ENHANCING STUDENTS' ONLINE CLASSROOM LEARNING AND PARTICIPATION THROUGH THE USE OF KAHOOT!

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ABSTRACT

This review of related literature in the use of Kahoot! application aims to shed light on the significance of incorporating this application into online classroom instruction to improve students' learning and engagement during the lessons. It can be assumed that the incorporation of effective teaching materials is one of the major influences on student learning and classroom participation. Nevertheless, given the apex of 21st-century learning, it is difficult for teachers to devise instructional tools that can captivate modern students. Consequently, the existence of educational games such as Kahoot! is useful for teachers who wish to infuse some fun and interactive elements into their lessons, which could ultimately improve students' learning and involvement in online classrooms. This study also emphasises the drawbacks of using this application. Based on the review, it is clear that using educational games like Kahoot! is an excellent method for teachers to use to help improve their students' learning and involvement in online classes. The association between educational games, student learning, and involvement in online classrooms has been greatly justified by this research.

Keywords: *Students' participation, Students' learning, Educational games, Kahoot!, Online classroom*

1. INTRODUCTION

In keeping with 21st century education, incorporating teaching aids into classrooms is gaining interest and becoming a signature in teaching and learning. Teaching aids help students understand abstract topics and boost their classroom involvement and participation. Teaching aids improve language acquisition by bringing the actual world into the classroom. However, a teacher's central problem is creating a teaching aid for current students. Although there are several digital games used in online classrooms, Kahoot! is believed to be the one that teachers utilise the most frequently worldwide. Iarenmenko found in his early research that using the Kahoot! application to improve learning in the classroom is more beneficial than using any other media since it is more practical, enjoyable, and engaging [1]. Additionally, educational games like Kahoot! enable kids to learn on their own and foster healthy competition in the classroom. In a number of situations, this programme can also be used by students to assess their learning and comprehension of a particular study subject. According to Lunden, Kahoot! is the most widely used application when compared to other game-based learning tools because it has more than 70 million active users worldwide [2]. The majority of Malaysian teachers, he continued, recognise that this type of application tool aids them in encouraging students' metacognitive abilities, empathy, and teamwork skills in the classroom. As a result, Kahoot! has become the most popular application among them during the past two years.

The coronavirus (Covid-19) pandemic has had an effect on all facets of our lives during the past three years, but particularly the educational field. Schools, colleges, and universities all throughout the world have been compelled to close in order to adhere to the regulations that the government has established. According to UNESCO's study, more than 290 million students worldwide have been impacted by the closure of educational institutions [3]. Online courses have emerged as a crucial element in the continuation of education as a result of the permanent closures of educational institutions. Although today's teachers and students are comfortable with digital technologies, completely converting traditional lessons to online-based learning is undoubtedly challenging. Despite the presence of digital technology in higher education during the past two decades, the

majority of educators are still unprepared for online teaching and learning [4]. The unexpected physical shutdown of educational institutions compelled the digitization of instruction. Educators thus had to deal with the unanticipated problem of carrying out all of their teaching online [5]. Due to the necessity to rethink educational activities, other challenges emerged, including ambiguity, challenging time management, maintaining student engagement, and rising online exam cheating [6]. Additionally, according to certain research, stress caused by online learning should be avoided [7].

According to the instructivism theory, students should accept all of the knowledge that is taught to them without question or analysis. According to Onyesolu et al., the instructivism theory is a sort of cognitive offloading in which students just memorise materials without further processing it [8]. The idea of educators shifting from the constructivist learning approach to the instructivist approach has undergone a significant metamorphosis due to online learning. However, they argued that instructivism is an outdated teaching strategy that does not allow for self-discovery. There has been a sharp decline in students' academic success when teachers around the world are positioned in situations where they must take charge of the classes and use an instructivism approach. The emphasis on digital teaching has put a strain on all parties involved in the educational sector, but it has been particularly difficult for educators to maintain students' enthusiasm in online classrooms.

Teachers can incorporate educational games as the primary teaching method as a means to maintain students' attention, learning, and participation in online classrooms. According to Malone, the challenge, fantasy, and curiosity are the three most important factors that a teacher should take into account when instructing his or her students [9]. These factors all work best together and can be fulfilled by using educational games. To put it another way, educational games can present a challenge to children and pique their attention in a more engaging manner. Thus, it has been established that instructional games can satisfy the key requirements of challenge, fantasy, and curiosity.

Over the past decade, many studies exploring the benefits of educational games have been carried out. The relationship between educational games like Kahoot! and how it influences students' learning and involvement in online classrooms has, however, received relatively little attention in research. In order to improve student learning and involvement in online classrooms, it is the objective of this research to synthesise the results of past studies that have examined the use of educational games like Kahoot! in the classroom and its effects on the dynamics of an online classroom. The findings will also assist teachers in understanding the benefits and drawbacks of creating educational games like Kahoot! in order to ensure effective teaching and learning.

