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Kahoot-Based Learning and Students' Critical Thinking in Islamic Education

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Abstract

General Background: The integration of digital learning media has become essential in modern education to enhance student engagement and higher-order thinking skills. **Specific Background:** In Islamic Religious Education (PAI), students' critical thinking abilities often remain low due to conventional lecture-based approaches, as observed at SMP IT Nurul Ilmi Medan. **Knowledge Gap:** Although previous studies highlight the benefits of game-based learning platforms such as Kahoot, limited research explores how its implementation specifically shapes learning processes, teacher strategies, and students' critical thinking skills within PAI classrooms. **Aims:** This study investigates the implementation of Kahoot in PAI learning and examines its role in improving students' critical thinking abilities. **Results:** Findings show that Kahoot increases student participation, creates an enjoyable and interactive learning atmosphere, and enhances analytical, evaluative, and reflective thinking as evidenced by improved learning engagement and performance. Supporting factors include school Wi-Fi, teacher readiness, and student motivation, while inhibiting factors involve device limitations and unstable internet access. **Novelty:** This study provides an in-depth qualitative analysis of Kahoot's pedagogical integration, moving beyond outcome evaluation to examine learning dynamics and contextual challenges. **Implications:** Kahoot serves as an effective digital strategy to foster critical thinking in PAI learning and supports the principles of 21st-century education and the Pancasila Student Profile.

Highlights:

- ♦ Kahoot improves student engagement and strengthens critical thinking in PAI learning.
- ♦ Implementation success depends on teacher readiness, supportive infrastructure, and meaningful question design.
- ♦ Game-based learning offers an effective strategy aligned with 21st-century education demands.

Keywords: Kahoot, Islamic Education, Critical Thinking, Digital Learning, Gamification

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Introduction

In the digital era, learning cannot be separated from the use of information technology. One of the challenges in Islamic Religious Education (PAI) is the low critical thinking skills of students due to the dominance of lecture and memorization methods. [1] This phenomenon is seen at SMP IT Nurul Ilmi Medan, where students still have difficulty solving analytical and reflective questions. [2] In fact, critical thinking is very important so that religious values can be understood rationally and applied practically. [3] One of the popular learning media used to address this challenge is Kahoot. This game-based media creates an interactive, competitive, and enjoyable learning atmosphere. Several previous studies have shown the effectiveness of game-based learning media. Nashar et al [4] found a significant difference in students' critical thinking ability with the use of Kahoot and Quizizz, while Alfaruqy & Setiawan [5] emphasizing that Kahoot can create a more enthusiastic and enjoyable learning atmosphere. However, both studies focused more on evaluating the final results through an experimental approach.

The use of digital learning media at SMP IT Nurul Ilmi Medan still faces various challenges. Initial interview results indicate that some students have not optimally utilized the Kahoot application as a learning media for Islamic Religious Education (PAI), especially in enhancing critical thinking skills and active participation in class. In fact, the use of Kahoot has the potential to significantly increase student motivation and engagement in the learning process. [6] Therefore, this study aims to fill that research gap by examining in depth the implementation of Kahoot in Islamic Education (PAI) learning at SMP IT Nurul Ilmi Medan, including students' learning experiences, teachers' strategies, as well as supporting and inhibiting factors in the application of this media [7].

Based on this, this study formulates two questions: (1) How is the implementation of Kahoot in Islamic Education (PAI) learning? (2) Can the use of game-based Kahoot media enhance students' critical thinking skills? The expected recommendation from this study is to encourage PAI teachers to use Kahoot as an innovative media, not only to create an enjoyable learning atmosphere but also to stimulate critical thinking skills, which are one of the main competencies of the Pancasila Student Profile in facing the challenges of the 21st century.

