

UTILIZING TECHNOLOGY IN ISLAMIC RELIGIOUS EDUCATION: OPPORTUNITIES AND CHALLENGES

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Abstract: *The development of digital technology has brought significant changes in various aspects of life, including the field of education. In the context of Islamic Religious Education (PAI), the utilization of technology has become one of the strategic efforts to improve the quality of the learning process so that it becomes more engaging, effective, and relevant to contemporary developments. However, the integration of technology in PAI learning is inseparable from various opportunities as well as challenges that need to be examined in depth. This study aims to analyze the utilization of technology in Islamic Religious Education learning and to identify the opportunities and challenges that arise in its implementation. The research method used is a qualitative approach with a case study design. The research data were obtained through observation, interviews, and documentation conducted during the PAI learning process in schools. The results of the study indicate that: (1) the forms of technology utilization in PAI learning include the use of digital presentation media, learning videos, online learning applications, and technology-based evaluation platforms; (2) the opportunities arising from the use of technology include increasing students' learning interest, facilitating access to learning resources, and supporting more interactive and innovative learning processes; (3) the challenges faced include limited technological facilities, variations in digital competencies among teachers and students, and the potential misuse of technology; and (4) strategies that can be implemented to optimize the utilization of technology include improving teachers' digital competencies, providing adequate facilities and infrastructure, and integrating Islamic educational values in the use of technology wisely and responsibly. Therefore, the utilization of technology in PAI learning needs to be managed properly in order to support the achievement of Islamic educational goals effectively.*

Keywords: *Educational Technology; Islamic Religious Education Learning; Technology Utilization; Opportunities; Challenges.*

Introduction

The development of information and communication technology has brought very significant changes in various fields of life, including the field of education. Technology is no longer merely a supporting tool but has become an important part of the modern learning process. The integration of technology in education has transformed various aspects of learning, such as media, methods, learning resources, and evaluation systems. Teachers no longer rely solely on books and lectures as the only means of delivering material but also utilize various digital media, learning videos, and online learning applications. With the presence of technology, the learning process becomes more interactive, flexible, and student-centered (Selwyn, 2016).

These changes also affect the pattern of interaction between teachers and students in the learning process. Technology enables broader communication through various digital platforms such as Learning Management Systems (LMS), educational applications, and educational social media. This condition encourages the creation of a more collaborative and adaptive learning environment that responds to the development of the times (Redecker, 2017).

In the context of Islamic education, the utilization of technology has also become an unavoidable necessity. Islamic Religious Education (PAI), as a subject aimed at shaping students' character and morality, needs to adapt to technological developments in order to remain relevant to the needs of today's digital generation. Technology can be used as a means to convey Islamic values in a more engaging and easily understandable way for students (Huda, 2020).

The use of technology in PAI learning can be implemented through various digital media such as learning videos, educational animations, online quiz applications, and interactive learning platforms. The use of these technologies can help teachers explain abstract materials in a more concrete and easily understandable manner for students (Bates, 2019).

Previous research shows that the use of innovative learning media can improve the effectiveness of the learning process. Research conducted by Harfiani and Setiawan (2024) shows that the use of learning media in the form of the Farkiyah Box in learning *fiqh al-janā'iz* can increase the effectiveness and efficiency of learning and help students understand the material better.

In addition, the use of virtual reality-based technology also shows great potential in improving the quality of learning. Research by Harfiani, Riza, and Setiawan (2024) shows that the use of the traditional musical instrument Gordang Sambilan based on virtual reality can provide a more engaging and interactive learning experience for students.

The use of interactive learning media has also been proven to improve students' understanding of learning materials. Research by Amini and Setiawan (2026) shows that the use of interactive learning media in teaching *fiqh jinayat* at MAN 3 Medan was able to increase students' participation and understanding of the material being studied.

Besides the use of interactive learning media, improving teachers' competence in designing technology-based learning media is also an important factor in the successful integration of technology in education. Setiawan, Hasan, and Maysarah (2026) emphasize that training in educational animation media design can improve teachers' ability to develop innovative and creative learning media.

From an Islamic perspective, the use of various methods in conveying knowledge has also been exemplified by the Prophet Muhammad (peace be upon him). The Prophet used various visual and demonstrative methods in conveying Islamic teachings. One hadith mentions that the Prophet once drew a line on the ground to explain the straight path to his companions (HR. Ahmad). This shows that the use of visual media in learning has been known since the time of the Prophet Muhammad.

