Perceptions of Postgraduate Students Towards the use of Kahoot as A Formative Assessment Tool in an English Language Course

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Abstract:

One of the transformations of the past decade has been the rapid and increased integration of the Internet and technological tools, particularly mobile-assisted learning (MAL) and gamification tool such as Kahoot, into EFL classrooms from across the world. Studies have shown that the gamified elements of such tools as Kahoot can enhance language learning performance and be utilised as influential teaching and assessment tools in language classrooms. Nevertheless, its application is yet quite new to EFL Kurdish classrooms; as observed, very few university instructors employ it. Furthermore, the acceptance of technological tools in general and Kahoot in particular by students and their perceptions towards its use is deemed significant due to its strong correlation with the overall language learning performance. Kahoot has been extensively researched in various educational contexts. Nevertheless, no study has reported students' perceptions of its use in EFL Kurdish classes. Therefore, the present study aimed at tackling Kurdish postgraduate students' perceptions towards implementing Kahoot in a six-week English language course and detecting their performance on Kahoot throughout the course, as well as showing gender differences in their perceptions. The study adopted a 24-item questionnaire on a 5-point Likert scale embedded in it two open-ended questions and students' grades in the course. Almost all the students accepted the application and reported positive perceptions of using Kahoot in the course. However, Kahoot might lead to frustration and torpor on the students' part if not timed and designed correctly.

Keywords: Perception, Postgraduate Students, Kahoot, Formative Assessment, Gender.

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Original Article / Doi: 10.26750/Vol(9).No(5).Paper11

Introduction:

The increasing pervasion of computing devices such as notebook computers, wireless phones, handheld devices, and immensely enhancing Internet capabilities have reshaped the nature of higher education (Mahbub, 2020; Wang et al., 2009) and have given instructors the elbow room to adopt digital games in teaching and learning (Wang et al., 2009). One decade ago, classroom interaction was purveyed through traditional student response systems (Caldwell, 2007). Currently, a diversity of student response systems such as Socrative, Quizlet, Kahoot, and many others are available for instructors to use to support active learning (Alwadhi & Abu-Ayyash, 2021). The burgeon of this technology has been indispensable in developing education anytime and anywhere via wireless Internet and mobile devices. Nevertheless, not only is the advancement of technology and the Internet significant, but the acceptance of this sort of learning by students and instructors contributes to its lucrative application (Wang et al., 2009).

Today's students are generally digital natives or tech-savvies. Based on a consensus in the USA, college graduates have spent less than 5000 hours reading in their college life but over 10000 hours playing video games (Prensky, 2001). Therefore, instructors require to accommodate and adapt specific technological instruments, apps, games, and so on in their lectures to meet their students' needs and desires and create a convivial digital atmosphere in their classrooms. One significant and dominant method to create this atmosphere is gamification.

Gamification, which emerged in October 2010 as a novel pedagogical approach (Bicen & Kocakoyun, 2018), simply refers to adding game elements to non-game environments to elicit game-like thinking and mechanics, solve problems, and consequently engage students. Gamification can be used for instruction, review material, and formative assessment to stimulate collaboration, independent learning, and problem-solving (Pede, 2017). Furthermore, it can promote engagement, increase motivation and students' participation, stimulate competition, provide immediate feedback, enhance achievement, and affect human behaviour (Bicen & Kocakoyun, 2018; Lofti & Pratolo, 2021; Mahbub, 2020). Although gamification proves a didactic strategy and helps instructors to procure impressive results, several factors need to be taken into account while implementing it in EFL classes, such as students' ages and aptitudes, gender, the cultural context, students' needs and interests, the goals that need to be attained, material content, and how instructors conduct the game in the class (Covos et al., 2018).

Currently, teaching methodologies in most parts of the world include heavy utilisation of both technology and the Internet, which has more or less caused attention diversion from the traditional textbook-based or chalk-and-talk teaching to the more modes of learning and teaching inclusive of collaboration and sharing materials and resources quickly through such technologies (Mahbub, 2020). Although efforts continue to be made in education in Iraqi Kurdistan to effectively embrace the use of technology inside the classroom and the use of

information and communication technologies in the Kurdistan education system has indeed considerably increased over the last decade, most universities and university instructors still use methods without the active inclusion of technological tools or those that use technology do not seem to have the ability to use those specialised tools appropriately and encounter many problems in using them due to the lack of practice and the newness of these technologies in the region. If not, this creates problems for the teaching and learning process and might limit instructors' teaching capacities because there appears to be a direct correlation between an instructor's competence as a digital citizen and his professional behaviour with information and communication technology (ICT) in the classroom.

It has been claimed despite instructors' awareness of the significance and effectiveness of the use of ICT in their classes, they appear not to be able to use them beyond the role of a repository or a provider of authentic input and, in very few cases, as a tool to enhance meaningful interaction (Cárdenas-Moncada et al., 2020). Educational institutions in general and universities in particular in Kurdistan should gradually migrate from the old or traditional chalk-and-talk methods to the more modern digital methods. Furthermore, educators on their part require to include more technology in their classrooms wherever possible. They need to add variety to their class atmospheres if they want to make their classes more effective, livelier, and interactive. Several researchers have reported that these tools' game-like elements seem to make learning more fun and engaging for students (Kapp, 2012). However, the choice of an appropriate technological tool is quintessential to the success of the educational process, and the choice of the tool largely depends on students' perceptions and acceptance of it.

Various mobile apps have been devised for facilitating teaching and learning practices. One such app involves the invention of Kahoot, which has been increasingly popular over the past eight years worldwide because it is easy to use and can foster critical thinking and communication (Kinder & Kurz, 2018). It can enhance the quality of instruction and flexibility, cost-effectiveness, and time efficiency in instruction, promote student autonomy, as well as facilitate student interaction (Mahbub, 2020). Unsurprisingly, statistics have revealed that approximately over 50 million users in over 180 countries have played Kahoot (Kinder & Kurz, 2018). Singer (2016) reports that of the approximate 55 million elementary and secondary school students in the US, about 20 million are using Kahoot to some extent.

Kahoot has recently occupied the centre stage in pedagogical practices in various contexts. Kahoot, as a mobile-based assessment tool, does not only offer a medium for personalised learning; rather, it facilitates the delivery of assessment activities anytime and anywhere. What distinguishes Kahoot from the traditional formative assessment is the music, timed questions, and competitive ranking (Charbonneau, 2018). More importantly, the adoption of Kahoot for learning and online formative assessment has been the interest of plenty of research in recent years that has shown it can positively impact learning performance, motivation, and attitudes (Nikou & Economides, 2018). It can leave significant footprints in various areas of language teaching and learning involving the language skills such as listening,

speaking, reading, and writing, and the language components such as grammar, pronunciation, and vocabulary.

The embracement of technology depends to a large extent on the users' perceptions of it. Therefore, understanding students' perceptions and acceptance of the tool can justify its effect on their achievement and performance. Although Kahoot has been recommended for use as an influential formative assessment tool in EFL classrooms by much recent research (Bicen & Kocakoyun, 2018; Licorish et al., 2018), some researchers stated that this tool might not be received favourably by all student populations (Ismail & Mohammad, 2017). Furthermore, a common limitation of prior studies carried out in the area of digital game-based learning is the failure to realise that user engagement might be affected by socio-cultural factors such as gender. Therefore, identifying the effect of gender on students' perceptions is deemed significant in the present study.