Theoretical Studies

A. Implementation of Learning Media

The implementation of learning media is the process of using media in a planned manner to achieve educational goals. Media is not just a tool, but also an integral part of the learning process that facilitates communication between teachers and students. [8] Furthermore, Heinich, Molenda, and Russell explain that the implementation of media is the application of instructional design that involves the use of various forms of media, whether visual, audio, or audiovisual, to make learning more engaging, interactive, and meaningful [9]. Meanwhile, Gerlach and Ely stated that the implementation of media is a real activity in applying the learning designs that have been prepared, taking into account the sequence of material presentation, the methods used, and the most appropriate supporting media. [10] In the context of learning, implementation includes adjusting media according to field conditions. [11] According to Seels and Glasgow, the implementation of media is part of a learning system that includes the execution, evaluation, and revision of media. [12]

B. Kahoot as an Interactive Media

Kahoot is a gamification platform that allows teachers to create interactive quizzes for pre-tests and post-tests. As a form of Digital Game-Based Learning, Kahoot enhances students' motivation and participation. [13] Its interactivity provides space for students not only to receive information, but also to react, discuss, and learn competitively [13]. Kahoot was born from the idea of Prof. Alf Inge Wang at the Norwegian University of Science and Technology together with Morten Versvik and two British innovators, Jamie Brooker and Johan Brand [14]. Their presence serves as a tangible example of the application of educational technology that emphasizes active and enjoyable engagement in the learning process. [15]

C. Islamic Religious Education (PAI) Learning

PAI aims to develop a well-rounded Muslim personality encompassing cognitive, affective, and psychomotor aspects. [16] The process is not only about transferring knowledge, but also about shaping character and noble morals [17] [18]. Emphasizing the importance of planning, implementation, evaluation, and continuous guidance. The integration of modern media such as Kahoot can strengthen the understanding of Islamic values when used contextually. This aligns with Allah's word in QS. Az-Zumar: 9 regarding the virtue of knowledge, which Al-Qurthubi explains in his commentary that knowledgeable people hold a higher status compared to those who are not knowledgeable.

قُلْ هَلْ يَسْتَوِي الَّذِينَ يَعْلَمُونَ وَالَّذِينَ لَا يَعْلَمُونَ إِنَّمَا يَتَذَكَّرُ أُولُو الْأَلْبَابِ

It means: 'Say: Are those who know equal to those who do not know?' (QS. Az-Zumar: 9).

Al-Imam Al-Qurthubi in his tafsir explains that this verse emphasizes the virtue of knowledge and those who are knowledgeable in Islam. Studying religion, including PAI, places a person at a high rank. In his tafsir, Al-Qurthubi mentions that seekers of knowledge have virtues exceeding those of worshippers who are not knowledgeable. "A knowledgeable person holds a high position because they know what the ordinary people do not, and they walk upon the light of knowledge.

So how could they be equated with those who are in ignorance and misguidance?" [19] Al-Qurthubi also added that knowledge is superior to worship that is not accompanied by understanding. In fact, early scholars stated that the sleep of a learned person is better than the night prayer of an ignorant person, because knowledge can guide worship onto the correct path.

D. Critical Thinking in Learning

Critical thinking is a higher-order thinking skill (HOTS) that is important in Islamic Religious Education (PAI). [20] referring to it as the process of analyzing, evaluating, and synthesizing information rationally[21]. emphasizing critical thinking as reflective and reasonable to determine what is believed or done. The indicators include clarification, inference, reasoning, and argument evaluation. The clarification indicator means explaining the meaning or intention of a statement to avoid misunderstandings. Next, inference involves the ability to draw logical conclusions based on available evidence. Then, reasoning relates to providing logical grounds to support an opinion or decision. Meanwhile, argument evaluation means assessing the strengths and weaknesses of an opinion or evidence objectively. [22] In Bloom's taxonomy, these skills include analysis, synthesis, and evaluation. [23] PAI learning that fosters critical thinking requires students to actively discuss, weigh evidence, and reflect on decisions. This helps students understand Islam rationally, avoid dogmatic attitudes, and remain relevant to modern challenges. [24]