In addition, the Qur'an in several verses explains how Allah uses various forms of parables and visualizations so that humans can more easily understand a concept or message being conveyed. This indicates that the use of media or illustrations in the learning process has become part of the educational method taught in the Qur'an. Through these parables, humans not only understand the message theoretically but can also imagine the meaning contained within it more concretely.

One example can be found in Surah Al-Baqarah verse 26, which explains that Allah does not hesitate to make a parable using something small such as a mosquito or even something smaller than it. This verse shows that in conveying messages, Allah uses examples from natural phenomena as learning media so that humans can understand the truth more easily.

إِنَّ اللَّهَ لَا يَسْتَحْيِي أَنْ يَضْرِبَ مَثَلًا مَّا بَعُوضَةً فَمَا فَوْقَهَا
(QS. Al-Baqarah: 26)

Another example is found in Surah Al-Ankabut verse 41, which explains the parable of those who take protectors other than Allah as being like a spider that builds a house, even though the spider's house is the weakest of all houses. This parable represents a form of visual media in conveying a message because humans can directly imagine the weakness of a spider's house.

مَثَلُ الَّذِينَ اتَّخَذُوا مِنْ دُونِ اللَّهِ أَوْلِيَاءَ كَمَثَلِ الْعَنْكَبُوتِ اتَّخَذَتْ بَيْتًا وَإِنَّ أَوْهَنَ الْبُيُوتِ لَبَيْتُ الْعَنْكَبُوتِ لَمَّا كَانُوا يَعْلَمُونَ
(QS. Al-Ankabut: 41)

These verses show that the use of media in learning has a foundation in Islamic teachings, where parables, illustrations, and natural phenomena are used as means to facilitate human understanding. This becomes a foundation for educators, especially Islamic Religious Education teachers, to continue developing innovative and creative learning media so that the material delivered can be easier to understand, more engaging, and meaningful for students.

In the context of modern education, teachers are required to possess various professional competencies in order to face technological developments. These competencies include pedagogical, professional, social, and personal competencies. In addition, teachers also need digital literacy competence in order to utilize technology effectively in the learning process (Koehler & Mishra, 2009).

Islamic Religious Education teachers in particular have a greater responsibility in guiding students so that they not only possess religious knowledge but also have good moral character. Therefore, PAI teachers are required to be able to integrate technology with Islamic educational values so that the learning process remains oriented toward character development.

The use of technology in PAI learning can also open various opportunities to improve the quality of learning. Technology allows teachers to present more varied and engaging learning resources, which can increase students' learning motivation (Bates, 2019).

However, the use of technology in PAI learning also faces various challenges. Not all teachers have adequate ability in using educational technology. In addition, the limited technological infrastructure in some schools is also one of the obstacles to implementing technology in learning.

In general, there are three main challenges in the integration of technology in PAI learning that need serious attention. First, the limited competence of teachers in developing and utilizing technology-based learning media. Second, the limited availability of technological facilities and infrastructure in schools. Third, concerns about the negative impact of technology use on students' character and morality.

Several previous studies also show that the success of technology integration in learning is greatly influenced by teacher readiness and institutional support. Without adequate policy support and training, the use of technology in learning will not run optimally (Redecker, 2017).

Furthermore, the use of technology in learning must still consider the values of Islamic education. Technology should not merely be used as a tool for delivering information but must also support the formation of students' character and morality in accordance with the goals of Islamic education.

Hampan Perak District is one of the regions that has a number of schools that continue to strive to improve the quality of learning, including in the subject of Islamic Religious Education. However, the use of technology in PAI learning in several schools still faces various challenges, both in terms of teacher competence and the availability of supporting facilities.

Therefore, deeper research is needed to determine how technology is utilized in Islamic Religious Education learning in schools located in Hampan Perak District. This research is

expected to provide a clear description of the opportunities and challenges faced in implementing technology in PAI learning.

Based on the description above, this study aims to examine the utilization of technology in Islamic Religious Education learning and to identify various opportunities and challenges that arise in its implementation. The results of this research are expected to contribute to the development of more effective and technologically relevant innovations in PAI learning.

Based on these general objectives, the specific objectives of the research can be formulated as follows: 1) To analyze the forms of technology utilization in the learning process of Islamic Religious Education; 2) To identify opportunities arising from the use of technology in improving the effectiveness and quality of Islamic Religious Education learning; 3) To identify various challenges and obstacles faced by teachers and students in the implementation of technology in Islamic Religious Education learning; 4) To analyze strategies that can be implemented to optimize the use of technology in Islamic Religious Education learning effectively and in accordance with Islamic educational values.

