenting learning processes, boosting motivation, enhancing engagement, and positively influencing classroom dynamics, Kahoot has the potential to revolutionize EFL education and contribute to more effective and enjoyable learning experiences (Alharthi, 2020). Moreover, due to the ease of access to mobile devices, the availability of Wi-Fi, and the students' interest in computer games, Kahoot is a fantastic choice for teaching students. Tools like Kahoot create positive energy, support exploration, and add fun to the educational setting by enhancing comprehension and motivation (Yürük, 2020).

Despite the pervasiveness of technology in daily life, there is little empirical data on how it affects academic learning, particularly in EFL situations. The aim of our research is to ascertain the opinions of EFL students using Kahoot! in North Cyprus contexts for language learning environments.

### 3. Methodology

The present study's methodological framework is based on quantitative research principles. In this study, a student questionnaire is used as a valuable instrument to assess learners' perspectives on the utilization of Kahoot! within the English language classroom. Tan, Singh, and Ganapathy (2018) designed and used this data collection tool first, and Cárdenas-Moncada et al. (2020) adapted it. In this research, the modified edition of the questionnaire (Cárdenas-Moncada et al., 2020) was employed to align with the requirements of the current study (refer to Appendix 1).

While the initial description provided may have been concise, it is important to elaborate on the method through which students' perceptions were gathered regarding their experience with Kahoot! game-based learning. The questionnaire was administered to students who had actively utilized and engaged with Kahoot! throughout the semester within their language classrooms. This engagement was facilitated by their instructors, who integrated Kahoot! into the curriculum as a gamified learning tool. The students' perceptions and responses in the survey were grounded in their direct experience with Kahoot! in a game-based format. The survey items were carefully crafted to capture various aspects of their experience, such as their level of engagement, enjoyment, perceived impact on learning, and motivation. By targeting students who had genuinely interacted with Kahoot! in their language learning journey, the questionnaire aimed to provide an accurate representation of the impact of game-based learning using Kahoot!. To further ensure the credibility and validity of the questionnaire results, students were required to provide details about their active participation in Kahoot! sessions within their language

classrooms. This confirmation of their practical experience with the tool helps establish a strong link between their perceptions and their actual engagement with Kahoot! as a game-based learning platform. The questionnaire conducted was specifically designed to gather insights from students who had hands-on experience with Kahoot! in a game-based format. Their perceptions and feedback were thus informed by their real interactions with the tool, underlining the authenticity and relevance of the survey outcomes.

### 3.1 Participants

The participants in this research study were university English preparatory school students in Famagusta, North Cyprus who are at the B1 level of English proficiency. These students had undergone prior language instruction and possess a foundational understanding of the English language. The sample was composed of participants with experience of using Kahoot! in the classroom. Because only 120 students were utilizing Kahoot! in their language classrooms at the time, the questionnaire was administered to them only. 72 students out of 120 volunteered to join the study as a respondent. The participants ranged in age from 18 to 54 years. Male students made up 47% of the student population, while female students made up 53%. The participants completed an online consent form that included information about the study and their consent to participate in the study. Participants' age range was 18-54, the average age being 26).

The academic learning context of this study centers around university English preparatory school students at the B1 level which indicates an intermediate level of language proficiency, wherein students are able to comprehend and communicate in familiar and straightforward situations. They can understand and produce simple texts related to various topics, allowing them to engage in basic conversations and exchanges. The study's focus on B1 level students is crucial as this proficiency stage represents a pivotal point in language development, where learners transition from basic to more nuanced language skills. By understanding how Kahoot! impacts this specific group, valuable insights can be gained into the potential of technological tools for improving language learning outcomes and motivation within an academic setting.

Within this context, the study seeks to explore the role of Kahoot!, a digital learning platform, in language learning and motivation. By integrating Kahoot! into the teaching methods and technologies utilized in the preparatory school, the researchers aimed to assess whether the interactive and gamified features of Kahoot! can enhance students' language acquisition and increase their motivation to learn.