Many prominent academics worldwide have been engrossed in investigating Kahoot incorporated into various fields. Most of such studies have been conducted in different parts of the world situated in Europe, the USA, South America, and Asia, particularly Malaysia, Indonesia, Thailand, and Taiwan, concentrating on various realms including engineering, business management, social sciences, medical education, computer science, nursing, earth science, and information technology (Baleghizadeh & Shakouri, 2017). Nevertheless, as it can be conjectured from the review of the pertinent literature, little published research has been conducted to investigate postgraduate students' perceptions of the use of Kahoot as a formative assessment tool and to explore gender differences in terms of the acceptance of Kahoot. The effectiveness of a digital-based learning platform such as Kahoot in English language learning in the Kurdish context has not been researched thus far. Thus, there is a dire need for evidence of its plausible effectiveness in education in the many different learning contexts where English is part of the academic curriculum and bridges the gap.

The present study responds to calls made by prior studies (Cárdenas-Moncada et al., 2020; Mahbub, 2020; Martins et al., 2019) to expand empirical studies on the in-class use of Kahoot as a formative assessment tool in other contexts. Additionally, no studies have been carried out to tackle the use of Kahoot or perceptions towards Kahoot in the Kurdish context. On top of all these, the current educational setting lacks practical formative assessment, and most assessment is summative in that 70% of the total grade goes to final and midterm exams. Using tools such as Kahoot might help instructors devote more attention to formative assessment and help students be less stressed and anxious due to the mechanical components of such tools, including sound, graphics, pictures, and effects. Furthermore, students usually score low on summative assessments such as midterm and final exams. Therefore, increasing the grade for formative assessment is highly significant for students to divert their attention from the stresses and anxieties they experience during the summative tests. Thusly, the purpose of the current study is threefold: First, it investigates postgraduate students' perceptions of using Kahoot as a formative assessment tool in an English language course for postgraduate

students lasting six weeks. Second, it will reveal gender differences in students' perceptions of the use of Kahoot. Third, it reveals students' performance and grades on Kahoot as a formative assessment tool throughout the course. The study provides more empirical evidence that will boost the literature and pedagogical practices on how postgraduate students perceive the in-class use of Kahoot in EFL settings. Thus, investigating postgraduate students' perceptions of the in-class use of Kahoot is a very promising research topic since postgraduate students' perceptions will significantly impact their achievement, too. Therefore, the overarching research questions guiding this study involve:

1. What perceptions do postgraduate students have of the in-class use of Kahoot in an English language course designed for Kurdish students of English?
2. Can postgraduate students' gender account for their perceptions of Kahoot in the course?
3. Does students' language learning performance, as measured by grades on Kahoot, fluctuate throughout the course?

Literature Review:

Kahoot

Maintaining students' attention, focus and engagement are rather difficult in English language courses. Most university classes are generally teacher-centred with inadequate student participation and limited peer interaction that might directly or indirectly influence students' performance in a course. Furthermore, most students' knowledge in such classes is generally sourced from the teacher. Consequently, students might get bored and involved in off-task behaviour such as using social media on mobiles or doodling over lecture notes. Integrating technology and the Internet into lectures to teach and assess students' performance and knowledge could increase their engagement and decrease off-task behaviour (Charbonneau, 2018; Licorish et al., 2018). Nonetheless, the underlying challenge of incorporating technology into the classroom involves three elements: sound pedagogy, the technology's capabilities, and how to use technology in a practical curriculum (Puentedura, 2013), and most importantly, the acceptance of such technology by both students and teachers that is reflected in their perceptions.

Language learning can be enhanced through mobile-assisted language learning (MALL), which incorporates the use of mobile devices such as smartphones, tablets, and laptops. Although smartphones, tablets, and laptops are regarded as the most commonly used technological devices by teachers and students for communicating and accessing multimedia resources, the actual use of mobile technology in instructed learning environments is limited because few instructors create assignments that include mobile technology (Cárdenas-Moncada et al., 2020). Creating assignments, designing quizzes, and doing instruction through mobile-assisted technology can significantly influence language learning performance, engagement, and behaviour in EFL classes, particularly when such technology contains gamified elements such as audio, sound, music, and so on since the inclusion of the gamified elements of these tools assist in the establishment of active learning putting students at the forefront of the education process and no longer regarding students as passive vessels, instead as active partakers in their learning (Quinn, 2005).

One mobile-assisted and gamified tool that has been reported in the literature to be effective for enhancing language learning involves Kahoot. Kahoot is one of the most favoured and latest digital game-based e-learning Web 2.0 platforms that was released in 2013 by the Norwegian University of Science and

Technology with an average of 70 million active users globally each month (Harrell, 2019; Wang & Tahir, 2020), 30 million permanent users worldwide (Bicen & Kocakoyun, 2018; Plump & LaRosa, 2017), and more than 50% k-12 student users in the UK monthly (Charbonneau, 2018). It is free for both teachers and students and is considered a student response system (SRS) because it poses questions and collects answers from students during a lecture being conducted in the classroom.

Kahoot can be utilised for three primary purposes: to review students' knowledge, as a break from traditional classroom activities, and more importantly, for formative assessment (Wang & Tahir, 2020) or more clearly for testing students' knowledge of course content (Siegle, 2015). Kahoot enables teachers to construct questionnaires, quizzes, exams, and discussions in which students participate as players in a game show (Tóth et al., 2019; Wang, 2015). Multiple choice questions with up to four choices can be designed using the Kahoot application and played with all students. Students press a button for the correct answer to a question designed before the class and projected on-screen utilising an internet-enabled device, i.e. a multimedia tool such as a tablet, laptop, mobile phone, and so on, to participate and run Kahoot for which students obtain points for every correct answer given (Youhasan & Raheem, 2019; Siegle, 2015). Additionally, on top of the number of answer choices, Kahoot enables teachers to select the amount of time students need to respond to each question. Students join the game through a specifically generated game code and are capable of creating their nicknames to be shown on the game screen. If a name is inappropriate for use, the teacher can kick it out of the game (Siegle, 2015).

Advantages of Kahoot:

During the last decade, much research has been recounted on the use of Kahoot in EFL classrooms. Most of such research has reported that Kahoot can benefit students and teachers in a multitude of ways. It can enhance classroom dynamics, influence students' and teachers' attitudes positively, reduce students' anxiety (Wang & Tahir, 2020), increase on-task behaviour and students' focus (Pede, 2017), increase learning performance (Wang & Tahir, 2020; Wichadee & Pattanapichet, 2018) and preserve paper compared to the conventional method (Chiang, 2020). Consistently, it has been found that the use of points and effects in Kahoot improves concentration and classroom dynamics and increases engagement and participation in lectures (Chiang, 2020; Cárdenas-Moncada et al., 2020; Licorish et al., 2018; Wang & Lieberoth, 2016) and raises the level of students' intrinsic motivation (Licorish et al., 2018; Michos, 2017; Wichadee & Pattanachet, 2018). Additionally, Kahoot can offer students metacognitive support (Bicen & Kocakoyun, 2018; Youhasan & Raheem, 2019). It can revamp the moods in the classroom, decrease fatigue, evoke a goal-oriented activity, increase feelings of happiness, and make learning fun (Licorish et al., 2018; Michos, 2017).

Wang and Lieberoth (2016) polled 593 undergraduate students to understand the effect of Kahoot as a gamified tool and found that the use of audio in Kahoot had a significant role in improving concentration and perception of learning. Licorish et al. (2018) found, in their qualitative study, that Kahoot improved the quality of New Zealand students' learning in the classroom, with the greatest influence reported on motivation, engagement, and classroom dynamics. They further showed that using the educational games might minimise distractions in the classroom beyond what is offered in conventional classrooms.

Staying on the benefits, Kahoot is one of those tools that provide not only informative content but also fun and interactive activities to students, enhancing students' responses to questions asked (Cárdenas-Moncada et al., 2020). More importantly, the immediate feedback and automated scoring possible through Kahoot can help students immediately correct themselves and their misconceptions. As the benefit of Kahoot for teachers, it allows them to introduce novel concepts and assess to what degree the students control the materials via game-based quizzes, surveys, and discussions with thigh-quality multimedia files shown in graphical resolution (Ismail et al., 2019; Plump & LaRosa, 2017). These advantages, among many others, can make the tool justified to be employed in EFL classrooms. To this intent, the present study employed the tool

in a postgraduate EFL course to understand the effectiveness of its use. Although most previous research has shown the benefits of Kahoot in basic, high school, and undergraduate education, the present study focuses on using and accepting Kahoot in postgraduate education.