Research Method

This study employed a qualitative approach with a case study research design. The qualitative approach was used to gain an in-depth understanding of the phenomenon of technology utilization in Islamic Religious Education (PAI) learning, particularly related to the opportunities and challenges faced in the learning process. Qualitative research aims to understand social phenomena in depth based on participants' perspectives and the context that naturally occurs (Creswell & Creswell, 2018). Meanwhile, a case study is a research method used to examine a phenomenon in depth within a real-life context, especially when the boundaries between the phenomenon and the context are not clearly evident (Yin, 2018).

This research was conducted in several schools located in Hamparan Perak District, Deli Serdang Regency, North Sumatra. The selection of the research location was based on the consideration that schools in this area have begun to utilize technology in the learning process, particularly in the subject of Islamic Religious Education, but still face various challenges in its implementation.

The research subjects in this study were Islamic Religious Education teachers and students involved in the learning process. Teachers served as the main informants because they play an important role in designing and implementing technology-based learning. In addition, several students were also involved as informants to obtain information about their learning experiences in using technology during the PAI learning process.

Data collection techniques in this study were conducted through observation, in-depth interviews, and documentation. Observation was carried out to directly examine how the Islamic Religious Education learning process takes place using technology. Interviews were conducted with teachers and students to explore information regarding experiences, opportunities, and challenges in the use of technology in the learning process. Documentation was used to collect various supporting data such as lesson plans, digital learning media, and school policy documents related to the use of technology in learning (Sugiyono, 2019).

The data analysis technique used in this study was the interactive analysis model, which includes three main stages: data reduction, data display, and conclusion drawing (Miles, Huberman, & Saldaña, 2014). Data reduction was conducted by selecting and focusing on data that were relevant to the research objectives. The data were then presented in descriptive narrative form to make them easier to understand. The final stage involved drawing conclusions based on the research findings obtained in the field.

To ensure the validity of the data, this study employed source triangulation and method triangulation techniques. Triangulation is a technique for checking the validity of data by utilizing various sources and data collection methods so that the research results have a high level of credibility (Moleong, 2018). Thus, the data obtained are expected to provide a comprehensive overview of the utilization of technology in Islamic Religious Education learning in schools located in Hamparan Perak District.

Results and Discussion

Research Results

This study was conducted in several schools located in Hamparan Perak District, Deli Serdang Regency, North Sumatra. The research data were obtained through observations, interviews with Islamic Religious Education teachers and students, as well as documentation related to the use of technology in the learning process. Based on the results of the research conducted, several main findings were obtained regarding the utilization of technology in Islamic Religious Education learning.

1. Forms of Technology Utilization in Islamic Religious Education Learning

The results of the study indicate that the use of technology in Islamic Religious Education learning in schools in Hamparan Perak District has been implemented in several forms. Teachers utilize technology as a supporting learning medium to deliver learning materials in a more engaging and interactive manner. One of the most commonly used forms of technology is the use of PowerPoint-based presentation media to explain subjects such as *aqidah*, *fiqh*, *akhlaq*, and Islamic history.

In addition, some teachers also utilize learning videos from digital platforms such as YouTube to help students understand both conceptual and practical materials, for example the procedures for performing *wudhu*, prayer, and exemplary stories in Islam. The use of learning videos is considered capable of increasing students' attention and interest in learning because the material is presented visually and is easier to understand.

The use of technology is also evident in learning evaluation activities. Some teachers use online-based evaluation applications such as Google Forms and Quizizz to conduct daily assessments or learning quizzes. The use of these applications is considered helpful for teachers in assessing students' learning outcomes and providing feedback more quickly.

Furthermore, communication between teachers and students also utilizes technology through instant messaging applications such as WhatsApp, which are used as a medium for assigning tasks, sharing learning materials, and conducting discussions related to learning topics. This indicates that technology has become an important part of supporting the Islamic Religious Education learning process in schools.

2. Opportunities for Utilizing Technology to Improve the Effectiveness of PAI Learning

The research results show that the use of technology in Islamic Religious Education learning provides various opportunities to improve the effectiveness and quality of learning. One of the visible opportunities is the increase in students' interest and motivation in learning. The use of digital media such as learning videos and interactive presentations makes the learning process more engaging, encouraging students to be more active in participating in learning activities.

In addition, technology also provides opportunities for teachers to present more diverse learning resources. Teachers are no longer dependent solely on textbooks but can also utilize various digital learning resources such as articles, educational videos, and internet-based learning

applications. This enables students to gain a broader understanding of Islamic Religious Education materials.