### 3.2 Data collection instruments and procedures

The data collection instrument utilized in this study was an online questionnaire, which was distributed and collected through Google Forms. Participation was voluntary and participants willingly took part in the study after providing their informed consent. A consent form detailing the study's purpose and procedures was shared with participants via email as an attachment. The questionnaire was divided into two parts: (i) a biographical data section designed to collect demographic information about the participants and their prior experience with Kahoot! and (ii) a "four-point Likert scale" anchor section where (1) represented strong disagreement and (4) represented complete agreement. This scale facilitated participants' expression of their level of agreement or disagreement with the presented statements. Overall, the online student questionnaire consisted of 26 items designed to comprehensively capture participants' perceptions and viewpoints. Following the administration of the questionnaire, the

subsequent step involved the collection of the acquired data, which was then subjected to analysis to discern patterns, insights, and trends. This methodical process allowed for a rigorous examination of the impact of Kahoot! on the participants' language learning experience.

Cárdenas-Moncada et al. (2020) employed Cronbach's alpha to measure the internal consistency of the questionnaire. The first dimension of the instrument had a high level of reliability in the pilot ( $=.91$ ), above the typical cut-off value of 0.70 advised by the literature (Brown, 2002), but not in the respondent sample for the intervention ( $=.10$ ). The researchers decided not to include items 3 and 26 in the analysis of the score for this dimension since an item-by-item analysis showed that doing so considerably boosted reliability ( $=.80$ ) when they were excluded. The second dimension of the questionnaire had very high reliability in both the pilot sample and the intervention sample (both  $=.84$  and  $=.70$ ). The third dimension of the questionnaire performed exceptionally well in the pilot ( $=.87$ ). Items 7 and 18 were left out of the scoring for this dimension after an item-by-item analysis showed that leaving them out boosted reliability ( $=.71$ ). The final part of the questionnaire was also highly reliable in both the intervention sample ( $r = .86$ ) and the pilot sample ( $r = .91$ ).

### 3.3. Data analysis

Researchers reproduced a questionnaire utilizing Google Forms, incorporating Likert scale question types to capture participants' responses. Through online completion of the questionnaire, participants' inputs were automatically gathered and stored within the Google Forms platform. Subsequent to data collection, researchers undertook data analysis to extract insightful interpretations and formulate conclusions from the comprehensive responses. While Google Forms facilitated data collection, the data analysis phase involved the utilization of the SPSS 25 software (Statistical Package for the Social Sciences), a specialized tool commonly employed for statistical analysis in social science research.

## 4. Findings and discussion

The results of quantitative data analysis are presented in Table 1 below.

Table 1. Students' perceptions towards Kahoot! for language learning. SA: Strongly Agree; A: Agree; D: Disagree; SD: Strongly Disagree

Items	SA (%)	A (%)	D (%)	SD (%)
1. "I looked forward to playing Kahoot!."	54.2	44.4	0.4	0
2. "I felt excited when playing Kahoot!."	54.2	45.8	0	0
3. "It was easy to use Kahoot!."	47.2	48.2	4.2	0
4. "I found Kahoot! fun."	70.8	27.8	0.4	0
5. "I enjoyed playing Kahoot!."	68.1	29.2	2.7	0
6. "I felt positive when playing Kahoot!."	55.6	40.3	4.1	0
7. "I liked the competitiveness in our Kahoot! sessions."	52.8	44.4	2.8	0
8. "I responded as accurately as possible to each item or question in each Kahoot! session."	33.3	61.1	5.6	0
9. "I responded as quickly as possible to each item or question in each Kahoot! session."	30.6	62.5	6.9	0
10. "I focused on the items or questions in each Kahoot! session."	38.9	58.3	2.8	0

11.	"I responded to each item or question in each Kahoot! session."	41.7	47.2	11.1	0
12.	"I did the Kahoot! quizzes not only because the teacher requested them."	43.1	38.9	15.3	2.7
13.	"I wished to do better on the Kahoot! sessions than most other students in the class."	51.4	44.4	4.2	0
14.	"I was eager to learn via Kahoot!."	43.1	50	5.6	1.4
15.	"I was motivated by the prospect of winning in these Kahoot! sessions."	44.4	51.4	4.2	0
16.	"I wish Kahoot! was also used in other subjects."	54.2	41.7	4.2	0
17.	"Kahoot! helped me to retain my new knowledge."	50	48.6	1.4	0
18.	"Kahoot! enhanced my understanding of the subjects."	47.2	50	2.8	0
19.	"Kahoot! was an effective method to correct my misconceptions on the subjects."	36.1	58.3	5.6	0
20.	"Kahoot! motivated me to learn more."	50	40.3	9.7	0
21.	"Kahoot! was a distraction to the real class activities."	31.9	34.7	22.2	11.1
22.	"Kahoot! was an effective method for reflective learning."	50	44.4	5.6	0
23.	"Kahoot! helped me reinforce my learning."	48.6	48.6	2.8	0
24.	"Kahoot! facilitated my learning of the subjects."	45.8	51.4	2.8	0
25.	"Kahoot! helped me be prepared for my test."	40.3	50	8.3	1.4
26.	"Kahoot! was an effective method to provide feedback."	37.5	58.3	4.2	0

