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Learning Transformation in the Digital Era: Teacher Strategies to Enhance Student Engagement

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ABSTRACT

This study focuses on the strategies of Islamic religious education teachers in integrating Islamic Religious Education (PAI) learning with digital technology, which is useful for engaging students actively and increasing their engagement during the learning process. The purpose of this study is to describe and analyze PAI teachers' strategies in integrating digital technology. The method used was qualitative, with primary and secondary data sources. The data collection process included interviews, observations, and documentation. The findings show that digital technology integration in PAI learning fosters students' creative, critical, and active engagement which is reflected in students improved engagement and learning outcomes, with average achievement scores exceeding 80. The implemented learning strategies include selecting appropriate materials to present the material to students in a visual and interactive manner. Furthermore, managing student participation through digital technology increases student engagement. This strategy is useful for positively influencing student interaction and collaboration with digital technology in PAI subjects.

1. Introduction

The role of Islamic Religious Education (PAI) is essential in carrying out strategic efforts to shape students' morals, identity, and religious character. As digital technology continues to advance rapidly, PAI learning often faces challenges in maintaining its relevance and effectiveness. Many PAI teaching practices are still centered on conventional lectures, making them less engaging for the digital generation. The situation creates an urgent need to integrate technology into PAI instruction so that Islamic values can be internalized through interactive, contextual approaches that align with 21st-century learning style (Kamal M, 2023). Islamic education continues to encounter several limitations, such as unprepared human resources, traditional teaching methods, and a slow response to technological advances. These conditions indicate that PAI requires digital renewal and transformation to remain relevant in the Society 5.0 era (Mustofa, 2022). To

maintain a balance between technological progress and the core principles of Islamic education, it is important to conduct a comprehensive research on how this technology can be integrated effectively (Anshori, 2025).

Technology brings both positive and negative effects (Ambarwati et al., 2021). When people work together to make sure technology is used properly, its benefits can be increased and its negative effects can be reduced. Using technology in teaching provides new chances to improve students' learning experiences and helps develop their cognitive skills. Critical thinking and problem-solving are some of the most important cognitive skills needed in education (Said et al., 2023). Integrating technology into PAI requires teachers to possess adequate digital literacy, adaptable pedagogical skills, and sensitivity to the evolving social and religious landscape of a digital society. As the ones who lead the learning process, their preparedness is essential. Even so, the open and unfiltered flow of digital information should not undermine the substance of Islamic values in the classroom. This is why planning that upholds humanistic, transformative, and value-based Islamic pedagogy, alongside the use of technology, is necessary (Sakdiyah et al., 2025).

Several techniques can be used to integrate technology into Islamic Religious Education (PAI), including the use of Learning Management Systems (LMS), interactive instructional videos, educational mobile applications, and social media as platforms for religious discourse. These techniques facilitate contextual and collaborative learning while increasing students' interest and engagement. For instance, students can develop critical thinking skills by reflecting on current events, communicate effectively with diverse groups, express themselves creatively through digital projects addressing contemporary Islamic issues, and collaborate across cultures and schools. Such approaches not only encourage meaningful learning experiences but also foster students' critical, creative, and collaborative competencies in line with the goals of Islamic education (Rosyid et al., 2024).

Earlier research has also shown that technological readiness and pedagogical adaption play an important role, and the Technology Acceptance Model (TAM) is often used to understand how e-learning is adopted in Islamic educational institutions (Haris et al., 2022). Other studies have also looked at technology use in Islamic education. For example, Rahmadani S. (2024) discussed digital learning strategies, Auliyah et al. (2025) examined how digital-based optimization can be applied, and Oktavia et al. (2023) explored innovative teaching methods. Meanwhile, Kharisma et al. (2024) found that using digital technology in PAI lessons can effectively help students develop a digital mindset and computational thinking. However, most existing studies remain limited to literature reviews, focus on specific media, or are confined to the context of higher education. Research that specifically explores Islamic Education teachers' strategies in integrating digital technology at the secondary school level, using a qualitative approach based on field data, is still rarely conducted. This indicates a research gap that needs to be addressed.

