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Analysis of the Implementation of Digital-Based Islamic Religious Education Learning in Improving Students' Religious Literacy

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Abstract

This study is driven by the need for educational digitalization, requiring innovation in Islamic religious education learning as a key factor in shaping students' religious character. This study aims to analyze the implementation of digital-based Islamic religious education learning in improving students' religious literacy. This study uses a qualitative approach with a case study method. Data collection techniques are carried out through interviews, observations, and documentation involving Islamic religious education teachers, students, and *madrasah*. Data analysis is carried out through the stages of data reduction, data presentation, and drawing conclusions. The results of the study show that the implementation of digital-based Islamic religious education learning is carried out through the use of learning media that are able to increase student involvement in the learning process. In addition, digital-based learning also contributes to improving students' religious literacy, both in terms of understanding, attitudes, and religious practices. However, the implementation still faces several obstacles, such as limited infrastructure facilities and diverse levels of digital literacy among students. This study concludes that digital-based Islamic religious education learning has a significant role in improving students' religious literacy if supported by the right learning strategies and adequate facilities.

Keywords

Digital-Based Learning, Educational Digitalization, Islamic Religious Education, Religious Literacy.

1. Introduction

The development of digital technology has brought fundamental changes in the education system, including in the learning process in *madrasah* (Haddade et al., 2023). This transformation requires adaptation in learning methods, media, and strategies to suit the characteristics of students in the digital era (Philosophy et al., 2022; Mohamed et al., 2022). The use of technology in learning not only functions as a tool, but also as a means to improve the quality of learning interactions, access to knowledge sources, and strengthen students' literacy competencies (Surya & Moramowati, 2023). In this context, the integration of digital technology in learning is an inevitability.

Islamic Religious Education (*Pendidikan Agama Islam*/PAI), as one of the subjects that has a strategic role in shaping the character and morals of students, faces its own challenges in the digital era (Septianingsih et al., 2024). On the one hand, PAI is required to maintain the substance of normative Islamic values, but on the other hand must be able to adapt to technological developments to remain relevant and attractive to students (Fahri & Nisak, 2025). The reality in the field shows that PAI learning is still often carried out conventionally, so it is not able to optimize the potential of technology in improving the quality of learning and student involvement (Nida et al., 2025)

Digital-based learning is present as an innovative alternative that can answer these challenges. Through the use of various platforms and digital media, the learning process can be carried out in a more interactive, flexible, and contextual manner (Kaharuddin et al., 2022; Josué et al., 2023). In PAI learning, the use of digital technology allows the presentation of religious materials in a more varied manner, such as through learning videos, interactive applications, and other online learning resources (Amrullah et al., 2024). This has the potential to increase students' interest in learning while strengthening their understanding of the material presented.

On the other hand, students' religious literacy is an important aspect that needs to be considered in PAI learning. Religious literacy not only includes the ability to understand Islamic teachings textually, but also includes the ability to internalize these values in daily life (Cahyani et al., 2024). However, there is still a gap between the religious knowledge possessed by students and the religious practices carried out. This condition shows that PAI learning has not been fully able to comprehensively shape students' religious literacy.

Previous studies have examined the use of digital technology in learning and its effectiveness in improving student outcomes. However, research specifically investigating digital-based Islamic Religious Education and its contribution to students' religious literacy at the *madrasah tsanawiyah* level remains limited (Jamalullel & Nasehudin, 2025). Bond et al. (2020) highlighted the potential of digital technology to enhance student motivation and engagement, while innovative approaches to Islamic education have also been associated with the development of students' religious character (Zainiyati, 2017). Nevertheless, existing studies predominantly emphasize cognitive learning outcomes rather than religious literacy as a key educational outcome. Moreover, differences in institutional characteristics and learning contexts require more contextual investigation. Therefore, a clear research gap remains in understanding how the implementation of digital-based PAI learning contributes to improving students' religious literacy, particularly within the specific context of *madrasah tsanawiyah.*

Based on this description, this study aims to analyze the implementation of digital-based Islamic religious education learning in improving students' religious literacy at MTs Al Falah Jatirokeh. This study is guided by three research questions: the implementation of digital-based PAI learning, the description of students'

religious literacy in this context, and the challenges and obstacles in implementing digital-based PAI learning. This research is expected to make a theoretical contribution to the development of digital-based PAI learning studies, as well as practical contributions for teachers and educational institutions in designing learning that is more innovative, adaptive, and relevant to the demands of the times.