Problems with Kahoot:

Several studies have reported certain drawbacks with Kahoot. First, it has been noted that the iterative use of Kahoot can lead to boredom among students, and slight changes in students' perceptions over time might occur about engagement, motivation, and user-friendliness (Wang, 2015). Wang (2015) experimentally investigated the impact of utilising Kahoot on students' interest, perceived learning, and classroom dynamics among 126 university students. The researcher collected data from two cases in which the first case employed Kahoot one time after a 45-minute lecture and the second case employed Kahoot after every lecture for a semester of 15 weeks. The study revealed that the daily use of the online game did not influence classroom dynamics, student engagement, and student motivation. Furthermore, the study demonstrated that only 57% of the students stated that they prefer to continue to play Kahoot after every lecture. Second, although the competitive property of Kahoot seems both exciting and engaging, research has demonstrated that low-ranked students might get demotivated if they obtain low grades that are reported on leaderboards in Kahoot that, in turn, might impact students' participation in the class (Singer, 2016). Third, classroom disruption might occur with Kahoot due to the strong excitement experienced by students. Although sound effects can encourage students to be involved in the class, they might be loud and disruptive when obtaining low or high grades (Sprague, 2019). Fourth, other downsides of the in-class application of Kahoot include questions not appearing on the mobile device, choosing one answer only, network connectivity, having no room for students and teachers to discuss, and time limit (Hadijah et al., 2020; Lofti & Pratolo, 2021). However, as Şad and Özer (2019) note, the teacher can gauge the time limit set based on some contextual factors, including the age of students, the difficulty of the questions and the purpose of the activity since the countdown option for the questions range between 5, 10, 20, 30, 60, 90, and 120. Contradictorily, Chiang (2020) states this method of Kahoot's timed answer not only causes problems but stimulates students' excitement and that the appropriacy of time varies according to the difficulty of the question, and instructors can set it accordingly. He further states that allowing too much time causes boredom (Chiang, 2020) and loses its playability (Martins et al., 2019), while allowing too little time causes frustration (Chiang, 2020). Fifth, empirical findings have found that Kahoot is only appropriate for multiple-choice questions rather than essay questions (Ismail et al., 2019). Sixth, Kahoot might produce anxiety among students due to its competitive elements, focus on points, and students' unfamiliarity with the application (Wang & Tahir, 2020). Finally, tracking attendance through Kahoot as an assessment tool might be inaccurate because students can answer on Kahoot if they are not in the class. Due to these drawbacks, understanding students' perceptions in the Kurdish context is deemed essential for successfully applying the tool.

Considering that an appropriate mode of Kahoot suited to the language activity to be instructed determines the effectiveness of Kahoot. To illustrate, Charbonneau (2018) compared three modes of Kahoot, namely team, competitive, and no score modes, to traditional classroom discussion to realise students' engagement. He found that engagement varied according to the mode that was used. Traditional classroom discussion revealed the minor off-task behaviour due to the shift in the teacher's attention to the distracted students. No score Kahoot scored the highest level of off-task behaviour. Whereas competitive Kahoot had the lowest off-task behaviour among the three modes of Kahoot, the team, Kahoot treatment dramatically changed students' behaviour over time. More importantly, the study showed that students' preferences for the quiz method carried out through Kahoot changed from (65%) to (75%) after four months.

Perceptions towards Kahoot Implementation in EFL Classrooms:

Perception refers to the way one views the world that is shaped by many sociocultural elements. It is "a uniquely individualised experience. One can only draw what is known to oneself" (Mcdonald, 2012, P. 5). In other words, one needs to have exposure to something to have a perception of it, as exemplified in the poem "The Blind Men and the Elephant" by John Godfrey Saxe in the 19th century that retells the tale of six blind men who encounter an elephant, with each touching a specific area of the elephant and, based on this tactile experience, each would have a different mental image, describing the elephant like a wall, snake, spear, tree, fan, or rope. For perception to occur, three defining properties need to be present involving sensory awareness or cognition of the experience, personal experience, and comprehension that can result in a response. Furthermore, perception might be affected by social influences such as gender and socioeconomic status (Mcdonald, 2012).

Most studies regarding the perception of the use of Kahoot in EFL classrooms have shown that students and teachers generally have had positive perceptions of Kahoot. Based on a qualitative study carried out on Indonesian students' perceptions of Kahoot, seven benefits of Kahoot related to perception were reported, including grabbing students' attention and maintaining their focus, evolving new learning styles, encouraging interactive learning, facilitating learning, provision of instant and efficacious feedback, and increasing and retaining knowledge (Nurhadianti, 2020). Other studies evidenced that students had positive perceptions of Kahoot in learning English (Alyaz & Genc, 2016; Charbonneau, 2018; Chiang, 2020; Lofti & Pratolo, 2021; Wichadee & Pattanchet, 2018), with students perceiving Kahoot to create a positive atmosphere in the class, help them stay focused, and provide a fierce and fair competition among students (Charbonneau, 2018; Chiang, 2020; Lofti & Pratolo, 2021; Pede, 2017). In the same way, EFL Indonesian instructors perceived Kahoot as a promising application software in learning the English language (Mahbub, 2020) that was a quantitative study conducted among 27 EFL instructors. The participants further expressed their view that they preferred M-learning over traditional face-to-face learning.

Yet consistently, Wang and Tahir (2020), in a literature review of 93 studies revealed significant points regarding perceptions towards the utilisation of Kahoot. First, they showed that student response systems in general and Kahoot, in particular, positively affected perceptions. Second, the majority of articles published were concerned with perceptions towards the use of Kahoot for learning English, focusing on students' perceptions, and the least was connected to teachers' perceptions and student anxiety. Third, Kahoot might sometimes encounter students with a few challenges, such as difficulty in reading the questions on the projected screen, the inability to change the answer after submission, stressful time pressure while providing the answers, and fear of losing points. Fourth, when teachers' perceptions were considered, Kahoot supported their in-class instruction and helped them assess students' knowledge. Kahoot, from teachers' perspectives, also increased students' interest, woke them up from their slumber in class, reduced their workload, allowed the lecturer to interact with many students, and developed students' reading skills. Alwadhi and Abu-Ayyash (2021) revealed that Emirati students had positive perceptions of Kahoot, reporting that the highest influence occurred in motivation, followed by classroom engagement and enhanced learning experience. Nevertheless, the use of Kahoot for academic performance was found to be ineffective, as confirmed by (Charbonneau, 2018). However, problems from teachers' perspectives were also reported, such as lack of technical infrastructure, basing scoring on the quickness of the answer leading to guessing without thinking, and the inability of teachers to use technology appropriately (Wang & Tahir, 2020). Conversely, Chiang (2020) thinks that Kahoot's scoring system encourages students to be one of the top five students. The present study, similar to previous studies, tackles students' perceptions of Kahoot but is different from them in that it tackles postgraduate students' perceptions.

The Role of Kahoot as a Formative Assessment Tool:

Before discussing anything, a distinction needs to be drawn between formative assessment and summative assessment. The former, which has been a part of effective instruction practices since the 1960s (Roos & Hamilton, 2005), is an informal, diagnostic, and classroom assessment that comes before the summative assessment. It includes ongoing feedback throughout a certain period (Boston, 2002; Charbonneau, 2018). It is conducted by instructors to inform and guide instruction, determine students' progress towards the learning target, and assess the effectiveness of their curriculum (Charbonneau, 2018). With formative assessment, "teachers know how students are progressing and where they are having trouble; they can use this information to make necessary instructional adjustments, such as reteaching, trying alternative instructional approaches, or offering more opportunities for practice" (Boston, 2000, p. 1). In contrast, summative assessment is the ultimate judgment that comes at the end of the instruction period (Boston, 2002). Formative assessment can be conducted in many ways, two of which are paper and pencil tests and online quizzes. Kahoot, which is an online platform, can be used as a formative assessment tool to stimulate learning.