Method

This study is a qualitative research with a case study approach conducted at SMP IT Nurul Ilmi Medan from April to June, focusing on the implementation of Kahoot learning media to enhance students' critical thinking skills in Islamic Religious Education (PAI). The research subjects were purposively selected, including the PAI teacher (Mr. Nanda Azhari, M.Pd) as the only PAI teacher using Kahoot, and three eighth-grade students with different levels of critical skills based on the teacher's recommendation. Data were collected through interviews, observations, and documentation. Interviews were conducted with the teacher, students, and principal. Observations were carried out during PAI lessons using Kahoot, while documentation consisted of photos, screenshots of quiz results, lesson plans (RPP), and teacher notes. Data analysis used the model [25] These are reduction, presentation, and drawing conclusions. For data validity, source triangulation and technique triangulation are used by comparing information from various informants so that the research results are more credible.

Results and Discussion

A. Implementation of Game-Based Kahoot Learning Media in Islamic Religious Education Learning

Based on interviews with Mr. Nanda Azhari, M.Pd, an Islamic Religious Education (PAI) teacher at SMP IT Nurul Ilmi, students, and the principal of SMP IT Nurul Ilmi, it was found that the school has implemented the digital learning media Kahoot as an interactive tool in the PAI learning process. According to the interview results, in one session in the 8th-grade class discussing the material "Correcting One's Own Mistakes Before Noticing Others' Mistakes," the teacher utilized Kahoot as a formative evaluation tool. When the quiz started, the classroom atmosphere became livelier, evident from the high enthusiasm of students in answering the questions.

The results of an interview with Mr. Nanda Azhari, M.Pd, explain that Kahoot is very effective in creating a more enjoyable and productive learning atmosphere. He stated:

"As an Islamic Education teacher, I find Kahoot very helpful in creating a more enjoyable learning atmosphere. Students become more enthusiastic when subjects that are usually considered heavy, such as creed, fiqh, or Islamic history, are presented in the form of an interactive quiz. In addition, Kahoot makes it easier for me to conduct learning evaluations quickly and accurately."

From the students' perspective, they feel a different and more engaging learning atmosphere. A representative student from class VIII stated:

"Studying using Kahoot is fun, especially when it's in the form of a competitive quiz. I become more enthusiastic about learning PAI because I can immediately know whether my answers are right or wrong. It feels like playing a game, but while learning."

Support for the use of Kahoot also comes from the school principal. In an interview, the Principal of SMP IT Nurul Ilmi stated:

"We indeed encourage teachers to use digital learning media, including Kahoot, in the learning process. PAI teachers have been quite successful in utilizing this platform, making students more active. Additionally, we see the use of Kahoot as aligned with the demands of the Merdeka Curriculum, which emphasizes active, creative, and collaborative learning."

From the results of the above observations, it can be identified that the use of Kahoot media in Islamic Education (PAI) learning has increased teacher-student interaction, fostered motivation, and strengthened student engagement in the learning process. The varied responses from teachers, students, and the principal indicate that the implementation of [ISSN 2714-7444 \(online\), https://acopen.umsida.ac.id](https://doi.org/10.21070/acopen.10.2025.12840), published by [Universitas Muhammadiyah Sidoarjo](https://www.umsida.ac.id/)

Kahoot is not only a technological innovation but also an effective pedagogical strategy. Thus, it can be concluded that the implementation of Kahoot in PAI learning has a positive impact on motivation, understanding, and student learning outcomes. Teachers feel assisted in evaluation, students experience more enjoyable learning, and the principal supports the innovation as an effort to improve the quality of learning in the school.

B. The Use of Game-Based Kahoot Learning Media in Enhancing Students' Critical Thinking Skills

Based on the results of interviews conducted in class with Mr. Nanda Azhari, M.Pd, as the Islamic Religious Education teacher, eighth-grade students, and the principal of SMP IT Nurul Ilmi, it was found that the use of game-based Kahoot learning media in Islamic Religious Education lessons has a positive impact on improving the quality of the teaching and learning process. According to the interviews, in one of the sessions with the theme “correcting one’s own mistakes before noticing others' mistakes,” the teacher prepared a Kahoot quiz with 15 questions, such as: “Why is it important to introspect before judging others' mistakes?” or “What are the negative impacts if someone judges others' mistakes too quickly without first correcting their own?” Students were given only 20 seconds to answer each question, so they had to respond quickly while still being careful in understanding and analyzing the questions. This, in turn, can enhance students' critical thinking skills.