The first research question was concerned with students' overall perceptions toward Kahoot!. According to the questionnaire results, the participants' general perceptions about using Kahoot! in the classroom were highly positive. This is evident in student responses, particularly to items 1-6, and items 18 and 23. In response to item 6, the vast majority of the participants stated that they felt positive when playing Kahoot! with 95.9% agreement. Almost all the participants (98.6%) reported that they looked forward to playing Kahoot! and that they all felt excited about playing it (100% agreement for item 2). The data showed that the participants' overall perceptions about using Kahoot! in the classroom were positive. In accordance with our findings, Korkmaz & Oz (2021) reported that Kahoot! users not only had positive attitudes toward the Kahoot game but also demonstrated substantial language learning gains. In general, the study's findings suggest that Kahoot can be an effective method for motivating EFL students, thereby enhancing their ability to assimilate a variety of materials.

The second research question addressed the role of Kahoot! in enhancing students' motivation in the language classroom. The questionnaire results indicated that Kahoot! played a significant role in increasing student motivation in the classroom. Particularly items 7-15, 20, and 21 revealed that playing Kahoot! helped to motivate students. One important characteristic of Kahoot! is that it promotes competitiveness in the classroom. As students compete with each other, they are more heavily involved in the task and therefore feel more motivated. In response to item 7, the majority of the respondents (97.2%) reported that they liked the competitiveness in their Kahoot! sessions while only 2.8% expressed disagreement with this statement. In a spirit of competition, they tended to respond to questions in a Kahoot session as accurately (94.4%) and quickly (93.1%) as possible, which led to increased involvement and motivation. There is further support for the link between competitiveness and motivation. Most respondents (95.8%) agreed that the prospect of winning increased their motivation (see item 15). There was also 95.8% agreement with the statement in item 13 "I wished to do better on the Kahoot! sessions than most other students in the class", indicating that students kept comparing their performances to others' for goal setting. It was also interesting to see that there was a high level of

agreement (82%) with the statement in item 12 “I did the Kahoot! quizzes not only because the teacher requested them.” It indicates that the majority of students were self-motivated and did the Kahoot! quizzes willingly. However, it should be noted that the remaining 18% did the Kahoot! quizzes because the teacher asked them to do so. This might be due to the fact that some of these quizzes (if not all) are assessed so students get a grade affecting pass/fail status in the end. It may be that for those respondents expressing disagreement Kahoot! is not that much fun (though almost all report otherwise (see item 4 with 98.6%)) if used for testing purposes. On the other hand, if Kahoot! was used for practice to prepare for tests, students seemed to welcome them as indicated in the high rate of agreement (90.3%) with the statement in item 25 (“Kahoot! helped me be prepared for my test”). Apparently, students seemed to prefer Kahoot! as a means to practise rather than to test. The preference of students to use Kahoot! primarily for practice as opposed to testing is a novel finding that illuminates changing perceptions of educational technology, the blurring of formal and informal learning boundaries, shifting pedagogical approaches, and the platform's potential positive impact on learning outcomes. This phenomenon illuminates the dynamic relationship between technology, student preferences, and effective learning strategies in contemporary educational environments. Finally, student responses to two seemingly contradicting items, i.e., 20 and 21, are noteworthy. Item 20 (“Kahoot! motivated me to learn more”) received 90.3% agreement confirming the motivating characteristic of Kahoot! while item 21 (“Kahoot! was a distraction to the real class activities”) received 66.6% agreement and 33.4% disagreement. How can something so motivating can also be distracting? One reason may be the timing. Most teachers use Kahoot! the last ten minutes of the lesson (Smith & Brauer, 2018). as a gap filler or as a replacement for a usual class hour or lesson (Pindosova, 2023). If Kahoot! is not used at the right time and for the right purpose, it may turn into a distraction. (Kohnke & Moorhouse, 2022)