The role of Kahoot as a formative assessment tool is evident in English language learning and teaching. Several studies have investigated the use of Kahoot as a formative assessment tool and have produced fruitful results. It has been shown in those studies that the use of Kahoot for formative assessment, i.e. e-assessment is more likely to assist learners than traditional paper-based assessments because it can provide immediate grading of student performance (Charbonneau, 2018). Şad and Özer (2019) tackled the use of Kahoot in the context of teacher education, sampling 88 prospective Turkish teachers from several different departments. As a result, they found that the teachers were highly positive regarding the platform as an efficacious formative assessment tool from pedagogical and attitudinal angles. Congruently, Plump and LaRosa (2017), being congruent with (Charbonneau, 2018), revealed that the majority of the participants reported that Kahoot helped them with conceptual understanding, i.e. helped them understand concepts better. Additionally, Kahoot as a formative assessment tool has been reported to assist students in detecting their learning deficiencies, preparing for formal exams, studying more before taking quizzes, eliminating unlearned topics, having a sense of entertainment during the assessment, and creating an interactive social learning environment (Hadijah et al., 2020; Şad & Özer, 2019). Chiang (2020) thinks that, although Kahoot incorporates assessment which might lead to stress and anxiety, it is a multimedia activity through which students enjoy being online taking surveys leading to novelty in assessment. Therefore, Kahoot can serve as a fruitful assessment tool for both students and teachers, particularly for the latter, because it can help them create quizzes and acquire more knowledge (Bicen & Kocakoyun, 2018; Chiang, 2020; Ismail & Mohammad, 2017; Plump & LaRosa, 2017). Although Kahoot for formative assessment has been examined in other educational environments, its effectiveness is not known yet in the Kurdish context.

Kahoot and Language Components and Skills:

Research has found that this gamification tool is not only effective for attitudinal or emotional development, rather it can have a significant role in developing students' pronunciation, grammar, and vocabulary as well as language skills (Alyaz & Genc, 2016; Mahbub, 2020; Pede, 2017). Relatedly, Abdel Fattah et al. (2020) experimentally demonstrated among 30 EFL undergraduate students that Kahoot was influential in improving students' pronunciation, with students committing fewer pronunciation errors in the posttest due to the constant feedback given through Kahoot. Additionally, Kahoot can also be eminently suited to review vocabulary due to its multiple-choice format and the graphics one can include (Charbonneau, 2018; Hadijah et al., 2020) and to make vocabulary more memorable (Chiang, 2020), more understandable (Hadijah et al., 2020) and increase vocabulary assessment scores (Pede, 2017). The use of Kahoot can also be beneficial in reading classes to increase interest in curriculum topics, provide richer thematic content, help students easily comprehend the theme, and ease understanding through the use of pictures (Chiang, 2020). Importantly,

Cárdenas-Moncada et al. (2020) experimented to determine the impact of Kahoot on English language learning in a Chilean vocational higher education setting by assessing three areas, namely vocabulary, grammar, and writing as well as students' perceptions of Kahoot. Expectedly, there was a statistically significant difference between those who used Kahoot in the course and those who did not, and the students' perceptions were quite positive. In the present study, Kahoot is mainly associated with grammar and vocabulary.

The Impact of Gender on Perceptions Towards Kahoot:

One ultimate point regarding students' perceptions of Kahoot involves gender differences in their perceptions. McDonald (2012) believed that social influences such as gender might affect one's perception. Ismail and Mohammad (2017) revealed that males held more positive perceptions than females regarding knowledge retention and motivation. Contradictorily, Wang et al. (2009) produced the otherwise results, i.e. detected significant differences between males and females but in favour of females in moderating the impacts of social influence and self-management learning on m-learning use intention. Similarly, Barrio et al. (2016) found a statistically significant difference between males and females in favour of females because they thought females were inclined to use student response systems more than males to appear anonymous. However, males and females did not vary in their perceptions of Kahoot considering engagement, focus on learning, facilitating learning, and provoking reflection in Barrio et al. (2016). Consistently, Hou (2019) revealed females were more positive regarding the advantages of Kahoot than males, particularly in helping them organise important information from reading texts. Furthermore, female students felt less stressed due to their speed in answering questions and thought Kahoot helped them check their comprehension. Nevertheless, Chiang (2020) and Korkmaz and Öz (2021) detected no statistically significant gender differences in utilising Kahoot for learning.

From the above-extended literature, it can be inferred that most students and teachers alike hold positive attitudes towards the use of Kahoot and that the advantages of Kahoot outweigh its disadvantages or problems that can be effective in developing emotional or attitudinal aspects as well as developing language components and skills. The fact that much research is associated with the undergraduate level and that none is observed to be associated with postgraduate students' perceptions is also noteworthy. It would thus be pertinent to understand how postgraduate students would receive Kahoot. In addition, the literature does not sufficiently account for demographic or individual characteristics such as gender on students' perceptions of Kahoot because, as discussed, these are considered sociocultural variables that might affect students' perceptions and use of Kahoot. Furthermore, the literature has produced mixed results in this regard. In bridging these research gaps and given the lack of research in this area and this particular context, this study seeks to understand how Kurdish postgraduate students perceive Kahoot in an English language course at a language centre in Iraqi Kurdistan through quantitative data supported by qualitative analysis and interpretation.

Theoretical Framework:

Based on the literature reviewed by Alwadhi and Abu-Ayyash (2021), two theories are relevant to using gamified tools in teaching, including intrinsically motivating instructions theory and social development theory. The former was proposed by Malone, theorising that "Learning is fun when players are challenged with problem-solving tasks in an audio-visually stimulating environment" (P. 4) and that three factors impact intrinsic motivation, namely challenge fantasy and curiosity; with challenge depending on uncertain outcomes, fantasy having to do with how learner players fantasise themselves in competitive environments, and curiosity is related to learners' motivation to learn and is categorised into sensory curiosity and cognitive curiosity. The motivating factors of both types of curiosity can be accommodated in Kahoot. The latter, the social cognitive

theory by Vygotsky, assumes that learning is moderated by social interaction. It further proposes that cognitive development occurs through collaborative learning. Attention, focus, and memory result from interaction, and interaction with peers facilitate cognitive growth, understanding, and higher-order learning. According to the social development theory, learning occurs when scaffolding strategies are employed, i.e. learners are helped by peers and instructors. Cognitive development relies on the Zone of Proximal Development, which refers to problem-solving with the assistance and encouragement of more capable peers. Therefore, this study proceeds within the framework of these two theories pertinent to the scope.

Methodology:

Design of the Study

Given that the study tackled EFL postgraduate students' perceptions towards the use of Kahoot as a formative assessment tool and to show gender differences in perceptions as well as identify students' performance and progress across four quizzes on Kahoot, the study drew from the principles of quantitative research as the methodological framework for gathering the data, using a questionnaire applied in class. However, the quantitative method was fortified by qualitative interpretation and in-class observation (Creswell, 2009; Ebadi & Rahimi, 2017). In terms of its application, the current study used an action research design that aimed at seeking to develop and implement change (Newby, 2014) as well as using the findings to inform the higher education institutions that the inclusion of technology side by side with traditional instruction and assessment might have more benefits. In this study, students' language learning performance was based on the grades they achieved on Kahoot quizzes that were considered to understand the changes that might happen. In action research, research generates action, and action becomes the evidence base for further research (Newby, 2014).