Based on the results of interviews with the PAI teacher, it was explained that Kahoot is very effective in creating a more enjoyable and productive learning atmosphere. He stated

"I find Kahoot very effective for training students to think quickly and critically. When answering PAI questions in the form of interactive quizzes, they are not only required to recall information but also to understand and analyze the material. For example, when discussing issues of fiqh or morals, students must choose the most accurate answer from several similar options. From this, their ability to distinguish, compare, and make the right decisions becomes evident."

From the students' perspective, they felt that learning with Kahoot made them more challenged to think critically. An eighth-grade student stated:

"When using Kahoot, I have to quickly read the questions and immediately think of the correct answers. Sometimes the options are very similar, so I really need to understand the material, not just guess. That makes me more focused and study more seriously."

Furthermore, support was also expressed by the principal of SMP IT Nurul Ilmi Medan. He stated:

"I noticed that the PAI teacher has been quite successful in utilizing Kahoot as a learning medium. The children are more active; they do not just sit quietly listening, but actively participate. Kahoot encourages students to think critically because they cannot simply memorize, but must understand the concepts. This aligns very well with the direction of education that emphasizes higher-order thinking skills (HOTS)."

From the observations above, it is evident that the implementation of Kahoot in Islamic Education (PAI) learning has successfully combined aspects of technology, learning motivation, and the development of critical thinking skills. Teachers find it easier to evaluate, students are more active and critical, observe positive development in children, and support this digital-based learning innovation. Thus, it can be concluded that the use of game-based Kahoot learning media in PAI at SMP IT Nurul Ilmi Medan can enhance students' critical thinking skills. This is seen in students' increased engagement, improved learning motivation, and their ability to analyze and choose the correct answers for each question. This implementation becomes one of the effective strategies in creating meaningful, creative learning that meets the demands of the 21st century.

C. Supporting and Inhibiting Factors in the Implementation of Game-Based Kahoot Media to Enhance Students' Critical Thinking Skills

From the results of interviews with Mr. Nanda Azhari, M.Pd., an Islamic Religious Education teacher at SMP IT Nurul Ilmi Medan, several students, and the school principal, it is known that the use of the Kahoot learning media has supporting and inhibiting factors in the teaching and learning process. The Islamic Religious Education teacher stated that students appear much more enthusiastic when participating in lessons that include interactive quiz games. He said:

"In the PAI learning process, Kahoot is very helpful for enlivening the classroom atmosphere. Students appear more enthusiastic when answering the questions I create in the form of interactive quizzes. This media also encourages them to think quickly and critically, especially when I provide analytical and case study questions. A very supportive factor is the availability of school Wi-Fi and the fact that most students already have their own devices."

From the students' perspective, they also feel the benefits of using Kahoot. A representative student from class VIII said:

"Learning Islamic Religious Education (PAI) is more fun using Kahoot, because it's like playing a game but the content is lesson questions. If the questions are a bit difficult, I have to think more deeply to answer quickly. So it's not just about memorizing, but we are learning to understand."

This statement indicates that students feel Kahoot is able to enhance critical thinking skills, as they not only answer questions quickly but also analyze answers accurately. Nevertheless, there are also some obstacles encountered. Furthermore, support was also expressed by the principal of SMP IT Nurul Ilmi Medan. He stated:

"I support the use of digital learning media such as Kahoot, because it aligns with the characteristics of today's students who are familiar with technology. However, there are indeed some challenges, for example, teachers need to prepare questions carefully to truly train critical thinking, not just memorization. In addition, we are also working on improving the internet network to make it more stable."