This study aims to identify and analyze the strategies used by PAI teachers in integrating digital technology to enhance student engagement at Al-Azhar Islamic Senior High School 7 Sukoharjo. The contribution of this research lies in providing a practical overview of how teachers design Islamic Education learning that is more interactive, relevant, and aligned with the needs of the digital generation. The novelty of this study rests in examining the strategies of PAI teachers within a technology-based Islamic school (digital class) through an empirical focus on student engagement using a qualitative approach involving observation, interviews, and documentation, thereby producing more applicable findings compared to previous conceptual or literature-based studies.

2. Methodology

This study uses a qualitative approach, specifically descriptive qualitative research. The main topic examined is the strategies used by Islamic Religious Education teachers in integrating digital technology to enhance student engagement. The data sources include both primary and secondary data gathered from the field, namely the PAI teachers at SMA Islam Al-Azhar 7 Sukoharjo, 40 tenth-grade students, and 32 eleventh-grade students. Data collection was carried out through observation, interviews, and documentation involving the teachers at SMA Islam Al-Azhar 7 Sukoharjo.

To ensure data validity, the study applied triangulation, including both source triangulation and technique triangulation. An interactive model of data analysis was used, following the framework of Miles and Huberman (Hardani, 2020). This includes data reduction to filter and simplify the data, data presentation in the form of narratives and tables to help interpretation, and verification and conclusion drawing to ensure the validity of the findings. The results of the study are based on theoretical foundations as well as the current situation and conditions of the research subjects (Iskandar & Apipudin, 2023).

3. Results and Discussion

Results

The research was conducted at Jl. Raya Solo Baru, Baki, Kudu, Sukoharjo Regency, Central Java Province. In this study, direct classroom observations and interviews were carried out with the Islamic Religious Education (PAI) teacher at SMAI Al-Azhar 7 Sukoharjo, where it was found that the school makes extensive use of various technological tools to support the learning process in the classroom. This school is one of the institutions that has developed a digital classroom program as a form of learning innovation in the technological era. Known as the Smart Digital Classroom, this program represents a modern learning model that integrates information technology into daily teaching activities. Not all classes use this system, as the school also offers other programs such as the tahfidz class; however, several designated rooms function specifically as Smart Digital Classrooms. These

rooms are equipped with interactive projectors, stable internet access, and a Learning Management System (LMS) for managing materials and assignments online. The classroom layout is intentionally made flexible to support collaborative learning, with adjustments to lighting, air circulation, and seating arrangements to ensure a comfortable learning atmosphere. The use of iPads is part of the classroom teaching and learning process, as seen in Figure 1.



Figure 1. Digital Classroom Learning Activities

In practice, learning in the digital classroom is collaborative and encourages active student participation. Each student is provided with an iPad as the main learning device, enabling them to access materials, complete assignments, and interact directly with digital resources. The teacher serves as a facilitator who guides students in using various applications and digital tools, while students engage in activities such as reading e-books, highlighting key points, watching instructional videos, or joining interactive quizzes through their iPads. This use of technology helps create learning experiences that are more efficient, interactive, and aligned with contemporary needs. Although technology is central to the classroom, learning remains directed toward instilling Islamic values and shaping students' character so that they become digitally capable and morally grounded at the same time.

During the research process, the researcher visited the school multiple times to observe the implementation of PAI learning in the digital classroom. Observations were carried out directly inside the classroom to see how teachers integrated digital tools into instruction and how students responded to them. Beyond observation, the researcher also conducted in-depth interviews with the PAI teacher outside the learning schedule. Through these interviews, the teacher explained the strategies used, the role of digital devices such as iPads and interactive projectors, and the challenges faced in maintaining student engagement. The teacher also described several positive changes in students' learning behavior, including increased activeness and participation during lessons. Throughout the study, the researcher continued engaging with teachers and students during observation sessions, for example, when teachers demonstrated the use of the LMS or when students interacted with digital content on their iPads. Combining direct observation with interviews strengthened the validity of the data and provided a clear picture of how digital-based PAI learning strategies were implemented in practice. To obtain more focused information, the researcher used several guiding questions, as shown in the table below:

Table 1. Interview Questions

Interview Questions	Purpose
How do you utilize digital devices such as iPads and interactive projectors in PAI lessons?	To identify how technology is applied during the teaching–learning process.
How do you select learning materials for PAI lessons?	To understand how the teacher determines the suitability and relevance of the materials used.
In your view, does the use of technology influence students’ interest and understanding of PAI content?	To explore the impact of technology on student interest and comprehension.
What strategies do you use to maintain students’ focus and participation during digital learning sessions?	To explore the teaching strategies used to enhance student focus and participation.
Does technology help improve students’ participation or engagement?	To examine how technology contributes to student engagement.
Which applications or digital platforms are most frequently used in your digital PAI classroom?	To identify the variety and frequency of digital media used.
What challenges do you encounter in managing digital-based learning?	To identify obstacles faced during the implementation of digital learning.
From your observations, how have students responded or changed their learning behavior since the digital system was implemented?	To identify changes in students’ learning behavior resulting from technology integration.
How do you assess the success of technology integration in your PAI classroom?	To understand the indicators of successful integration (e.g., improved mastery scores above KKM 80, higher participation, or increased engagement).
Is there any specific support provided by the school for implementing digital-based learning?	To identify forms of institutional support for digital learning.

The school also provides various facilities and infrastructure in the classroom, including iPads, interactive projectors, and stable internet connectivity. Teachers make use of multiple applications; such as Quizizz, e-books, Apple Pages, PowerPoint, Keynote, Apple Paper, Google Classroom, and the school’s LMS to manage learning activities and assessments. Supported by these facilities, PAI teachers implement a range of strategies, including the following:

Table 2. Teacher Strategies in Integrating Digital Technology in PAI Learning

No	Teacher Strategies	Implementation	Purpose	Analytical Note
1	Selecting materials that align with Islamic principles	The teacher filters digital content (videos, articles, applications) before using it in class	Ensuring that the materials remain consistent with Islamic teachings	This strategy is related to student engagement in the aspect of emotional engagement, because materials that follow Islamic principles help create a sense of safety, comfort, and acceptance among students. As a result, their emotional engagement increases since they feel that their religious values are respected and

				preserved throughout the learning process.
2	Interactive and Visual Multimedia Presentation	Presenting materials through illustrated PowerPoint slides, icons, colors, Qur'anic verse animations, tajwīd audio, and digital learning resources such as e-books and instructional videos.	Helping students stay focused, understand the material, retain information, and develop independent learning skills.	This strategy corresponds to both cognitive and behavioral engagement. Interactive multimedia stimulates students' thinking, understanding, and memory, increasing their cognitive involvement in learning. At the same time, attractive media encourage students to respond, explore digital resources, and participate in learning activities, which reflects their behavioral engagement.
3	Utilization of digital platforms	The teacher uses the EduPongo LMS to upload soft-file materials that accessible to students; interactive quizzes (Quizizz); and online discussion forums.	Expanding learning access.	This strategy relates to student engagement in the aspects of behavioral engagement and cognitive engagement. Flexible access through digital platforms enables students to take a more active role in managing their learning activities, such as downloading materials, joining quizzes, and participating in discussions (behavioral). Meanwhile, online discussion forums and interactive quizzes stimulate cognitive engagement as students are encouraged to think critically, deepen understanding, and construct knowledge collaboratively.
4	The use of digital classroom devices	Using an iPad connected to a projector to display interactive materials on the classroom screen. Each student also has an iPad; after completing exercises/tasks, the teacher can synchronize students' iPads to the projector to display their work	Making learning more interactive, increasing student participation, and enabling real-time evaluation	This strategy relates to student engagement in the aspects of behavioral engagement and emotional engagement. Behavioral engagement increases as students actively participate in digital exercises, display their work, and engage in classroom discussions. Emotional engagement also grows because students feel appreciated when their work is shown and discussed, boosting motivation, confidence, and their sense of connection to the learning process.