The Implementation of Kahoot in the Course:

To implement Kahoot, the present study followed Martins et al. (2019)'s instructions that involved three phases: creation, application, and evaluation of the app.

The first phase, the creation phase, incorporated the preparation of the quiz by the instructor on the https://kahoot.com/ website prior to the lesson and adding content to Kahoot. Registration was first made on the stated website following the instructions, the Kahoot quiz mode was picked out, and the filling instructions for the quiz were created. The quizzes were created four times during the course in the form of multiple questions with one correct option and three incorrect ones, with all being related to the content and material instructed in the discipline of English language teaching. The creation also included the definition of the duration for answering each question in 15 seconds.

The second phase involved the application of the quiz in the class on the activity day by unlocking it and making the link and the code available to students as well as sharing the pin with them. The instructor had to use his laptop and the students to use their smartphones. The Internet was also required to be used by both parties. Students were not required to sign up for the gamified tool to create an account on the website; they were required to enter a username and a pin. At the end of the quiz, there will be a podium displaying the classification of the top three winners.

The third phase endorsed the application of the questionnaire at the end of the course after the fourth test taken via Kahoot to understand the usefulness and perceptions of students towards Kahoot. One of the significant points regarding Kahoot is that various media can be inserted into it, such as videos accompanied by music, photographs, and sounds, and students' answers are ranked based on the speed of selection and accuracy (Bicen & Kocakoyun, 2018).

Sample:

The participants of the present study involved a total of 15 Kurdish EFL postgraduate students at a public university in Iraqi Kurdistan (Erbil Polytechnic University) enrolled in an English language course taught in the language centre (round 3, for the academic year 2020-2021) who voluntarily took part in the study, of whom nine (60%) students were males and merely six (40%) students were females. As for their age, they belonged to various age groups, with four being 35, two of them 31, two of them 30, and the other being of different age groups. The participants' age distribution ranged between 31 and 52 years (M=39.93, SD= 6.71), belonging to various fields of inquiry and multiple universities in the capital city of Iraqi Kurdistan. Furthermore, the majority of the respondents, i.e. 13 (86.7%), were master students, and the remaining two (13.3%) were doctoral students. Furthermore, all of the participants reported that they had not had exposure to the application before, i.e. they did not use it before the start of the course.

One point that is pertinent here involves novelty effects with Kahoot, which according to (Zucker & Fisch, 2019), are not always positive. Initial encounters with novel technology may sometimes evoke higher anxiety levels, and more familiarity with the game might decrease those higher levels. However, based on observation, this was not the case in the study, i.e. no students reported these problems when asked about the difficulties they encountered. This is because students were trained on how to employ Kahoot before the application of Kahoot until it was appropriate for them to use Kahoot competently.

The selection of the participants was based on convenience sampling, i.e. based on the participants' availability and the researchers' access to them. The study involved only postgraduate students, and the number of postgraduate students is usually low compared to undergraduate students. Undergraduate students' perceptions have already been tackled in many studies. However, postgraduate students' perceptions of the use of Kahoot have not been investigated yet. Therefore, the investigation of postgraduate students is deemed essential in the present study.

Data Collection:

The study adopted a questionnaire adapted from previous contemporary, relevant studies on the same topic (Alwadhi & Abu-Ayyash, 2021; Ismail & Mohammad, 2017; Kuar & Naderajan, 2019; Mahbub, 2020; Youhasan & Raheem, 2019; Wichadee & Pattanapichet, 2018) regarding perceptions towards the use of Kahoot as a formative assessment tool and for English language learning after a six-week course designed for postgraduate students. Adaptations were made to better suit the present study's purposes and descriptors. The researchers applied the 24-item questionnaire in English at the end of the course; however, the instructor was available to students to help them in cases where they could not understand an item or a phrase. The questionnaire was organised on a 5-point forced-choice Likert-type item. The Likert scale, being ordinal in nature, ranged from (strongly disagree= 1) to (strongly agree= 5). It consisted of two components: the factual component that required participants to provide demographic information about themselves and the attitudinal or perceptual component, i.e. students' perceptions of using Kahoot in class. The attitudinal component was further broken down into the following domains: Perceptions towards Kahoot application itself, perception of students towards the use of Kahoot for improving the language skills and components, and the use of Kahoot to increase focus and attention, collaboration and engagement, motivation and competition, and learning and knowledge retention.

The questionnaire application was followed by asking the participants two open-ended questions, inquiring: "What are the advantages of using Kahoot?" and "What are the problems you encountered while implementing Kahoot during the course?" to further understand their perceptions. Based on Cohen et al. (2000), gathering data through questionnaires can help explain conditions or correlations that exist and beliefs, attitudes, and perceptions that are held, or effects that are being sensed. More specifically, survey studies or

descriptive methods describe, compare, contrast, analyse, interpret, and classify the events and the entities. Such a method is both economical and efficacious as it collects data on a one-shot basis. More importantly, it ascertains relationships between variables, e.g. between gender and perception in the present study (Cohen et al., 2000).

Furthermore, the researchers used Kahoot four times during the course to review the material and carry out a formative assessment each week's end, particularly grammar and vocabulary. Moreover, the four formative assessment quizzes were designed by the researchers whose grades were later used to understand students' performance on Kahoot. Each quiz lasted about 20–25 minutes and contained 20 questions covering essential vocabulary and major grammatical structures.

Finally, the third edition of Cutting Edge (Pre-intermediate Level) was employed as the primary textbook taught in the course, and four weekly hours were devoted to teaching it. The study used vocabulary and grammar elements as the main instrumental content. The book contains fourteen units, of which one unit should be covered within a week. Each unit presents five words and one grammatical point as the targeted words and grammar point of the unit. In total, 30 target words and ten grammar points were selected to be taught and tested through Kahoot. Students answered the questions on Kahoot within 10 minutes of reviewing three combined units of the book.

Reliability and Validity:

The validation process is elaborated under two essentials, interdependent through different denominators, including reliability and validity. Reliability is the process of demonstrating that the data obtained is internally consistent in terms of content, i.e. it indicates how well the statements on a questionnaire that are assumed to measure the same construct produce similar results (Malim & Birch, 1997). In other words, it includes the correlation between the different items of the same measure, usually measured with Cronbach's Alpha.

The second issue involves validity which rests on whether the test measures what it is intended to measure (Malim & Birch, 1997). Before analysing the data, the present study checked the questionnaire for reliability and validity. The validity and utility of the questionnaire employed in this study were addressed and ensured through apparent validity, i.e. expert judgment, being exposed to four specialists specialising in linguistics, English language teaching and educational technology. As a result, a few items were removed and reworded based on the comments and feedback. As for the reliability of the questionnaire, it was checked through Cronbach's Alpha. The internal consistency factor was used to verify the instrument's stability (Cronbach's alpha). Table 1 shows the reliability and honesty coefficient (square value of Cronbach's Alpha) of the questionnaire as a whole.

Table1. The Questionnaire's Reliability Measured Through Cronbach's Alpha

	Cronbach's Alpha	Honesty Coefficient
Total	0.672	0.820

As the table depicts, the questionnaire has a satisfactory rate of reliability as the calculated Cronbach's Alpha for the questionnaire is greater than ($\alpha= 0.67 > 0.60$), which is accepted based on (Cohen et al., 2000, p. 506). Cronbach's Alpha is a reliability test that is usually conducted to measure the internal consistency i.e., reliability of the measuring instrument. It is the most commonly used tool when the questionnaire is developed using multiple Likert scale statements to determine if the scale is reliable (Cohen et al., 2000, p. 506).