2. LITERATURE REVIEW

2.1 Teaching Aids: Theory and Practice

Although there have been numerous studies on the Kahoot! application, as a tool in game-based learning (GBL) over the years, little has been written or published about how it affects students' learning and participation in online classes. This review of the literature examines how the Kahoot! application is utilised as a tool to improve student engagement and learning in online classes.

According to Ahmed, the use of teaching aids in EFL lessons makes it easier for students to understand complex ideas, piques their attention, and enables teachers to explain concepts effectively [10]. Due to the fact that the students in a given classroom have varying degrees of language ability, it is essential for a teacher to develop projects, activities, courses, or even directions that are understood by every student. By helping teachers differentiate instructions, the incorporation of teaching tools may ultimately support this goal.

Shabiralyani et al. assert that learning resources are frequently used to make clear the relationship between the materials and the concepts that must be given [11]. Symbols, graphs, and diagrams, for instance, can display correlations between place, time, size, value, and frequency. This may provide students a chance to interact with the material in a way that is simpler for them to understand while also offering visual stimulation and the ability to view the material from a different perspective. A classroom's efficient use of teaching aids helps to replace a dull learning environment. For instance, a monotonous learning environment is one where the atmosphere of the class is just too dull and repetitive. The only task required of the students is to remain still while the teacher lectures for hours.

This circumstance might be avoided by incorporating instructional aids such as games like Kahoot! into classroom instruction, which could transform a dull lesson into one that is exciting and engaging. Hadfield defines classroom gamification as "an activity with rules, a goal, and a component of enjoyment" (p. 101) [12]. They enable students to actively engage in activities while enhancing emotional reactions including interest, zeal, and eagerness to contribute. Games also frequently highlight the pragmatic and interpersonal aspects of language [13], [14]. They encourage active participation, encourage individualism and competition in the classroom, and give students the chance to use their language skills in a variety of settings [15]. They can be used in educational activities to create a light-hearted yet stimulating environment, and they are particularly helpful to relieve students' overburdened assignments and teachers' repetitive pedagogy.

A gamified strategy using Kahoot! is generally congruent with the demand for competitiveness for improved learning outcomes because Kahoot! focusses more on learners' involvement through a competitive game experience [16]. Prior research indicates that competitive game elements were particularly successful in fostering vocabulary learning thanks to learners' improved motivation and increased engagement [17]. Thus, the competitive engagement of Kahoot! appears to be a major factor in the effectiveness of vocabulary training.

2.2 Gamification: Theory and Practice

Game-based learning (GBL) is a pedagogical strategy that is typically used to enhance students' experience nature of actively participating in the classroom and to attain the targeted educational goals and outcomes. It is indeed important for teachers to think of ways to get students' attention and participation, especially in online classes. A teacher should focus on tackling issues that can pique students' interest in order to get their attention and participation. In these situations, gamification approaches or game-based learning can be successful because game aspects are typically made to draw people in, especially those who are living in the digital age. Games can occasionally work as a powerful motivator for pupils to attend and engage in the class [18]. GBL has gained popularity as a means of encouraging students to learn. Therefore, it is crucial to innovate within the confines of current teaching methods in order to raise student involvement, comprehension, cooperation, and motivation [19].

There is a need in the educational sector, where teachers are expected to look for alternatives when teaching students, as a result of the expansion of digital learning tools and web applications. It has been difficult for teachers to develop an application that is both user-friendly and capable of meeting the fundamental requirements of online education since the educational system underwent a change as a result of the Covid-19 pandemic, where teaching and learning are entirely online-based. A platform that uses games called Kahoot! was created in September of 2013. Kahoot! is a new generation of student response systems that places a focus on students' learning and involvement in online classrooms among all the other applications and educational activities [20]. Using the Kahoot! application, the class will momentarily transform into a game show in this quiz-like activity. In this game, teachers will serve as the host and the competitors will be the students.

There are other games, such as chess and crossword puzzles, but because they are not instructional games, they cannot be used in classrooms. These games are performed purely to enhance students' logical abilities, thinking, and other qualities; they do not present curriculum-based content. As an alternative, curriculum content or other educational materials should be included in educational games [21]. Educational games like Kahoot! have been developed to help students develop their critical thinking abilities by encouraging them to think outside the box.

Teachers and students alike have been applauding the use of gamification techniques in online learning since it provides students with a culturally and individually focused educational experience [22]. However, dynamic learning and blended learning still produce work at an alarming rate, which makes teachers' worries grow while students are learning online. Game-based teaching and learning has improved over time as a response to this issue. Toda et al. assert that the popularity of gamification techniques has led to benefits for students' learning and involvement in online classes [23].