2. Literature Review

2.1. Islamic Religious Education Learning

Islamic religious education learning is a pedagogical process that is systematically designed to instill Islamic values in students through structured and sustainable learning activities. From the perspective of Islamic education, PAI is not only oriented towards the transfer of knowledge, but also on the process of internalizing values, which is reflected in the attitudes and behaviors of students (Wahib & Nafi'ah, 2022). Therefore, PAI learning has a more complex dimension compared to other subjects, as it includes cognitive, affective, and psychomotor aspects simultaneously (Naro et al., 2023; Allam & Maksum, 2025).

In practice, PAI learning is often still dominated by conventional teacher-centered approaches, so it does not provide space for students to be active in the learning process (Aslan & Reigeluth, 2015). This has an impact on low student involvement and less than optimal achievement of learning objectives, especially in the aspect of religious character formation (Mansur et al., 2018). In fact, in the context of modern education, effective learning requires the active participation of students and the use of innovative and contextual learning strategies.

Along with the times, PAI learning is required to be able to adapt to the changes that occur, including in terms of the use of technology. Nugraheny et al. (2025) stated that innovation in learning is an unavoidable need so that the material delivered remains relevant to students' lives. Thus, the development of a PAI learning model that is adaptive to technological developments is one of the strategic steps in improving the quality of Islamic education as a whole.

2.2. Digital-Based Learning in Education

Digital-based learning is a learning approach that utilizes information and communication technology as the main means in the learning process (Amrullah et al., 2024). This approach includes the use of various digital media, such as online learning platforms, educational applications, and internet-based learning resources. In the context of modern education, digital learning not only serves as a complement but has become an integral part of an effective and efficient learning system.

The main advantage of digital-based learning lies in the flexibility and accessibility it offers. According to Yuhanna et al. (2020), digital learning enables students to access learning materials anytime and anywhere, thereby fostering greater learning independence and reducing limitations related to space and time. In addition, the use of digital media also allows the presentation of more varied and interactive materials, such as videos, animations, and simulations, which can increase students' understanding and interest in learning.

However, Fairi et al. (2025) argue that the implementation of digital-based learning also faces various challenges, such as limited infrastructure, technology access gaps, and low digital literacy among students and educators. Therefore, the success of digital learning is greatly influenced by the readiness of all parties involved, both in terms of technical and pedagogical aspects. Thus, the right strategy is needed in integrating technology into the learning process in order to provide optimal results.

2.3. Digital-Based PAI Learning and Students' Religious Literacy

The implementation of digital-based PAI learning integrates technology to improve learning effectiveness and quality (Mawaddah, 2022; Syarifah et al., 2025). In this approach, teachers act as facilitators who guide students in utilizing technology as a learning resource. The use of digital media, such as videos, e-learning platforms, and communication applications, makes learning more engaging, contextual, and easier to understand, while also enabling broader teacher-student interaction both synchronously and asynchronously. However, its implementation still faces challenges, including limited facilities, teachers' insufficient technological competence, and varying student digital access and skills. Therefore, comprehensive efforts are needed to address these barriers so that digital-based PAI learning can be implemented optimally and improve learning quality.

Religious literacy is an individual's ability to understand, interpret, and practice religious teachings in daily life, encompassing not only textual understanding but also the internalization and application of religious values in behavior (Maria & Salamah, 2022). According to Zuhdi (2022), religious literacy encompasses cognitive, affective, and psychomotor dimensions and serves as an important indicator of successful PAI learning, reflected in students' religious understanding, attitudes, and consistent religious practices. However, a gap still exists between students' religious knowledge and its actual implementation in daily life. This low level of religious literacy is influenced by several factors, such as less effective learning methods, limited use of engaging learning media, and low student involvement. Therefore, innovation in PAI learning is needed, not only focusing on cognitive aspects but also on improving students' religious literacy holistically.

2.4. The Relationship between Digital Learning and Religious Literacy

Digital-based learning has great potential in improving students' religious literacy through the presentation of more interesting, interactive, and easily accessible learning materials. By utilizing technology, teachers can deliver Islamic Religious Education content in a more varied and contextual way, so that it can enhance students' understanding of Islamic teachings (Suhilmiati et al., 2024; Nadirah et al., 2024). In addition, the use of digital media can also encourage students to be more active, independent, and engaged in the learning process. Through platforms such as videos, e-learning systems, and digital applications, students are able to access learning materials anytime and anywhere, which further supports continuous learning. This condition ultimately contributes to the strengthening of students' religious literacy in both understanding and practice.