Data Analysis:

As for the data analysis, in addition to Cronbach's Alpha described above, descriptive and inferential statistical measures were utilised to analyse the data. Descriptive statistics such as means, standard deviations, percentages, and frequencies were used to identify the characteristics of the study sample, to understand students' perceptions of the use of Kahoot, to reveal students' progress on Kahoot throughout the course, and to display the areas where Kahoot could greatly benefit students and teachers, i.e. what statement recorded the highest mean and what statement recorded the lowest mean score. To reveal the connection between gender and students' perceptions of Kahoot and the type and strength of the correlation, the study utilised Spearman's correlation coefficient (Spearman's ρ). This statistical test can be used to calculate a correlation coefficient, particularly a curvilinear relationship between two variables that is non-parametric and varies between 0 and 1 being positive or negative, i.e. on related pairs of data at the ordinal level (Malim & Birch, 1997). Furthermore, Creswell's (2012)'s instructions for the analysis of the open-ended questions were followed that involved gathering the data, reading through it, coding for the themes, and coding for description to be used in reporting the results.

Findings and Discussion:

This study aimed to understand postgraduate students' perceptions of using Kahoot as a formative assessment tool over a 6-week English language course and whether gender could impact students' perceptions. To this end, the collected data were analysed using SPSS (Statistical Package for Social Sciences, Version 25.0). The results will be presented below based on the research questions proposed earlier in the study.

EFL Kurdish Postgraduate Students' Perceptions Towards Kahoot:

(1) The primary research question: "*What perceptions do postgraduate students have of the in-class use of Kahoot in an English language course?*" The researchers employed descriptive statistics such as means and standard deviations to respond to this question. The overall results revealed that the participants perceived the application of Kahoot as a formative assessment tool in the course for English language learning positively and that they agreed with the tool (M=3.59, agree, SD= 0.356) regarding the significance and value of Kahoot in the course, with none of the participants holding negative perceptions. Based on the means reported in the table, most participants agreed or completely agreed with the items presented in the questionnaire. Table 2 illustrates the means and standard deviations and the average degree of approval for each item on the questionnaire by the participants.

Table 2. Kurdish Postgraduate Students' Perceptions Towards Kahoot

N	Items	M	SD	DA
1	Learning English with Kahoot is fun.	4.07	0.884	A
2	I can enhance my English through Kahoot.	4.07	0.704	A
3	Kahoot helps me focus on the spelling of a word.	3.13	1.246	N
4	Kahoot helps me learn vocabulary and words better.	3.87	0.640	A
5	Kahoot improves my understanding of words.	3.87	0.834	A
6	I think that Kahoot is helpful in improving grammar.	3.53	0.834	A
7	Kahoot allows me to reinforce my understanding of English.	3.00	0.926	N
8	I think Kahoot helps me develop my speaking skills.	3.80	0.862	A
9	Kahoot helps me write more effectively.	3.20	1.265	N
10	Kahoot encourages me to share my ideas with the class in English.	3.40	1.121	A
11	Kahoot is suitable to use in English language classrooms.	3.87	1.302	A
12	Kahoot allows me to obtain immediate feedback from the teacher.	3.53	1.125	A

13	Kahoot helps me obtain higher grades in English.	3.47	1.125	A
14	Kahoot helps me stay focused in class.	4.07	0.704	A
15	I can interact with the material while playing Kahoot.	3.73	1.163	A
16	It is fun to compete against the other students.	3.73	1.033	A
17	Kahoot makes the class more interactive and livelier.	4.00	1.069	A
18	I try to win while using Kahoot.	3.53	1.302	A
19	Kahoot encourages me to study more.	2.87	1.302	N
20	I feel less anxious when playing Kahoot.	3.27	1.163	N
21	Kahoot is a better platform than the traditional paper quiz for tests.	2.67	1.234	N
22	Kahoot facilitates my understanding of the material and the lesson.	3.33	1.113	A
23	Kahoot strengthens the teacher-student interaction in the class.	4.07	0.704	A
24	Kahoot promotes collaboration among students in the class.	4.13	0.743	A
To		3.59	0.356	A

Note. DA= degree of approval; To= total; A= agree; N= neutral.

Further consideration of Table 2 demonstrates that the respondents' answers' means ranged from (M= 2.67) to (M= 4.13), corresponding to (DA= neutral) and (DA= agree) respectively, i.e. the highest mean score was recorded for this statement, "Kahoot promotes collaboration among students in the class". However, the statement, "Kahoot is a better platform than the traditional paper quiz", was rated the lowest by the participants. This indicates that Kurdish students still acknowledge the application of paper quizzes despite being positive regarding Kahoot and that the participants prefer the inclusion of technology in the classroom. They believe using both together might be more influential, as Yürük (2019) confirmed that blending gamified activities through Kahoot or any other tool can be a useful strategy in foreign language classrooms. Another reason can be attributed to the newness of the technology and the Internet in the area, whose earliest common development and usage as a whole are not older than ten years. Yet, another reason might be attributed to the lack of practice in an application such as Kahoot. As for the individual acceptance of the statements, it seemed that the participants accepted most of the statements showing the role of Kahoot in English language learning because the means of almost all the statements was higher than (M=3), apart from two statements including, "Kahoot encourages me to study more" and "Kahoot is a better platform than the traditional paper quiz".

This finding is supported in the literature by many prior studies that the majority of participants in the EFL settings were positive about the use of Kahoot, particularly as an assessment or a review tool (Abdel Fattah et al., 2020; Alwadhi, 2019; Bicen & Kocakoyun, 2018; Cárdenas-Moncada et al., 2020; Charbonneau, 2018; Chiang, 2020; Plump & LaRosa, 2017; Şad & Özer, 2019; Yapıcı & Karakoyun, 2017; Yürük, 2019; Wang & Tahir, 2020; Wichadee & Pattanapichet, 2018). The most common areas where Kahoot was considered to be an essential tool in the present study, based on the means recorded in Table 2 and supported in the literature, involved improving collaboration among students in the class (Mahbub, 2020), adding enjoyment, variety and fun to EFL classes (Chiang, 2020), enhancing competency in English (Mahbub, 2020; Nurhadianti, 2020; Wang & Tahir, 2020), maintaining students' focus in the class (Lofti & Pratolo, 2021; Nurhadianti, 2020; Yapıcı & Karakoyun, 2017), and strengthening the interaction between students and teachers (Mahbub, 2020) as well as making the class more interactive and livelier as a whole (Youhasan & Raheem, 2019).

To support the quantitative results above with qualitative data, students were asked two open-ended questions. The first elicited benefits of using Kahoot in EFL classrooms. As a result, the responses of the students supported the quantitative results with Kahoot benefiting students in various ways involving making students active and livelier in the class, being easy and quick to use, being a promising application for reviewing units and material, training students and providing them with the ability to learn faster, being helpful

in reviewing vocabulary, and providing fun and enjoyment. All these are supported in the literature (Hadijah et al., 2020).

Nevertheless, the second open-ended question revealed significant points regarding the problems students encountered during the implementation of Kahoot, which is again closely connected to perception. These difficulties are supported in the literature. The difficulties incorporated lack of time to answer the questions (Hadijah et al., 2020; Lofti & Pratolo, 2021), lack the Internet in most university halls or rate of the Internet (Wang & Tahir, 2020), and difficulty with reading the questions (Hou, 2019; Wang & Tahir, 2020), the inability to focus and think deeply during this short period limited to Kahoot (Nurhadianti, 2020), and studying hard to win before entering the class (Şad & Özer, 2019). One further point that was directly concerned with postgraduate students involves their age. A few participants reported that Kahoot did not suit their age because of the speed of the application. Nevertheless, Şad and Özer (2019) think that before setting the questions in Kahoot, the teacher should consider contextual factors such as age. The most recurrent theme was associated with the speed of the application tool, i.e. since the limited time that students have to answer a question does not allow them to think deeply, this might encounter them with answering the questions within the allocated time. Nonetheless, as said earlier, the time limit should be set based on contextual factors, and Chiang (2020) goes further than this and thinks that this method of Kahoot's timed answer does not cause problems. Rather, it provokes students' excitement and that the appropriacy of time changes based on the difficulty of the question and instructors should set it accordingly. Furthermore, consistent with the literature (Hadija et al., 2020), the present study revealed through students' responses to the open-ended question regarding the problems that some participants felt unconfident while decrying their names scoring the lowest grades located at the bottommost line.

