

A Comprehensive Exploration of Effective Learning Strategies Through Engaging and Interactive Kahoot Games in Educational Setting

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Kata Kunci:

Pembelajaran Berbasis Permainan,
Retensi Pengetahuan,
Teknologi Pendidikan,
Kahoot,
Gamifikasi,
Pembelajaran Interaktif,
Metodologi Pembelajaran.

Abstrak

Dengan kemajuan teknologi yang pesat dari Revolusi Industri 4.0, integrasi platform pembelajaran berbasis game dalam pendidikan telah muncul sebagai strategi inovatif untuk meningkatkan keterlibatan siswa dan pengalaman belajar. Artikel ini memberikan eksplorasi komprehensif tentang efektivitas Kahoot, alat gamifikasi online yang populer, sebagai strategi pembelajaran di berbagai lingkungan pendidikan. Melalui tinjauan sistematis terhadap literatur dan studi empiris yang ada, kami memeriksa dampak Kahoot terhadap keterlibatan siswa, retensi pengetahuan, dan kinerja akademik secara keseluruhan. Metodologi ini menggabungkan pendekatan kualitatif dan kuantitatif, termasuk survei dan kuesioner yang diberikan kepada siswa yang menggunakan Kahoot, untuk mengumpulkan wawasan tentang motivasi belajar mereka, tingkat keterlibatan, retensi pengetahuan, dan persepsi tentang keefektifan Kahoot. Temuan ini mengungkapkan bahwa meskipun sebagian besar siswa menganggap Kahoot bermanfaat untuk meningkatkan pemahaman konseptual, menciptakan suasana belajar yang menyenangkan, memotivasi pembelajaran aktif, dan membantu penyimpanan informasi, ada juga keragaman yang mencolok dalam hal preferensi dan tanggapan. Artikel ini menekankan pentingnya implementasi yang seimbang dan menyesuaikan penggunaan alat bantu pendidikan seperti Kahoot untuk memenuhi beragam kebutuhan dan gaya belajar siswa. Pada akhirnya, wawasan yang disajikan berkontribusi pada wacana yang sedang berlangsung tentang metodologi pengajaran yang inovatif dan memberikan rekomendasi yang berharga kepada para pendidik untuk mengintegrasikan strategi pembelajaran berbasis permainan secara efektif untuk meningkatkan pengalaman belajar secara keseluruhan.

Key Word:

Game-Based Learning
Knowledge Retention,
Educational Technology,,
Kahoot,
Gamification,
Interactive Learning,
Teaching Methodology.

Abstract

With the rapid technological advancements of the Industrial Revolution 4.0, the integration of game-based learning platforms in education has emerged as an innovative strategy to enhance student involvement and learning experiences. This article provides a comprehensive exploration of the effectiveness of Kahoot, a popular online gamification tool, as a learning strategy across various educational settings. Through a systematic review of existing literature and empirical studies, we examine the impact of Kahoot on student engagement, knowledge retention, and overall academic performance. The methodology combines qualitative and quantitative approaches, including surveys and questionnaires administered to students using Kahoot, to gather insights into their learning motivation, engagement levels, knowledge retention, and perceptions of Kahoot's effectiveness. The findings reveal that while a substantial portion of students perceive Kahoot as beneficial for improving conceptual understanding, creating a fun learning atmosphere, motivating active learning, and aiding information retention, there is also a notable diversity in preferences and responses. The article emphasizes the importance of balanced implementation and tailoring the use of educational tools like Kahoot to meet the diverse needs and learning styles of students. Ultimately, the insights presented contribute to the ongoing discourse on innovative teaching methodologies and provide educators with valuable recommendations for effectively integrating game-based learning strategies to enhance the overall learning experience.

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INTRODUCTION

Technological progress in the era of the Industrial Revolution 4.0 is increasingly rapid. All aspects of life adapt to technological developments, including the world of education. The development of this technology is growing very quickly, which has become part of the community in serving and providing information, so that people can access information easily at their fingertips (Gibson & Smith, 2018). The

world of education needs to take advantage of technology with its various advantages to improve the quality of education from various aspects such as teachers, media, curriculum, learning processes, assessments, and others.

In today's rapidly evolving educational landscape, educators are constantly looking for innovative and engaging strategies to enhance students' learning experience. One approach that has gained significant traction is the integration of game-based learning platforms. Gamification is a game-based concept that helps in motivating and increasing engagement in an activity. In addition, a good learning media is one that encourages students to achieve learning objectives according to Angraini (2017). There are several evaluation tools in the form of online quizzes that can be used for gamification methods in learning such as Kahoot, Quizizz, Google Form. This application is a gamification-based online application that has features that can increase student motivation and learning engagement.