From the observations above, it can be identified that there are key supporting factors, namely: the availability of the school's Wi-Fi network, student enthusiasm, teacher support that is adaptive to technology, and a school environment that supports learning innovation. On the other hand, the hindering factors that emerged include limited access to devices for some students, internet network disruptions, and limited learning time to optimize discussions after the Kahoot game ends. In short, the implementation of Kahoot game-based media in PAI learning at SMP IT Nurul Ilmi Medan is quite effective in improving students' critical thinking skills, mainly due to its interactive nature and ability to motivate students to engage in active learning. However, this success needs to be continuously supported by improving facilities, teacher readiness, and learning time management to minimize existing obstacles.

D. Implementation of Kahoot Game-Based Learning Media in Islamic Religious Education

In the Qur'an, Allah Almighty emphasizes the importance of knowledge and learning as provisions to elevate the status and quality of human life. This principle is relevant to the implementation of modern learning media, such as Kahoot, which can help students acquire knowledge in an interactive and enjoyable manner. This aligns with the word of Allah Almighty:

رَفَعَ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ

It means: "Allah will raise those who have believed among you and those who were given knowledge to high degrees." (Q.S. Al-Mujadalah: 11)

Al-Qurthubi in his commentary explains that science is the main factor that raises the status of a Muslim, and all forms of means that can facilitate the achievement of knowledge are part of noble endeavors. [26][27] In the context of education, especially Islamic Religious Education (PAI), this verse emphasizes the importance of knowledge and effective learning processes. One way to improve the quality of learning is by utilizing the appropriate media. [28] One of the media that is now widely used in learning is Kahoot, an interactive game-based quiz platform that allows teachers to create questions and students to answer them in real-time using digital devices. [29]

Regarding learning media, Heinich, Molenda, Russell, and Smaldino explain learning media as a means to convey educational messages so that learning objectives can be achieved effectively and efficiently. In other words, media is not just an aid, but an integral part of the learning strategy. Gagne [30] Through the stages of the "Nine Events of Instruction," it is explained that learning media must be able to capture students' attention, convey objectives, activate prior knowledge, present material, provide guidance, encourage performance, give feedback, assess performance, and enhance retention and learning transfer. Kahoot can fulfill all these stages because its interactive quizzes can capture attention, provide immediate feedback, and encourage students to compete in a healthy manner. [31] According to Mayer, interactive learning that uses digital technology can enhance students' cognitive processing, as students become more active in understanding the material. [32] Meanwhile, Ningsih and colleagues emphasized that learning involving student participation through engaging media will increase their motivation and involvement in the learning process. [33] This concept is relevant to Kahoot, as this medium combines elements of quizzes, competition, and interaction that encourage active student engagement.

The implementation of Kahoot in Islamic Education (PAI) learning is very strategic for today's digital generation. This media makes it easier for teachers to quickly assess students' understanding, foster the spirit of learning, strengthen memory through competition, and provide instant feedback. [2] However, Kahoot serves only as a support; religious values must still be acquired through actual worship practices and direct guidance from teachers. For example, learning about the pillars of Islam or daily prayers should still be accompanied by practical exercises, not just digital quizzes. [27] In addition, game-based learning such as Kahoot is also in line with the principles of education in Islam, which emphasize experience, motivation, and social interaction. Students who actively participate in quizzes, discuss with friends, and provide correct answers to each other will find it easier to absorb knowledge. Therefore, the implementation of Kahoot as a learning medium in Islamic Education (PAI) can be considered an effective, creative strategy that aligns with current technological developments and student characteristics. This medium helps teachers deliver material, assess understanding, and instill Islamic values in an innovative way.