Technology also provides opportunities to improve the efficiency of the learning evaluation process. Through the use of online-based evaluation applications, teachers can conduct assessments more quickly and accurately. In addition, students can immediately see their evaluation results, allowing them to reflect on their learning process.

3. Challenges and Obstacles in the Use of Technology in PAI Learning

Although the use of technology offers various positive opportunities, the research results also show several challenges and obstacles faced by teachers and students in implementing technology in Islamic Religious Education learning.

One of the main challenges is the limited digital competence of some teachers in developing and utilizing technology-based learning media. Not all teachers have adequate skills in using digital learning applications or in designing technology-based learning media.

In addition, the limited availability of technological facilities and infrastructure in schools also becomes an obstacle in utilizing technology in learning. Some schools still have limited facilities such as projectors, internet networks, and computer devices that can be used in the learning process.

Another challenge is the potential negative impact of technology use on students, such as distractions when using digital devices or the misuse of technology that is not aligned with learning objectives. Therefore, teachers need to provide proper supervision and guidance so that the use of technology continues to benefit the learning process.

4. Strategies to Optimize the Use of Technology in PAI Learning

Based on the research results, several strategies can be implemented to optimize the use of technology in Islamic Religious Education learning. One strategy is to improve teachers' digital competence through various training programs and workshops related to the development of technology-based learning media.

In addition, schools also need to provide adequate technological facilities and infrastructure so that teachers can optimally utilize technology in the learning process. Such support may include the provision of internet networks, multimedia devices, and access to various digital learning platforms.

Another strategy is to integrate the use of technology with Islamic educational values in the learning process. Teachers need to ensure that the use of technology does not only function as a tool for delivering information but also serves as a means of instilling Islamic values and fostering students' character development.

With the implementation of these strategies, the use of technology in Islamic Religious Education learning in schools in Hamparan Perak District is expected to run more effectively and innovatively while remaining aligned with the goals of Islamic education in shaping knowledgeable, moral, and well-charactered students.

Research Discussion

The results of the study show that the utilization of technology in Islamic Religious Education (PAI) learning in schools in Hamparan Perak District has begun to be implemented in various forms, both as a medium for delivering learning materials, a tool for learning evaluation, and a communication medium between teachers and students. These findings indicate that the integration of technology in PAI learning is no longer merely supplementary but has become an important component in supporting a more effective and interactive learning process. The use of

PowerPoint-based presentation media, learning videos from digital platforms, and online evaluation applications such as Google Forms and Quizizz demonstrates teachers' efforts to utilize technology to improve the quality of learning.

These findings are consistent with the view of Bates (2019), who states that digital technology can improve learning effectiveness because it can present various forms of media that are more engaging and interactive. Technology enables learning materials to be delivered in a more visual and contextual manner, thereby helping students understand abstract concepts. In the context of Islamic Religious Education, the use of visual media such as learning videos about the procedures of worship or exemplary stories in Islam can help students understand the material more deeply.

The results of this study also show that the use of technology in learning can increase students' interest and motivation to learn. Technology-based learning media make the learning process more engaging and less monotonous. Students become more actively involved in learning activities because the material is presented in more varied forms. This finding is in line with Selwyn (2016), who states that educational technology can increase student participation and engagement in the learning process.

Furthermore, the use of technology also provides opportunities for teachers to present more diverse learning resources. Teachers no longer rely solely on textbooks as the main source of learning but can also utilize various digital resources such as educational videos, scientific articles, and online learning platforms. This supports the creation of a more open and flexible learning environment. This finding is also consistent with the study by Redecker (2017), which states that digital technology provides opportunities for teachers to develop more collaborative learning environments based on diverse learning resources.

The findings of this study are also supported by several previous studies in the field of Islamic education. Research conducted by Harfiani and Setiawan (2024) shows that the use of innovative learning media such as the Farkiyah Box in teaching *fiqh al-janā'iz* can improve the effectiveness and efficiency of learning. Creatively designed learning media can help students understand religious materials that were previously considered difficult, making them easier to comprehend.

In addition, research by Amini and Setiawan (2026) also shows that the use of interactive learning media in teaching *fiqh jinayat* can increase students' participation and understanding of the subject matter. This indicates that the use of technology in Islamic Religious Education learning has great potential to improve learning quality when utilized appropriately.

Another relevant study conducted by Harfiani, Riza, and Setiawan (2024) shows that the use of virtual reality-based technology in learning can provide a more engaging and contextual learning experience for students. This technology allows students to learn through more realistic visual experiences, making the learning process more meaningful.