The interaction that occurs in digital learning, both through online discussions and the use of social media, can also expand students' religious horizons. This allows students to access a wider range of learning resources, thereby improving the quality of their religious literacy (Nugraha et al., 2025; Sadik et al., 2025). Thus, digital-based learning can be one of the effective strategies in improving students' religious literacy. However, the effectiveness of digital learning in improving religious literacy is greatly influenced by various factors, such as the quality of content, learning methods, and the level of digital literacy of students. Therefore, careful planning and implementation of learning is needed so that the technology used really has a positive impact on improving students' religious literacy.

3. Methods

This research uses a qualitative approach with a case study design to gain a deep understanding of the implementation of digital-based Islamic religious education learning in improving students' religious literacy. This approach was chosen because it captures phenomena contextually and holistically, reflecting real-world

conditions. The research focused on the implementation process, learning dynamics, and their impact on students' religious literacy within the *madrasah* environment.

The research was conducted at MTs Al Falah Jatirokeh. Subjects included Islamic religious education teachers, students, and *madrasah* officials directly involved in the digital-based learning process (increase the number of informants, for example: 2 PAI teachers, 15 students, and 1 *madrasah* principal). Informants were selected using purposive sampling, based on specific considerations relevant to the research objectives, ensuring that the selected informants truly understand and experience the phenomenon under study.

Data collection techniques included observation, in-depth interviews, and documentation. Observations were used to directly observe the digital-based PAI learning process in the classroom, including interactions between teachers and students and the use of digital media in learning. Interviews were conducted to gather in-depth information regarding experiences, perceptions, and challenges faced in implementing digital learning. Documentation was used to supplement the data in the form of archives, learning tools, and evidence of learning activities (e.g., lesson plans, digital modules, or screenshots of learning platforms). The research instrument in this study was the researcher herself (human instrument), who served as the primary data collector and analyst. To support the data collection process, interview guidelines, observation sheets, and documentation were used as supporting instruments. The use of these instruments aimed to ensure that the data obtained was relevant to the research focus and could be analyzed systematically.

Data analysis was conducted using an interactive analysis model that encompasses three stages: data reduction, data presentation, and conclusion drawing. Data reduction was carried out by sorting and connecting data obtained from the field to focus on relevant information. Data presentation was done in the form of narrative descriptions to facilitate understanding of patterns and relationships between data. Conclusions were drawn gradually, taking into account the interrelationships between findings obtained during the research.

To ensure the validity of the data, this study employed triangulation techniques, including both source and technical triangulation. Source triangulation was conducted by comparing data obtained from various informants, while technical triangulation was conducted by comparing the results of observations, interviews, and documentation. Member checks were also conducted to ensure that the data obtained reflected the actual situation. Thus, the results of this study are expected to have a high level of validity and credibility.

4. Results

4.1. Digital-Based Learning Implementation Process

The implementation of digital-based PAI learning at MTs Al Falah Jatirokeh demonstrates efforts to adapt to technological developments in the learning process. PAI teachers utilize various digital media as tools for delivering learning materials, such as online communication applications (WhatsApp Group), learning platforms (Google Classroom), and video-based media (YouTube). These platforms are not only used for delivering materials, but also for distributing assignments, facilitating discussions, and conducting learning evaluations. Based on observations, the integration of digital media creates a learning environment that is more flexible, efficient, and interactive compared to conventional classroom methods, as students can access learning materials anytime and anywhere without being limited by classroom time (Amrullah et al., 2024)

In addition, digital-based learning also has a positive impact on student engagement in the learning process. Students tend to show higher levels of participation, particularly in online discussions, assignment submissions, and

interactions through digital platforms. The availability of various media formats encourages students to be more active and responsive in learning activities. Furthermore, the use of visual and audio-visual media, such as instructional videos, helps students understand Islamic religious education materials in a more concrete, contextual, and engaging way (Bond et al., 2020). This condition indicates that digital learning can enhance students' learning experience by simplifying abstract religious concepts and making them easier to understand and apply in daily life.

However, student engagement in digital-based PAI learning is not entirely uniform across all learners. There are differences in participation levels depending on students' individual abilities in accessing and utilizing technology. Some students are highly active and adaptive in using digital platforms, while others still face difficulties due to limited digital skills, lack of devices, or unstable internet access. Despite these challenges, the implementation of digital-based learning at MTs Al Falah Jatirokeh shows a positive direction in improving the quality of PAI learning, particularly in creating a more interactive, flexible, and student-centered learning environment that supports the development of students' religious understanding (Kaharuddin et al., 2022).