The third and final research question investigated the effectiveness of using Kahoot! in language classrooms from students' perspectives. A number of items in the questionnaire (including items 16-19, and 22-26) produced evidence for the effectiveness of Kahoot!. Responses to particularly item 16 (“I wish Kahoot! was also used in other subjects”) with 95.9% agreement indicated that students found Kahoot! effective and wished it could be transferred to other subjects. Another indication of satisfaction with the effectiveness of Kahoot! was the high agreement rates for items 17 (98.6%), and 19 (94.4%). Accordingly, from the students' viewpoint, Kahoot! proved to be effective in helping to retain new knowledge (item 17), enhancing understanding of the subjects (item 18), and correcting misconceptions about the subjects (item 19). Furthermore, questionnaire results demonstrated extremely high agreement scores (all above 90%) on learning/testing issues. Respondents found Kahoot! effective in reflective learning (94.4% agreement for item 22) and providing feedback (95.8% agreement for item 26), helpful in reinforcing learning (97.2% agreement for item 23) and preparing for tests (90.3% agreement for item 25), and facilitative in learning one's subjects (97.2% agreement for item 24). Based on this evidence it can be argued that for the participants Kahoot! appeared to be a highly effective tool for learning subjects and preparing for tests. Marsa et al. (2021) also asserted that Kahoot! can be an effective teaching instrument with a significant impact on student engagement, perception, motivation, and positive attitude. Therefore, it can be concluded that the use of Kahoot! games with high levels of student engagement, perception, motivation, and a positive attitude can impact student achievement.

The results of this study align with previous research by other scholars. Woo (2014) asserted that the use of digital games correlates positively with students' willingness to study and cognitive load. Similarly, Jackson et al. (2012) noted that enjoyment, a key feature of digital games, enhances learning by increasing engagement and rewarding effort. This study's findings parallel those of Cárdenas-

Moncada et al. (2020), where students' positive perceptions of Kahoot contributed to a more favorable classroom environment and improved academic achievement.

Kahoot! has the potential to improve the interface between learners and instructors and foster extracurricular collaboration among students (Zhang & Yu, 2021). Incorporating Kahoot! into the classroom can enhance motivation, as demonstrated by this study's findings. Tan et al. (2020) also supported this notion, highlighting that students of all ages can benefit from Kahoot! as a game-based platform for interactive learning. Students perceived Kahoot! as a helpful tool for reinforcing learning and motivating their studies, especially in the context of foreign language learning. Kahoot! places fun at the core of its design, which resonated with the majority of respondents in this study. Students found Kahoot! enjoyable and indicated that the interactive nature of the platform led them to remember incorrect answers as part of reflective learning. This active engagement contributed to a heightened sense of motivation, attention, and participation in EFL classrooms.

In conclusion, the integration of Kahoot! in EFL settings can significantly enhance motivation and engagement among students. It aligns with existing research on digital games and their positive impact on learning. By fostering a dynamic and enjoyable learning experience, Kahoot! serves as an effective tool for classroom management, encouraging continuous effort and active language use.

## 5. Conclusion and Implications

This study investigated the students' overall perceptions about using Kahoot!, the role of Kahoot! in enhancing motivation, and the effectiveness of Kahoot! in the language classroom. The findings indicated that students had highly positive perceptions toward Kahoot! and enjoyed using it. Kahoot! was also found to be a motivation booster. The fact that students thought it was fun and that they had reported that they looked forward to Kahoot! sessions were indicators of increased involvement and motivation. Especially the in-built characteristic of 'competitiveness' contributed considerably to student motivation. It should be noted, however, that some students prefer doing practice quizzes before tests as preparation but not sitting for assessed ones. The last major finding concerned the effectiveness of Kahoot! in learning and testing processes. Kahoot! proved to be an effective tool in learning subjects, reinforcing learning, fostering reflective learning, providing feedback, and preparing for tests.

Gamification serves as a versatile tool, enhancing student motivation and contributing to subject comprehension, metacognitive abilities, and teamwork. Kahoot! emerges as a prominent technique in elevating language academic achievement (Almusharraf, 2021). Within our study, the effectiveness of a digital literacy technique in enhancing motivation and reshaping classroom dynamics is evident, particularly highlighted in the English as a Foreign Language (EFL) context. Kahoot! positively shapes learning experiences, bolstering motivation and effectiveness. The study's focus on English learning underscores a preference for game-based approaches. Educational competitions through Kahoot! diminish distractions and cultivate a more enriched teaching and learning environment compared to conventional classrooms.