Play-focused platforms that incorporate educational components frequently have goals that are tied to the teaching and learning objectives of a specific lesson or set of lessons. Despite the fact that games are play-oriented, the concepts that guide their design are parallel to the goals of very particular teaching and learning contexts. The concepts promote greater involvement and enjoyment in the educational process. It has been discovered that the fun and engagement aspects of game-based learning increase student motivation and maintain retention. Zarzycka-Piskorz emphasised that there is much evidence linking game play to higher levels of motivation and persistence

[24].

2.3   Kahoot!: Digital Game in 21st Century

Kahoot! is regarded as the most used and well-liked platform, with over 70 million active users on a monthly basis, according to Lunden [2]. Later, this number tripled, with more than 2.5 billion players from more than 200 nations using Kahoot! [25]. On the free learning platform Kahoot!, instructors can create their own games by posting questions online.

Ishak et al. conducted a study which confirms students' belief that Kahoot! encourages them to participate in lessons and improve their active learning [26]. Students also concurred that the teachers' and partners' positive interactions and communication are the main motivators for students to participate in learning and lead sessions. This augments the need for educators to incorporate the use of online gaming approaches like Kahoot! in their lessons to increase the students' engagement and active learning. This is consistent with the requirements of modern pedagogy, which promotes an active learning environment in the classroom as we move towards the Industry 4.0 revolution and 21st century learning.

The utilisation of synchronous online learning in place of traditional lectures allows for active involvement and interactive learning because traditional lectures these days create considerable problems [27]. Learning using Kahoot! can greatly increase students' attendance, involvement, motivation, attention, and satisfaction when compared to traditional teaching [28]. Playing Kahoot! can help students focus more intently and be more engaged. This is especially true when compared to other game designs like Quizizz, Socrative, and Google forms [29], [30]. As a result, Kahoot! is successful in drawing students to complete their assignments. Kahoot! is indeed an e-Learning platform that delivers an interactive learning environment and encourages classroom engagement [31], [16]. In addition, classes that emphasise interactive activities can boost teacher and student interest and participation, enhancing student mastery and knowledge application [32].

2.4   The influence of Kahoot! in students' learning during online classroom

One of the key factors preventing the educational system from being eliminated in the face of pandemic changes is the rapid advancement of technology. Although today's students are well-versed in technological advances, convincing them to participate in online classrooms remains a major challenge for teachers. To encourage students' participation in the classroom, teachers are expected to diversify their instruction every day. The use of game-based learning, notably the Kahoot! application, garnered overwhelmingly good feedback out of all the efforts made by teachers to promote learning and participation among students during online classrooms. When it comes to students' learning in an online classroom, Kahoot! has been extremely important since it makes learning easier, more enjoyable, encourages students to study with their friends, and ultimately strengthens the student-centred learning method.

Students today are expected to complete curriculum that is deemed to be far more complex than it was in the past. In a constrained amount of time, students are expected to acquire progressively difficult subjects with substantial amounts of content. When all teaching and learning is done online instead of through traditional ways, the load on their plates is likely to increase by a level [33]. Additionally, students experience increased stress when required to master challenging material independently. The concept of incorporating Kahoot! games into the online classroom in that situation could aid in streamlining the session.

As was already noted, Kahoot! is a game-based method that enables teachers to develop multiple-choice questions based on the curriculum of their students. Instead of making learners memorise facts, extra questions might be developed to aid in their retention of the information. The most recent findings on how modern students choose to use technology and how that affects their learning also show that when students make use of the tools, technology, and equipment available to them, their learning and interaction increase. Additionally, when technology is used, students find it to be much more engaging and enjoyable. Transferring knowledge too becomes incredibly easy, practical, and efficient [34].

Since it enables students to modify their understanding in accordance with the questions that have been prepared, Kahoot! is said to make learning straightforward. For instance, if a student answers a question correctly, they can clearly understand what it is. The student can adjust their understanding appropriately if they provide an inaccurate response. Teachers have a responsibility to make sure that memorization and rote learning do not dominate

students' perspectives of learning [35]. Instead, students can use games to help them retain important information that they can use both in exams and in everyday life. This could explain how the Kahoot! application can improve student understanding and streamline the learning process in online classrooms.