4.2. Students' Religious Literacy

Regarding students' religious literacy, the research results indicate an improvement in their understanding of religious material. Students are able to re-explain previously learned topics and demonstrate a better grasp of basic concepts in Islamic teachings. This shows that digital-based PAI learning contributes to strengthening students' cognitive understanding of religious knowledge. The use of digital media also helps students access, store, and review learning materials more easily, allowing repetition and reinforcement of concepts beyond classroom time. In addition, the availability of various learning formats such as videos and online modules makes it easier for students to learn at their own pace, which further supports independent learning and deeper comprehension of Islamic teachings (Maria & Salamah, 2022).

Furthermore, in terms of attitudes, students show a positive response toward digital-based Islamic religious education learning. They demonstrate increased interest in learning activities and greater awareness of the importance of understanding religious teachings in daily life. The interactive and engaging nature of digital learning encourages students to participate more actively in discussions, assignments, and other learning activities (Lathifah et al., 2024). Some students also show improved confidence in expressing their opinions during online discussions, which indicates growing engagement in the learning process. This condition reflects that digital learning not only improves cognitive aspects but also contributes to shaping students' learning attitudes, particularly in building motivation, responsibility, discipline, and enthusiasm toward religious education.

In terms of religious practice, digital-based learning also shows a positive impact, although it is not yet optimal. Some students have demonstrated improvements in their daily religious practices, such as greater punctuality in performing prayers, increased discipline in worship, and more active participation in school-based religious activities. The exposure to religious content through digital media helps students gradually internalize religious values and connect them with real-life situations. Teachers also play an important role in reminding and guiding students through digital platforms to maintain consistency in religious practices (Naro et al., 2023). However, there are still students who show inconsistency in practicing religious teachings, influenced by environmental factors, peer associations, and individual habits. Despite these limitations, the findings indicate that digital-based PAI learning contributes positively to students' religious literacy across cognitive, affective, and psychomotor dimensions.

4.3. Challenges and Obstacles to Students' Religious Literacy

This research also identified several obstacles in the implementation of digital-based Islamic religious education learning at MTs Al Falah Jatirokeh. These obstacles include limited infrastructure, such as unstable internet access and limited availability of student devices, which sometimes disrupt the continuity of online learning activities and reduce learning effectiveness. In addition, differences in students' digital literacy levels also create significant challenges in the learning process, as not all students are able to operate digital platforms effectively, independently, and consistently (Kaharuddin et al., 2022). For teachers, the challenges include limited technological expertise and the need to continuously adapt teaching strategies in order to align with various digital learning media used in the classroom, which requires additional time and effort in lesson preparation.

Despite these challenges, the findings indicate a clear and meaningful relationship between digital-based PAI learning and students' religious literacy. The use of digital media such as WhatsApp Groups, Google Classroom, and YouTube contributes to more interactive, flexible, and engaging learning experiences, which in turn support students' understanding of religious material in a more contextual way. Students who are more actively involved in digital learning tend to show better comprehension of Islamic teachings, stronger learning motivation, and more positive attitudes toward religious education (Suhilmiati et al., 2024). In addition, digital learning also encourages students to learn more independently, as they can access learning materials repeatedly outside classroom hours, which further strengthens their cognitive development in understanding religious concepts.

The results of this study indicate that the implementation of digital-based PAI learning at MTs Al Falah Jatirokeh has made a positive contribution to improving students' religious literacy, particularly in terms of understanding and attitudes, while also showing initial development in religious practice. However, the effectiveness of this relationship is still influenced by various technical and non-technical factors that need to be addressed continuously. Therefore, ongoing efforts are required to optimize learning infrastructure, improve teacher competence in digital pedagogy, and enhance students' digital literacy skills (Fahri & Nisak, 2025). With these improvements, digital-based PAI learning is expected to provide a more optimal, sustainable, and comprehensive impact on strengthening students' religious literacy in the future.

5. Discussion

Research findings indicate that the implementation of digital-based Islamic religious education learning at MTs Al Falah Jatirokeh has been adaptive and has positively influenced the learning process. This finding aligns with previous studies emphasizing that digital learning is an effort to integrate technology to improve learning effectiveness and quality in the era of Society 5.0 (Jamalullel & Nasehudin, 2025; Nugraheny et al., 2025). The use of various digital platforms, such as online communication media, learning management systems, and video-based content, supports the creation of a more flexible, interactive, and contextual learning environment. This is also consistent with Amrullah et al. (2024), who state that ICT-based media in PAI learning enhances accessibility and learning engagement. Thus, technology integration in PAI learning is not merely supportive but has become an essential component of modern learning transformation.