E. The Use of Game-Based Kahoot Learning Media in Improving Students' Critical Thinking Skills

In Islam, seeking knowledge is a highly emphasized obligation because knowledge serves as the foundation for understanding, reasoning, and making correct decisions. This principle is relevant to the use of modern learning media, which not only conveys information but also stimulates students' critical thinking. The Prophet Muhammad (peace be upon him) said:

عَنْ عَبْدِ اللَّهِ بْنِ عُمَرَ رَضِيَ اللَّهُ عَنْهُمَا، أَنَّ رَسُولَ اللَّهِ ﷺ قَالَ: طَلَبُ الْعِلْمِ فَرِيضَةٌ عَلَى كُلِّ مُسْلِمٍ

Meaning: “From Abdullah bin Umar (RA), that the Messenger of Allah said: ‘Seeking knowledge is obligatory upon every Muslim.’” (Narrated by Al-Baihaqi No. 1762)

Imam An-Nawawi, in his commentary, emphasized that the obligation to seek knowledge encompasses all beneficial knowledge according to Sharia. [34] In the context of modern learning, the use of interactive learning media such as game-based Kahoot is very relevant to the spirit of this hadith. Kahoot not only makes it easier for students to gain knowledge, but also hones their critical thinking skills in a fun and engaging way. [35] Through this learning method, students are encouraged to actively think, analyze, and make decisions quickly and accurately, in accordance with the obligation to seek knowledge as taught by Prophet Muhammad.

Kahoot is an interactive quiz platform that allows teachers to present questions in the form of multiple choice, true-false, or open-ended questions. Through gamification, students are challenged to think quickly, analyze the correct answers, and decide on the right strategy to achieve the highest scores. This medium combines elements of competition, entertainment, and social interaction, thereby creating a fun learning environment that stimulates students' critical thinking. [36] Critical thinking skills are important in the world of education because they help students not only passively receive information but also understand, evaluate, and solve problems logically [37]. According to Ennis, critical thinking skills are the ability to analyze, evaluate, and draw conclusions based on existing evidence or information. [21] One of the media proven effective in improving critical thinking skills is game-based Kahoot. [22] Thus, Kahoot can be used as a learning support tool for critical thinking skills, which still need to be trained through discussion, reflection, and hands-on practice, especially in the context of religious education, such as analyzing cases of morality or reasoning in fiqh, which still require teacher guidance, not just a digital quiz. [38]

Critical thinking is at the analysis and evaluation levels in the revised Bloom's taxonomy. Learning media such as Kahoot help students move from merely remembering and understanding to the levels of analyzing and evaluating. [31]. For example, when students face questions that require logical reasoning or linking concepts to real-life examples, they must use critical thinking skills to determine the correct answer. Mayer [32] stated that interactive learning using digital technology enhances students' cognitive processing because they are more actively understanding the material. Arends [39] emphasizes that learning involving student participation through engaging media increases their motivation and involvement. In the context of Islamic Religious Education (PAI), Kahoot can be used to pose questions related to fiqh, creed, morals, and the Qur'an that require students to think critically [40]. For example, questions about the causes of invalidating ablution or the analysis of the meaning of certain verses require students to understand the principles of religion deeply, not just memorize answers. In this way, students learn to analyze and evaluate religious information logically and critically.

The use of game-based Kahoot in learning is very effective because it can increase student engagement through a competitive and interactive atmosphere, encourage critical thinking by challenging students to analyze questions and choose the correct answers, and provide instant feedback, making the learning process reflective. In addition, Kahoot allows teachers to connect theory with everyday life practices, including the application of Islamic values, so that students not only understand concepts but are also able to apply them. Therefore, the implementation of game-based Kahoot can be considered an effective strategy to enhance students' critical thinking skills, both in general cognitive domains and in the context of Islamic Education, because it combines motivation, social interaction, analysis, and evaluation in a fun and interactive way.

F. Supporting and Inhibiting Factors in the Implementation of Game-Based Kahoot Media to Enhance Students' Critical Thinking Skills

In the learning process, particularly Islamic Religious Education (PAI), the development of students' critical thinking skills becomes very important. One way to stimulate students' abilities in analysis, evaluation, and decision-making is through interactive learning media. To emphasize the importance of knowledge and critical thinking in Islam, Allah Almighty says in Az-Zumar verse 9:

قُلْ هَلْ يَسْتَوِي الَّذِينَ يَعْلَمُونَ وَالَّذِينَ لَا يَعْلَمُونَ

Meaning: “Say: Are those who know equal to those who do not know?” (Q. S. Az-Zumar: 9).