However, the results of this study also indicate that the utilization of technology in Islamic Religious Education learning still faces various challenges. One of the main challenges is the limited digital competence of some teachers in developing and utilizing technology-based learning media. Not all teachers have adequate skills in using various digital learning applications. This finding aligns with the Technological Pedagogical Content Knowledge (TPACK) theory proposed by Koehler and Mishra (2009), which emphasizes that the success of technology integration in learning is greatly influenced by teachers' ability to integrate technological knowledge, pedagogical knowledge, and content knowledge.

In addition to the limitations in teachers' competencies, another obstacle identified in this study is the limited technological infrastructure in several schools. Limitations in facilities such as projectors, computer devices, and internet access are among the factors that hinder the optimal

utilization of technology in learning. This condition shows that the integration of technology in education does not only depend on teachers' abilities but also requires support from schools and adequate educational policies.

Furthermore, the use of technology also has the potential to create negative impacts if not used wisely. Students may experience distractions when using digital devices or use technology for activities unrelated to learning. Therefore, teachers play an important role in guiding the use of technology so that it remains aligned with learning objectives and Islamic educational values.

Based on the research findings, several strategies can be implemented to optimize the utilization of technology in Islamic Religious Education learning. One of the most important strategies is to improve teachers' digital competence through training and workshops related to the development of technology-based learning media. Such training can help teachers enhance their ability to design innovative learning media that are appropriate to students' needs.

In addition, support for technological facilities and infrastructure from schools is also an important factor in the successful integration of technology in learning. The provision of internet networks, multimedia devices, and access to various digital learning platforms can help teachers utilize technology more optimally in the learning process.

Another equally important strategy is integrating the use of technology with Islamic educational values. Technology should not only be used as a tool for delivering learning materials but also as a means of instilling Islamic values and shaping students' character. This is important to ensure that the use of technology in learning remains aligned with the main objective of Islamic education, which is to develop individuals who are knowledgeable, faithful, and possess noble character.

The novelty of this study lies in its comprehensive analysis of the utilization of technology in Islamic Religious Education learning within the context of schools in Hamparan Perak District, integrating three main aspects simultaneously: the forms of technology utilization, the opportunities generated, and the challenges faced in its implementation. Unlike previous studies that primarily focus on the effectiveness of specific learning media, this study provides a broader overview of the practice of technology integration in PAI learning within the real context of schools.

Furthermore, this study offers an integrative approach that emphasizes that the use of technology in Islamic Religious Education learning should not only focus on technological aspects but must also consider Islamic educational values and the development of students' character. Therefore, this study contributes to the development of a model for utilizing technology in PAI learning that is not only pedagogically effective but also aligned with the principles of Islamic education.

The findings of this study are expected to serve as a reference for teachers, schools, and educational policymakers in developing strategies for utilizing technology in Islamic Religious Education learning that are more innovative, effective, and firmly grounded in Islamic values.

Conclusion

Based on the results of the research conducted in schools in Hamparan Perak District, it can be concluded that the utilization of technology in Islamic Religious Education (PAI) learning has begun to be implemented by teachers in various forms. The use of technology can be seen through the use of presentation media such as PowerPoint, learning videos from digital platforms, and the use of online evaluation applications such as Google Forms and Quizizz. In addition, technology is also used as a means of communication between teachers and students through instant messaging applications to share learning materials and assign tasks.

The use of technology in Islamic Religious Education learning also provides various opportunities to improve the effectiveness and quality of learning. The use of digital media can increase students' interest and motivation to learn because the material is presented in a more engaging and interactive manner. Furthermore, technology provides broader access to various digital learning resources, enabling students to gain a more comprehensive understanding of the material being studied.

However, this study also found several challenges in the implementation of technology in Islamic Religious Education learning. These challenges include the limited digital competence of some teachers, limited technological facilities and infrastructure in schools, and the potential negative impacts of technology use on students if it is not used wisely. Therefore, serious efforts are needed to improve the readiness of teachers and schools in utilizing technology optimally in the learning process.

To optimize the use of technology in Islamic Religious Education learning, several strategies are required, including improving teachers' competencies through training on the development of technology-based learning media, providing adequate technological facilities and infrastructure in schools, and integrating the use of technology with Islamic educational values. In this way, the use of technology does not only function as a learning support tool but can also become a means to improve the quality of learning and to shape students' character in accordance with the objectives of Islamic education.

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