The Impact of Gender on Students' Perceptions Towards Kahoot:

The second research question posed in the study was aimed to identify the impact of gender on students' perceptions, i.e. if gender preferences affected their perceptions of using Kahoot. Thus, it answered the question below: (2) The second research question: *"Does postgraduate students' gender account for their perceptions towards Kahoot in the course?"* To verify the existence of a statistically significant relationship between gender and Kahoot and understand the strength and direction of this relationship, the researchers applied the Spearman correlation coefficient because it is the most appropriate technique for measuring the Likert scale correlation. Table 3 below displays the results for the correlation.

Table 3. The Impact of Gender on Students' Perceptions of Use Kahoot

Variable	Indicator	Correlation Value with Perception	
Gender	*R*	1.000	-0.159
	Sig. (2-tailed)		0.571
	N	15	15

As the table demonstrates, the results of the application of the Correlation Coefficient revealed no statistically significant connections between EFL postgraduate students' gender and their preferences or perceptions of using Kahoot or the use of Kahoot as a formative assessment tool because the (p-value= 0.571) is greater than (α= 0.05). This means students held positive perceptions towards Kahoot regardless of their gender. This result is supported in the literature by a few prior studies, including those (Chiang, 2020; Korkmaz & Öz, 2021). Inconsistent with these results, some studies have detected a significant connection between gender and perceptions of the use of Kahoot (Barrio et al., 2016; Hou, 2019; Ismail and Mohammad, 2017; McDonald, 2012; Mohammad, 2017; Wang et al., 2009). Unsurprisingly, most of these studies (Barrio et al., 2016; Hou, 2019; McDonald, 2012; Mohammad, 2017; Wang et al., 2009) evidenced that females were more positive in their perceptions of using Kahoot as a formative assessment tool. Wang et al. (2009) revealed significant differences in favour of females in moderating the impacts of social influence and self-management

learning on m-learning use intention. Barrio et al. (2016) found a statistically significant difference between males and females in favour of females because they thought females preferred using student response systems more than males to appear anonymous. Consistently, Hou (2019) revealed females were more positive regarding the advantages of Kahoot than males, particularly in helping them organise important information from reading texts. Furthermore, female students felt less stressed due to their speed in answering questions and thought Kahoot helped them check their comprehension. The only study that showed significant differences in favour of males involved (Ismail & Mohammad, 2017) in knowledge retention and motivation. However, males and females did not vary in their perceptions towards Kahoot in their study based on engagement, focus on learning, facilitating learning, and provoking reflection.

Students' Language Learning Performance on Kahoot:

(3) The third question of the present study inquired, 3. "Does students' language learning performance as measured by grades fluctuate throughout the course?" To answer this question, the study relied on students' grades obtained in the four formative assessment tests carried out through Kahoot during the course. The purpose behind this was to recognise the fluctuations that occurred to students' grades, i.e. to identify if students' performance through Kahoot improved or disproved. Figure 1 presents the results of students' performance in the four formative assessment tests.

Figure 1. Kurdish Students' Performance on Kahoot during the Course
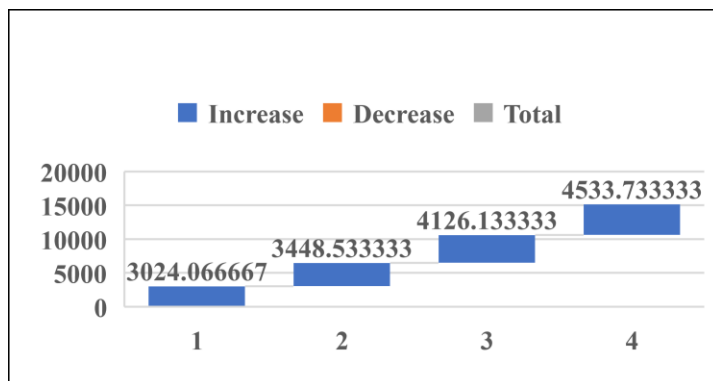
Note. Minimum grade on Kahoot= 1686; Maximum grade on Kahoot= 7517.

As the figure demonstrates, students' grades on Kahoot as a formative assessment in language learning considerably increased, with the students' first attempt recording an average of (M= 3024.06) points. On their second test, the grade went higher (M= 3448.53), with the difference between the first and second tests being (424) points. However, a substantial difference occurred from the second (M= 3448.53) to the third test (M=4126.13), with the mean difference being (677) points. Students yet recorded higher in the fourth test (M=4533.73), with the mean difference being (407) points from the third test to the fourth. By comparison, the most remarkable change that occurred in students' performance was from the second to the third. Overall, it can be stated that students' performance through Kahoot produced remarkable changes that reflect the idea that the more students were acquainted with technology in general and Kahoot in particular, the better points they obtained. Furthermore, this shows the significance of Kahoot as a formative assessment tool that can enhance students' grades in language learning.

Not only this, the researchers, based on their diary, observed that students' motivation increased, and they were more eager to participate in class sessions actively. This result reflects the present study's perceptions towards Kahoot as a formative assessment tool in the course and that integrating a technological

tool such as Kahoot with a traditional pen-and-paper quiz can produce fruitful results. The results obtained in the present study corroborate those reported in prior studies. Consistently, Cárdenas-Moncada et al. (2020), in their experimental study, divulged the impact of Kahoot on English language learning, particularly in the domains of grammar and vocabulary. They found that using Kahoot in the course led to a statistically significant difference between pretest and post-test scores and that the experimental group outperformed the control group regarding their grades. The reason behind improved performance through Kahoot has been associated with the increased engagement and student-centred learning evoked by the game dynamic elements of such tools that, in turn, result in better learning, thinking skills and confidence, as it helps students understand course content better (Cárdenas-Moncada et al., 2020).

Performance, i.e. scores on Kahoot and language learning performance, have been found to be strongly correlated. This means students who performed better on Kahoot obtained higher grades in English language learning performance. Similarly, Şad and Özer (2019) used Kahoot as a gamified formative assessment tool in a course. They revealed that students who were exposed to Kahoot obtained statistically significant higher grades than those who were not in their midterm exams. Statistically substantial differences have also been reported in the results of high stakes examination scores of psychology students who employed Kahoot versus students who employed traditional learning methodologies (Iwamoto et al., 2017). However, other studies have detected the otherwise results that Kahoot did not influence students' performance and grades (Alwadhi & Abu-Ayyash, 2021; Wang & Tahir, 2020). Consistently, Wichadee and Pattanapichet (2018) found that the experimental group performed better, obtaining higher scores than the control group and that learners had a positive attitude towards Kahoot.

Conclusion and Recommendation:

The present study was specifically devoted to the investigation of students' perceptions regarding Kahoot as a formative assessment tool. It further delved into the effect of gender on perceptions toward Kahoot, and students' performance on Kahoot was analysed. As expected, the majority of the participants accepted most of the items of the questionnaire, indicating that they held positive perceptions towards Kahoot as a gamified formative assessment tool from both attitudinal and pedagogical aspects to foster collaboration among students, add enjoyment, variety, and fun to the class, enhance competency in English, maintain focus, strengthen the interaction between students and teachers as well as make EFL classes more interactive and livelier. In addition, the most recurrent theme for the open-ended questions was that Kahoot was a promising tool for reviewing vocabulary and grammatical structures. Despite its benefits, participants reported some difficulties with Kahoot, such as lack of time to answer the questions, lack of the Internet, time limit, and the competitive nature of the tool that could often make them anxious to be the winner.