5	Direct student assistance	The teacher provides direct guidance when students use Islamic apps or digital platforms.	Reducing misunderstandings and helping students develop independence.	This strategy relates to student engagement in the aspects of cognitive engagement and emotional engagement. Teacher guidance helps students use the apps correctly, increasing cognitive engagement through more accurate and deeper understanding. Emotional engagement also develops as students feel more confident, comfortable, and motivated when exploring digital tools.
6	Collaboration and interaction	Group discussions through breakout rooms, oral or digital Q&A sessions.	To increase active engagement, communication, and teamwork.	This strategy is closely related to student engagement in the aspects of behavioral engagement and social engagement. Behavioral engagement appears through students' participation in discussions and Q&A activities. Social engagement arises from interaction, teamwork, and a sense of belonging to the learning group. Through collaboration, students become more active in communicating, expressing ideas, and appreciating others' perspectives, deepening their engagement in the learning process.
7	Material contextualization	Linking PAI topics to real-life situations (e.g., connecting belief in Allah with teen trends like zodiac predictions or fortune-telling apps)	Making learning relevant and applicable so students not only understand concepts theoretically, but also feel their relevance in daily life.	This strategy relates to student engagement in the aspects of cognitive engagement and emotional engagement. Cognitive engagement grows as students are encouraged to think critically and connect religious concepts with social realities they encounter. Emotional engagement emerges as students feel the material is close to their lives, increasing interest, concern, and stronger conviction toward Islamic values.

8	Continuous evaluation	Conducting pre-tests and post-tests with a target score above the minimum mastery criteria (KKM 80).	To measuring improvement in understanding and ensure competency achievement.	This strategy relates to student engagement in the aspects of cognitive engagement and behavioral engagement. Continuous evaluation encourages active learning (behavioral) because students know their progress will be consistently assessed. Cognitive engagement also increases as students are expected to understand the material thoroughly, reflect on their performance, and improve their learning strategies to reach the competency targets.
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The description of student engagement in this study refers to the framework introduced by Fredricks, Blumenfeld, and Paris (2004), which includes behavioral, emotional, cognitive, and social dimensions. Based on the interview results, the PAI teacher explained that digital learning helps students respond more quickly and become more confident in answering questions. The teacher also prepares visually engaging PowerPoint slides to maintain students' focus throughout the lesson. Students' activeness and interest during the learning process show that they are involved not only behaviorally but also emotionally, especially when the material is presented in a way that feels clear, attractive, and aligned with their needs during digital-based lessons. Several students supported this explanation by stating that accessing materials through the EduPongo LMS helps them keep up with lessons. One student shared that they could "highlight important parts immediately," while another explained that "the material appears in the LMS on the iPad, so there is no need to rewrite it," showing how digital access supports both behavioral and cognitive engagement. An example of how students access learning materials through the LMS can be seen in Figure 2.

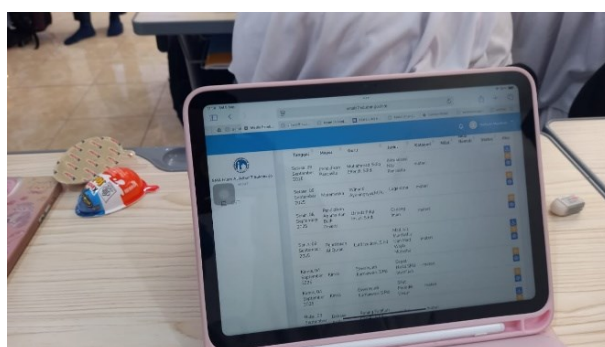


Figure 2. LMS used in the digital Classroom

During the interview, the teacher also emphasized that digital technology provides many conveniences, such as quick access to information while still remaining under the teacher's guidance. Assessments can be conducted easily through platforms like

Quizizz, allowing teachers and students to monitor results in real time. In addition, the teacher relates Islamic concepts to students' daily experiences, for example, when discussing faith in Allah, students are encouraged to reflect on signs of Allah's greatness in their own lives. Such reflective activities strengthen both cognitive and emotional engagement, because students do not only understand the material in theory but also feel its relevance in their personal context.