Extending beyond classrooms, the study emphasizes integrating Kahoot! and similar tools into university curricula, informed by research for prospective learners' benefit from technological advancements. Amid broader technological evolution in education, administrators are positioned to take action by acquiring and implementing transformative tools, along with providing teacher training.

Collaboration with education policymakers, including ministers, is pivotal to secure support for technology acquisition, backed by research findings.

Ultimately, the study's implications converge towards creating effective learning environments. The synthesis of research insights, administrative initiatives, and policy advocacy fosters a quality education environment aligned with the digital era's demands. In summary, this study's significant implication is the promotion of gamification integration in EFL classes, revolutionizing language learning. Adapting game-based learning like Kahoot can engage students and improve outcomes, requiring careful planning, resource allocation, and evaluation to ensure effectiveness.

Overall, adapting game-based learning such as Kahoot can be a valuable strategy for universities to engage students and improve learning outcomes. However, it requires careful planning, resource allocation, and evaluation to ensure its effectiveness.

## 6. Limitations and recommendations for further research

While the findings of this study may not be extended to the full population of university students in North Cyprus or cross-sectionally, the primary results reveal significant insights into the usefulness of utilizing Kahoot! in higher education, especially among adult learners. However, it is recommended that future research include samples from various academic disciplines in various higher education contexts. Additionally, to have a more complete grasp of the advantages of Kahoot!, it is advised that future studies in this area be more qualitative so that the voices and perspectives of Kahoot! users are more deeply identified. While such recommendations are made, stakeholders must recognize that educators, students, and administrators all contribute equally to the establishment of conducive, current, and relevant teaching and learning environments for today's generation of learners.

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**Appendix 1**

	<b>Items</b>	<b>SA (%)</b>	<b>A (%)</b>	<b>D (%)</b>	<b>SD (%)</b>
1.	"I looked forward to playing Kahoot!."	54.2	44.4	1.4	0
2.	"I felt excited when playing Kahoot!."	55.4	44.6	0	0
3.	"It was easy to use Kahoot!."	48.6	47.3	4.1	0
4.	"I found Kahoot! fun."	71.6	27	1.4	0
5.	"I enjoyed playing Kahoot!."	68.9	28.4	2.7	0
6.	"I felt positive when playing Kahoot!."	56.8	39.2	4.1	0
7.	"I liked the competitiveness in our Kahoot! sessions."	54.1	43.2	2.7	0
8.	"I responded as accurately as possible to each item or question in each Kahoot! session."	33.8	60.8	5.4	0
9.	"I responded as quickly as possible to each item or question in each Kahoot! session."	32.4	60.8	6.8	0
10.	"I focused on the items or questions in each Kahoot! session."	40.5	56.8	2.7	0
11.	"I responded to each item or question in each Kahoot! session."	43.3	45.9	10.8	0
12.	"I did the Kahoot! quizzes not only because the teacher requested them."	43.1	38.9	15.3	2.7
13.	"I wished to do better on the Kahoot! sessions than most other students in the class."	51.4	44.4	4.2	0
14.	"I was eager to learn via Kahoot!."	43.1	50	5.5	1.4
15.	"I was motivated by the prospect of winning in these Kahoot! sessions."	44.4	51.4	4.2	0
16.	"I wish Kahoot! was also used in other subjects."	54.1	41.7	4.2	0
17.	"Kahoot! helped me to retain my new knowledge."	50	48.6	1.4	0
18.	"Kahoot! enhanced my understanding of the subjects."	47.2	50	2.8	0
19.	"Kahoot! was an effective method to correct my misconceptions on the subjects."	36.1	58.3	5.6	0
20.	"Kahoot! motivated me to learn more."	50	40.3	9.7	0
21.	"Kahoot! was a distraction to the real class activities."	32	34.7	22.2	11.1
22.	"Kahoot! was an effective method for reflective learning."	50	44.4	5.6	0
23.	"Kahoot! helped me reinforce my learning."	48.6	48.6	2.8	0
24.	"Kahoot! facilitated my learning of the subjects."	45.8	51.4	2.8	0
25.	"Kahoot! helped me be prepared for my test."	40.3	50	8.3	1.4
26.	"Kahoot! was an effective method to provide feedback."	37.5	58.3	4.2	0