According to Al-Qurtubi in his tafsir, this verse emphasizes the virtue of those who possess knowledge compared to those who do not. A person who has knowledge not only masters information but is also able to analyze, evaluate, and make decisions based on correct understanding. [26] Therefore, seeking knowledge and training critical thinking skills is an obligation for every Muslim [41]. Interactive learning media such as Kahoot can serve as an effective means to stimulate students' analysis, evaluation, and decision-making in accordance with the principles of Islamic teachings. According to experts, Kahoot's advantage lies in its ability to create an interactive, enjoyable, and competitive learning environment [42]. Gamification elements such as scores, time limits, and challenges motivate students to think quickly, analyze information, and determine the correct answers. Thus, Kahoot not only sharpens memorization skills but also enhances analytical and evaluative abilities, in accordance with the principles of critical thinking. [22] This game-based learning media serves as an effective innovative alternative in enhancing students' critical thinking skills, as it encourages them to move beyond merely memorizing answers to the stages of analysis and evaluation, in accordance with Bloom's taxonomy, which emphasizes the importance of critical thinking. [43]

According to Gagne, the main supporting factor for the implementation of Kahoot is its ability to generate student

motivation and enthusiasm. When students are challenged to achieve high scores, they are driven to be more focused and actively think. [30] In addition, according to Kahoot, it provides instant feedback, allowing students to immediately know whether their answers are correct or incorrect, so they can reflect on their thinking process and correct mistakes. [44] This media also encourages interactivity and collaboration among students, especially when quizzes are played in groups.

Discussions, exchange of opinions, and group arguments indirectly train critical thinking skills as students evaluate, compare answers, and make appropriate decisions. [45] In addition, Kahoot can be adapted to the curriculum and learning materials, including in Islamic Education (PAI). Teachers can create questions that require students to analyze Quranic verses, understand fiqh principles, or evaluate moral cases in daily life. [46] Thus, students' critical thinking skills develop alongside a deep understanding of religion, making the learning process more meaningful and contextual.

On the other hand, the implementation of Kahoot is not without several obstacles. One of the main barriers is the limitation of facilities and infrastructure, such as unstable internet access or limited availability of digital devices, which can hinder the smooth learning process using Kahoot. [47] Some students may not be accustomed to digital media, causing their concentration to be disrupted and their focus on learning to decrease. [48] Besides technical issues, excessive focus on competition elements and scores can divert students' attention from understanding the material. Question designs that are not challenging or merely test memorization also serve as obstacles, as they do not encourage students to analyze or evaluate information. A poorly controlled classroom environment or an overly noisy learning atmosphere can also reduce the effectiveness of this media. [49] Thus, the implementation of game-based Kahoot has great potential to enhance students' critical thinking skills if supportive factors are maximized, such as student motivation, appropriate question design, and interactivity, while inhibiting factors are minimized through classroom management, infrastructure planning, and teacher guidance. In the context of Islamic Education (PAI), this media not only trains critical thinking but also helps students understand religious teachings more deeply and practically, making learning effective, creative, and meaningful.

Conclusion

The use of game-based Kahoot media can contribute positively to students' critical thinking skills in Islamic Education (PAI) learning. This is evident from several indicators of critical thinking skills, such as the emergence of students' awareness of intellectual challenges, where they feel more challenged to think quickly and understand the material in depth when answering Kahoot questions. Students also demonstrate the ability to analyze information and concepts, as seen in the way they understand the meaning of Qur'anic verses and hadiths more deeply, not just relying on memorization. In addition, students are trained in evaluating arguments and evidence, learning from mistakes when faced with tricky questions, and understanding the logic of the available answer choices. Students' motivation and initiative in thinking also seem to develop through the competitive and enjoyable game format, which encourages them to be more active in learning and preparing themselves. Overall, Kahoot becomes an engaging and enjoyable learning medium, and it can support the development of students' critical thinking skills in the PAI learning process.

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