It is also a type of quiz that provides immediate feedback after students take the quiz in the form of points. By knowing the immediate feedback, it can lead to students' positive perception in the learning process. The score obtained or the ranking given by the application gives rise to and encourages the competitive nature of students. Such conditions and learning processes will encourage student involvement and motivate students to actively participate in learning (Wahyuningsih et al., 2022). This application is part of the teacher's efforts to activate students and make it easier for teachers to conduct assessments.

In recent years, the use of gamification in higher education to encourage student engagement, improve learning, create an effective academic environment has emerged as a new approach in education (Chen, et al., 2020). Kahoot is a popular online platform that allows teachers to create interactive quizzes, surveys, and discussion prompts, transforming traditional classroom activities into engaging and interactive experiences. Until now, 70 million active users or teachers have used kahoot and 1.6 billion students have played this game (Fauzan, 2019). According to Guardia et al (2019) Kahoot is a gamification tool to see students' abilities through questions, in the form of an online platform to conduct multiple choice tests.

Applications such as Kahoot represent a shift in information culture and are generally relevant to those born after 1990 (McGonigal, J, 2011). The use of Kahoot games in educational settings has shown promising potential in encouraging active learning, increasing student engagement, and promoting a collaborative and fun learning environment. By harnessing the power of gamification, Kahoot taps into students' intrinsic motivation and competitive spirit, encouraging them to actively participate and reinforcing their understanding of the subject matter. Kahoot is an online game developed to address any challenge in the learning process. Student responses to game-based learning successfully increased student engagement, motivation and learning. In addition, the use of Kahoot also makes students more concentrated, more cooperative, more comfortable in learning, and increases learning motivation. In addition, the use of Kahoot also makes students more concentrated, more cooperative, comfortable in learning, and increases learning motivation. according to Sutirna, (2018), kahoot applications in learning can also help teachers to collect informal feedback from students, assess students' learning understanding, and create polls on matters related to learning that occurs in the classroom.

This article aims to provide a comprehensive exploration of the effectiveness of Kahoot as a learning strategy in various educational settings. Through a systematic review of existing literature and empirical studies, we will examine the impact of Kahoot on student engagement, knowledge retention, and overall academic performance. Unlike other traditional student response methods, 'Kahoot' blends music, fun, and competition that keeps students curious and engaged throughout the game (Lin, Ganapathy, & Kaur, 2017).

Some studies that are relevant to this research include Damayanti's (2021) research that the Kahoot Application developed by researchers is relevant and interesting to be used as a medium for evaluating student learning outcomes evaluation of student learning outcomes. Research by Daryanes (2020) shows that the Kahoot application is very effective as an evaluation tool in terms of motivation and attention. (Seftiani, 2019) shows that through the Kahoot application, the evaluation process can run pleasantly because the Kahoot application is a game that appears on the learning platform used in educational institutions, so it is

very suitable for use in the era of the industrial revolution 4.0 which is an era of all technology. And there are many other studies, such as Benjamin (2020), Rahmawati (2020), and Aflisia (2020). In contrast to previous studies, this study focuses on the use of Kahoot as an assessment tool during pre-test and post-test. With the aim of seeing the effectiveness of the Kahoot application in learning, especially during assessment. The hope of this study is that teachers can consider using Kahoot as an assessment tool.

By delving into the pedagogical underpinnings of game-based learning and analyzing real-world case studies, this article seeks to contribute to the ongoing discourse on innovative teaching methodologies. Ultimately, the findings presented here will provide educators with valuable insights and practical recommendations for effectively integrating Kahoot games into their instructional practices, thereby enhancing the overall learning experience for students.

METHODOLOGY

The methodology that will be used in this research combines qualitative and quantitative approaches to explore the effectiveness of Kahoot as a learning strategy in various educational environments. Surveys and questionnaires will also be administered to students using the Kahoot game, covering questions related to learning motivation, student engagement, knowledge retention, and perceptions of Kahoot's effectiveness. Findings from the questionnaire review will be integrated to provide a comprehensive picture of Kahoot's effectiveness as a learning strategy. The data collected will be thematically analyzed to identify significant patterns and findings, including an evaluation of the quality of the study methodology and identification of general trends in the use of Kahoot in education. Conclusions and recommendations will be provided based on the findings of the analysis, and emphasis will be given to the limitations of the study and implications for future research. Thus, this methodology will provide a comprehensive insight into the effectiveness of Kahoot's use in learning, which can help direct innovative and effective teaching practices.

Furthermore, students' attention questions in the pre-test and post-test were as much as the attention indicators, namely listening, looking, writing or taking notes, reading making summaries, observing tables, diagrams or charts, remembering, thinking, practicing, and asking (Santoso et al., 2020).

FINDINGS AND DISCUSSION

Usage of Kahoot games in learning

A small minority (15%) agreed with using Kahoot games frequently in their learning. However, the majority of students expressed disagreement, with 45% disagreeing and a significant 40% strongly disagreeing with frequent Kahoot usage. This indicates that while some students find value in incorporating Kahoot games, most students prefer a more balanced approach and do not want Kahoot to be overused in their learning experience.