2.5   The influence of Kahoot! in students' participation during online classroom

Kahoot! and other game-based learning resources add new technological approaches to pedagogical procedures. With the help of competitive knowledge games, Kahoot!, a digital game-based student response system, teachers and students can communicate in a classroom setting. Kahoot! is part of a new generation of student response systems that emphasises student motivation and engagement through gamification, according to Wang, Zhu, and Saetre [20]. This platform is useful for assessing students' comprehension of a class as well as for boosting motivation and engagement, both of which encourage learning. Gamification also enhances learners' metacognitive skills, fosters empathy, and fosters teamwork. Furthermore, a recent study on Kahoot! by Wang and Lieberoth, involving nearly 600 students, reaffirmed the benefits of utilising the game-based platform for learning [36]. They reported that variation in the use of audio and points affected concentration, engagement, enjoyment, and motivation, and that the audio and music features of Kahoot! had a significant and positive impact on classroom dynamics.

By including gaming elements in the online learning environment, objectives can be more easily attained, and students are encouraged and motivated to learn [37]. The majority of teachers believe that using gamification will encourage kids to learn and improve their overall school experience [38]. Students are required to read the book, respond to questions, and complete topic exams, and the instructor is the centre of learning [39]. According to Azmi et al., the inclusion of gaming components in the classroom increased both online and traditional classroom student engagement [40]. The idea behind including games in the classroom is based on the idea that the core elements of games and what makes them pleasant improve students' internal motivation to participate in educational activities.

Students' involvement levels in an online classroom are sometimes referred to as their participation. Kahoot can be a better option than any other platforms because it encourages students to speak up without any fear [41]. (Wang, 2015). Students are more likely to be interested in using this site, especially since they can remain anonymous. While playing this game, students are free to use any screen name they like. Similar to how just their nicknames are visible during the interaction session, it would be practically hard for a teacher to recognise each and every student if they were to use names other than their own. This may gradually have the effect of lowering the students' fear of speaking up in class. According to a Mavridis and Tsiatsos, students who are assessed using games are less worried than those who are tested using conventional techniques [42].

2.6   The drawbacks of Kahoot!

Even though incorporating gamification elements into education can have a positive impact on learning and participation for both teachers and students, there are also numerous disadvantages to this strategy. In the past, gamification components in education seemed to enhance students' response systems (SRSs) with trustworthy results. There are few research, though, that outline the drawbacks of applying this strategy in online classes. Of all those restrictions, a teacher should take into account the need for a reliable internet connection, the fact that learning occurs within the boundaries that have been set, the fact that it does not accurately reflect students' participation and learning, and the fact that it has an emotional impact on students.

The requirement for a good internet connection will be one of the emphasised limitations. Students will require a good internet connection to support and execute the programme, which in our context will be Kahoot!, as they are obliged to play these games either during synchronous or asynchronous online lectures. When taking into account students who reside in remote locations, the majority of them are unable to even attend lessons that are held by lecturers via online platforms due to their subpar internet connection. There have also been cases where students have left school because they were unable to attend online classes and finish the assignments given by teachers. A total of 21,316 students dropped out of schools during the COVID-19 pandemic from March last year up to July 2021 owing to their failure to attend online lessons, and the figures reveal that most of them were from rural areas [43]. Due to the requirement for a strong internet connection, using a gamification strategy like Kahoot! in an online classroom can be challenging for students who live in rural locations.

A study by Martínez-Molinaa et al. found that Kahoot! was not an ideal instrument for students to learn new material and demonstrate familiarity with the subject [44] . This finding supports a study by Omar which proved that Kahoot! was more suitable for enjoyable review of previously learned material than for imparting new information [45]. Another drawback of Kahoot! concerns the time for preparation as it requires careful advanced planning [46]. Given its capabilities, Kahoot! has been viewed as a useful approach to review what students have learned, but it does not offer them any new information. Omar further highlighted the other drawbacks of Kahoot! among which is its vague measurement of students' performance [45]. In addition, the fast pace of assessments in Kahoot! does not allow students to discuss answers in any given assessment. Rodríguez-Fernández also found that students do not consider Kahoot! a proper tool to support their higher education pursuits [46].

3. CONCLUSION

All things considered, it is clear that using Kahoot! games, especially in online classrooms, has both benefits and drawbacks. There is a desire in the educational field, particularly among teachers, to explore for alternatives when instructing students as a result of the expansion of digital learning tools and web applications. In these situations, Kahoot! games are unquestionably the best tool a teacher can employ to improve student engagement and learning in online classes. Kahoot! is regarded as the greatest application for teaching and learning for a number of reasons, including its ease of use, interactive features, and the many advantages that can be gained using this platform. However, Kahoot! games have their limitations, just like any other online platform, which can be problematic for both teachers and students during online study. Thus, in order to ensure effective teaching and learning and to increase student involvement in online classrooms, a teacher must take into account all of this application's shortcomings and try to address them. Additionally, this issue is crucial since it gives students better possibilities to learn the language in a more understandable way and gives them an opportunity to communicate their ideas and information.

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