In terms of student engagement, the findings show increased participation in digital-based learning activities, particularly in online discussions and assignment submissions. This result aligns with constructivist learning theory, which emphasizes the active role of learners in constructing knowledge through interaction and experience (Lathifah et al., 2024). It is also supported by Bond et al. (2020), who found that educational technology significantly enhances student engagement in

learning processes. Furthermore, digital platforms provide broader interaction spaces between teachers and students, making learning more participatory and dynamic. However, compared to learner-centered education principles, as highlighted by Aslan and Reigeluth (2015), the implementation still requires stronger scaffolding to ensure equal participation among students.

Regarding religious literacy, the findings indicate that digital-based PAI learning contributes positively to students' understanding and attitudes toward religious teachings. This is consistent with Maria and Salamah (2022), who emphasize that religious literacy involves cognitive, affective, and psychomotor dimensions. Moreover, Zuhdi (2022) also confirms that religious literacy is a key indicator in evaluating the success of PAI learning. The use of diverse digital learning resources enables students to understand Islamic concepts more contextually and independently. This finding also aligns with Yahya (2023), who states that digital literacy strengthens students' understanding of Islamic education in the digital era.

However, improvements in religious practice remain not fully optimal. This finding contrasts with the expectation that digital learning alone can directly shape religious behavior. Instead, it aligns with Naro et al. (2023), who emphasize that psychomotor and behavioral aspects require continuous habituation beyond cognitive understanding. Additionally, Cahyani et al. (2024) highlight that character formation in Islamic education requires sustained internalization through environmental support. External factors such as family and social environment also influence students' consistency in practicing religious values.

Furthermore, several obstacles were identified in the implementation process, including limited infrastructure, unequal internet access, and varying levels of students' digital literacy. These findings are consistent with Kaharuddin et al. (2022), who highlight similar challenges in digital-based learning environments. For teachers, limited technological competence becomes a key challenge, as also stated by Fahri and Nisak (2025), who emphasize the importance of teacher professionalism in technology utilization. Therefore, teacher readiness is a crucial factor in ensuring successful digital learning implementation.

This study strengthens previous findings that digital-based learning has significant potential in improving educational quality (Surya & Moramowati, 2023; Nida et al., 2025). However, in the context of Islamic religious education, success is not only measured by cognitive improvement but also by the extent to which learning shapes students' religious literacy holistically. Therefore, as also emphasized by Septianingsih et al. (2024), technology integration in Islamic education must be balanced with pedagogical strategies that support character building. This study confirms that digital-based PAI learning is effective, but its impact is highly dependent on system readiness, teacher competence, and environmental support.

6. Conclusion

Based on the research results and discussion, it can be concluded that the implementation of digital-based Islamic religious education learning at MTs Al Falah Jatirokeh has been adaptive through the use of various digital media and platforms as learning tools. The integration of technology creates a learning environment that is more flexible, interactive, and contextual, thereby increasing student engagement in the learning process. In addition, digital-based PAI learning contributes positively to students' religious literacy, particularly in improving religious understanding and attitudes. However, the development of religious practices is still not optimal, indicating that the internalization of religious values requires a more comprehensive and continuous learning approach.

These findings have several implications. Digital-based learning can be an effective strategy to improve the quality of PAI learning, especially in strengthening

students' religious literacy. Therefore, teachers are expected to optimize the use of digital media not only for delivering materials but also for encouraging active participation and strengthening value internalization. Schools also need to provide adequate infrastructure and continuous training to improve teachers' digital competencies so that technology integration in learning can be implemented effectively and sustainably.

However, this study has several limitations. The research is limited to a single institution, namely MTs Al Falah Jatirokeh, so the findings cannot be fully generalized to other educational contexts. In addition, variations in students' digital literacy levels and limited infrastructure may influence the consistency of learning implementation. This study also focuses more on descriptive analysis without in-depth quantitative measurement of the relationship between variables. Therefore, future research is recommended to expand the scope to multiple schools or *madrasah* to obtain more comprehensive findings. Further studies may also apply mixed-method or quantitative approaches to measure the relationship between digital-based PAI learning and religious literacy more precisely. In addition, future research is encouraged to explore other influencing factors, such as learning motivation, parental involvement, and socio-cultural environment, in shaping students' religious literacy.

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