Improving students' understanding of concepts

A substantial portion of students (70%) agreed that using Kahoot helps improve their understanding of concepts. This suggests that the interactive and gamified nature of Kahoot can effectively reinforce and solidify conceptual learning for many students. Conversely, 20% disagreed, and 10% strongly disagreed, indicating that Kahoot may not be equally effective for all students in enhancing conceptual understanding.

Fun learning atmosphere

The majority of students (70%) agreed that Kahoot provides a fun learning atmosphere, while an additional 20% strongly agreed. This highlights the ability of Kahoot to create an engaging and enjoyable learning environment, potentially increasing student motivation and participation. However, a small minority (10%) disagreed, suggesting that some students may not find the gamified approach as appealing or fun.

Motivation for active learning

Similar to the previous finding, a large number of students (70%) agreed that Kahoot games motivate them to learn more actively. This aligns with the notion that the interactive and competitive nature of Kahoot can foster increased engagement and active participation in the learning process. Nevertheless, 20% disagreed, and 10% strongly disagreed, indicating that Kahoot may not be equally motivating for all students.

Table 1. Questionnaire

Question	Strongly agree	Agree	Stongly disagree	Disagree
How often do you use Kahoot games in learning?		15%	40%	45%
Do you think using Kahoot helps improve students' understanding of concepts?		70%	10%	20%
Do you feel Kahoot provides a fun learning atmosphere?	20%	70%		10%
Do you believe that Kahoot games motivate students to learn more actively?		70%	10%	20%
How well do you think Kahoot helps students remember information or subject matter?	10%	80%		10%
Do you feel Kahoot provides enough variety in the teaching process?	10%	60%	10%	20%
What do you think about student involvement when using Kahoot?		60%	10%	30%

Remembering information or subject matter

The majority of students (80%) agreed that Kahoot helps them remember information or subject matter, suggesting that the game-based approach can effectively reinforce and aid in the retention of learned content. Additionally, 10% strongly agreed, further emphasizing the potential of Kahoot in enhancing memory and recall. However, a small minority (10%) disagreed, indicating that Kahoot may not be equally effective for all students in aiding information retention.

Variety in the teaching process

Most students (60%) agreed that Kahoot provides enough variety in the teaching process, recognizing its potential to introduce diversity and novelty in the learning experience. However, 20% disagreed, 10% strongly agreed, and 10% strongly disagreed, highlighting the diverse perspectives and preferences among students regarding the level of variety provided by Kahoot.

Student involvement

A significant portion of students (60%) agreed that student involvement was high when using Kahoot, indicating that the interactive and competitive nature of the platform can effectively promote active participation and engagement. However, 30% disagreed, and 10% strongly disagreed, suggesting that Kahoot may not be equally effective in fostering involvement for all students or in all learning contexts.

This shows a collaborative perspective on the use of Kahoot games in learning. Although a significant number of students disagreed or strongly disagreed with using Kahoot frequently, most students recognized its benefits in improving concept understanding, creating a fun learning atmosphere, motivating active learning and aiding information retention.

Despite the perceived benefits, the diverse responses suggest that Kahoot should be used in moderation and in conjunction with other teaching methods to meet different learning preferences and needs. The collaborative nature of the responses highlights the importance of considering diverse perspectives and balancing in the implementation of educational tools such as Kahoot. While some students may find Kahoot very engaging and effective, others may prefer a more varied approach or have different learning styles.

Overall, these findings suggest that Kahoot can be a valuable addition to the teaching process, but its use should be carefully balanced and tailored to the specific needs and preferences of the student population. Incorporating feedback from students and fostering a collaborative learning environment can help optimize the use of educational technologies such as Kahoot for maximum effectiveness.

CONCLUSION

In conclusion this study suggest that while Kahoot games can be a valuable educational tool, their implementation should be approached with careful consideration and a balanced approach. While many students perceive Kahoot as beneficial for enhancing conceptual understanding, creating a fun and motivating learning atmosphere, and aiding in information retention, there is a clear preference for moderation in its usage. The majority of students favor incorporating Kahoot games alongside other teaching methods and activities, rather than relying excessively on this single approach. It is evident that Kahoot has the potential to boost student engagement, motivation, and active participation in the learning process.

However, its effectiveness may vary among individual learners, and some students may not find the gamified approach equally appealing or beneficial for their learning styles. Additionally, while Kahoot is recognized for introducing variety in the teaching process, there are diverse perspectives on the extent to which it achieves this goal. Notably, while a significant portion of students reported high levels of involvement when using Kahoot, a considerable number did not perceive the same level of engagement. This highlights the importance of considering individual preferences and learning styles when implementing educational technologies like Kahoot. Ultimately, the effective use of Kahoot requires a collaborative and tailored approach, incorporating student feedback and fostering an environment that caters to diverse learning needs and preferences.

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