Regarding the role of gender in accounting for students' perceptions, the study revealed that all students, regardless of gender, expressed their preference for using Kahoot. This supports and buttresses previous literature that gender does not have any role in predicting perceptual differences for Kahoot. However, much literature has reported significant differences between males and females, but the current study produced otherwise results. One generalisation that can be made regarding Kahoot based on studies that showed significant differences is that females were more positive in their perceptions of Kahoot than males. Various reasons have been reported for this, the most important of which relates to females preferring to appear anonymous or females believing that Kahoot helps them organise important information from reading texts. Most importantly, females experienced less anxiety during using Kahoot because they were quicker in answering the questions. One significant conjecture is that the different results produced are usually attributed to the different contexts in which these studies are conducted, as well as the purpose for which Kahoot can be used. To illustrate, Ismail and Mohammad (2017) found that males were more positive when Kahoot was used

for knowledge retention and motivation. However, males and females did not differ in their perceptions when the purpose behind using Kahoot was engagement, facilitating learning, and stimulating retention.

Finally, the grades that students achieved in the four assessment quizzes were also taken into account to understand if students' familiarity with the tool can affect their grades and if their performance on Kahoot can increase. Expectedly, the study revealed that students performed better on Kahoot as they proceeded through the course and the sort of the assessment. This indicates students enjoyed the gamified elements of Kahoot that encouraged them to study more; as a result, they could obtain higher grades. This, in turn, can validate the results produced in the present study because both perceptions and the grades were positive at the end of the semester.

Considering the results obtained and the conclusions arrived at, several recommendations can be made for both the inclusion of technology and further research in this field of inquiry.

1. Although the results cannot be generalised, more studies need to be conducted; the present study, based on the results obtained, recommends EFL instructors in general and Kurdish instructors, in particular, to integrate and adapt technology into their classes, particularly Kahoot to make classes livelier and more interactive.

2. Today's students are digital natives and might use their mobile devices for off-task behaviour. However, the inclusion of technology into their curricula might reduce off-task behaviour and distractions.

3. Additionally, it is recommended for Kurdish instructors to devote more grades to formative assessment through a technological tool such as Kahoot because it can provide fruitful feedback to students and inform them about their deficiencies as well as improve their performance.

4. After all, students' performance is usually quite poor in English in the current educational context. Based on the students' responses, most participants had not previously experienced an in-class assessment practice through a gamified response system such as Kahoot. They reported at the end of the course that Kahoot was quite enjoyable for them; therefore, it deserves to be suggested to all other teachers in the context.

As for the suggestions for further research, it is suggested that other studies be conducted to determine the effects of Kahoot on academic performance, considering the correlation between grades on Kahoot as a formative assessment tool and final exam grades as a sort of summative assessment.

Finally, the present study was limited to a rather small number of participants in the Kurdish context. It is suggested that future research should focus on Kahoot with a larger sample size for more reliable findings and to represent postgraduate students in Iraqi Kurdistan better.

تێڕوانینی خوێندکارانی خوێندنی باڵا بەرامبەر بە بەکارهێنانی کاهوت وەکو ئامرازێک بۆ ئەنجامدانی هەڵسانگاندنی بەردەوام لە کۆڕسێکی زمانی ئینگلیزی

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²بەشی زمانی ئینگلیزی، کۆلێژی پەروەردە، زانکۆی ڕاپەڕین، ڕانیە، هەرێمی کوردستان، عێراق.

پوختە:

یەکێک لە گۆڕانکاریەکانی دەیەی ڕابردوو بریتیە لە زۆر بەکارهێنانی ئینتەرنێت و ئامرازە تەکنۆلۆجییەکان بۆ مەبەستی فێربوون لە سەرانسەری جیهان، بەتایبەت فێربوون بە یارمەتی یاخود لە ڕێگەی ئامرازێکی گەمە ئامێزو چێژبەخشی وەک کاهوت لە ناو پۆلەکانی فێربوونی زمانی ئینگلیزی وەک زمانی بیانی. تویژینەوەکان دەریانخستووە کە تایبەتمەندییە گەمە ئامێزەکانی ئەو جۆرە ئامرازانەی وەکو کاهوت دەتوانن ئەدای فێربوونی زمان باشتر بکەن، وە دەکرێت وەک ئامرازێکی کاریگەری وانە وتنەوە و هەڵسەنگاندن لە پۆلەکانی فێربوونی زمان کەڵکیان لێوەربگیرێت. لەگەڵ ئەوەشدا، بەرنامەکە هێشتا بۆ ئەو خوێندکارە کوردانەی کە زمانی ئینگلیزی دەخوێنن نوێیە و، وەکو تێبینیمان کردووە، بەشێکی کەمی مامۆستایانی زانکۆ بەکاری دێنن و ئاگاداری لایەنە باشەکانی ئەو پرۆگرامە نین. لەوەش گرنگتر، قبووڵکردنی ئامرازە تەکنەلۆجیاکان بە گشتی و کاهوت بە تایبەتی لەلایەن خوێندکارانەوە و تێگەیشتنیان یاخود تێڕوانینیان بەرامبەر بە بەکارهێنانی گرنگە، چونکە پەیوەندیەکی پتەوی بە ئەدای فێربوونی زمانەوە هەیە بە شێوەیەکی گشتی.

کاهوت بەشێوەیەکی فراوان لە چەندین ژینگەی پەروەردەیی جیاواز لێکۆڵینەوەی لەسەر کراوە، بەڵام هیچ لێکۆڵینەوەیەک سەبارەت بە تێڕوانینی خوێندکارانی کورد بەرامبەر بە بەکارهێنانی کاهوت لە پۆلەکانی زمانی ئینگلیزی ئەنجام نەدراوە. لەوەش گرنگتر تا ئێستا هیچ لێکۆڵینەوەیەک دەربارەی تێڕوانینی خوێندکارانی خوێندنی باڵا تەنانەت لە ژینگەکانی تریش ئەنجام نەدراوە. بۆیە ئەم لێکۆڵینەوەیە ئامانجی زانینی تێڕوانینی خوێندکارانی خوێندنی باڵایە بەرامبەر بە کاهوت لە خولێکی شەش هەفتەیی زمانی ئینگلیزی وە هەروەها تێگەیشتن لەو گۆڕانکاریانەی کە بەهۆی کاهوتەوە ڕوودەدەن لە باشترکردن و بەرەو پێشبردنی ئەدای خوێندکاران لەسەر

بنچینەی ئەو نمرانەی کە لە ماوەی کۆرسەکە بەدەستی دەهێنن. لێکۆڵینەوەکە ڕاپرسیەکی (٢٤) بڕگەیی بەکارهێناوە لەسەر پێوەری (٥) پلەیی لیکەرتی لەگەڵ دوو پرسیاری کراوە و نمرەی خوێندکاران. ئەنجامەکانی لێکۆڵینەوەکە ئەوەی دەرخست کە زۆربەی خوێندکاران بەرنامەی کاهوتیان پەسەند کرد و تێڕوانینێکی ئەرێنیان هەبوو بەرامبەر زۆربەی بڕگەکانی ڕاپرسیەکە. هەرچەندە بەپێی ئەنجامەکانی لێکۆڵینەوەکە ئەگەر کاهوت بە شێوەیەکی دروست ئامادە نەکرێت و کاتی گونجاوی بە پێی ئاستی خوێندکاران بۆ دانەنرێت، لەوانەیە ببێتە هۆی بێزاری و بێتاقەتی.

کلیله وشەکان: تێڕوانین، خوێندکارانی خوێندنی باڵا، کاهوت، هەڵسەنگاندنی بەردەوام، جێندەر.

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