Observations made during learning activities also confirmed that students felt more motivated when their work was displayed in real time through the digital classroom devices. This condition strengthened behavioral engagement because students were more willing to participate actively and improve their work when they knew their performance would be visible. At the same time, emotional engagement was also reinforced, as students felt appreciated and valued when their contributions were shown to the class. These findings align with the engagement theory developed by Fredricks, Blumenfeld, and Paris (2004), where the combination of active participation, emotional involvement, and meaningful learning experiences contributes to stronger student engagement in digital-based PAI lessons.

Besides teacher strategies, school support also plays an important role in the success of PAI learning in digital classrooms. The school provides facilities such as in-house training, seminars, and training of trainers (ToT) for teachers to enhance their technology integration skills. This support ensures that teachers are able to use technology optimally in the learning process. In addition to interviewing PAI teachers about their strategies to enhance student engagement in digital classrooms, this study also found that student engagement in these classrooms is generally high. Students appeared more focused and enthusiastic when lessons were presented with visually appealing and interactive materials. Several factors were found to influence student engagement:

- a. Visual learning. Lessons supported with images, videos, and animations make concepts easier to understand.
 - b. Active participation. Students frequently participate in discussions and quizzes, both individually and in groups.
 - c. Relevance to real-life experiences. By connecting the lesson content to everyday life, students can relate religious concepts to their personal experiences, resulting in deeper understanding.
 - d. Attractive presentation of materials. The use of digital media in SMA Islam Al-Azhar 7 Sukoharjo's digital classroom makes the learning environment more varied, reduces boredom, and increases motivation.
 - e. Use of iPads connected directly to the classroom projector. This proved highly effective in enhancing student engagement during lessons. When students can immediately display their answers or explanations from their iPads onto the classroom screen, interactions between teachers and students become more dynamic and responsive. It also enables teachers to monitor student understanding in real time and provide faster and more targeted feedback. Thus, the use of this technology not only makes learning more engaging but also helps improve the overall quality of instruction.
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In the digital classroom, students have direct access to digital learning resources through iPads, the LMS, e-books, and various learning applications. This enables them to independently seek additional information, deepen their understanding of the material, and actively engage in the learning process. The visually appealing and interactive presentation of the content also encourages students to focus more, rather than being passive listeners. Overall, students in the digital classroom demonstrate higher engagement and improved learning outcomes, indicated by their increased enthusiasm and participation during lessons, enhanced information-seeking skills, and generally higher exam scores compared to students in regular classrooms, with an average above the minimum passing grade (KKM 80). The use of LCD projectors and iPads, along with the LMS projected on the screen, as seen in Figure 3.

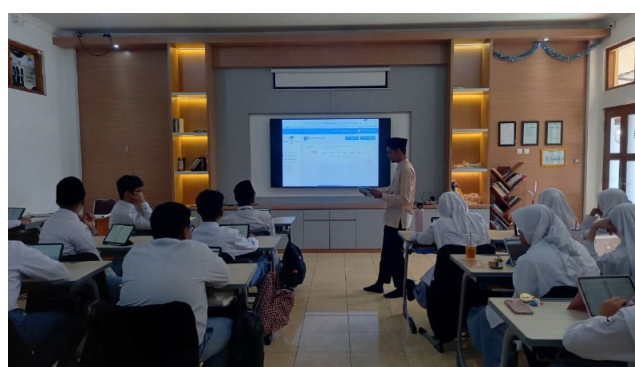


Figure 3. Documentation of the Digital Classroom

Entering a new phase of Islamic Religious Education (PAI), information technology will be increasingly important in creating more dynamic and attractive educational opportunities. A dynamic and adaptive learning environment can be created by integrating e-learning as an interactive learning technique into PAI subjects. A successful learning experience requires the selection of an e-learning platform that is specifically designed for PAI subjects and offers a wide range of interactive content, including simulations, learning videos, and interactive modules that consider the complexity of PAI material (Afif, 2023). Features that allow students to engage in active debate, including interactive forums are used to apply this technique. Instructors can create group discussions, case studies, or reflection questions that help students understand Islamic teachings more deeply and hone their analytical skills (M Yusuf et al., 2017).

Students' creativity and cooperation can be encouraged by incorporating group projects into PAI learning through online learning. These initiatives include collaborating in researching Islamic ethical principles, creating learning resources, or even creating videos about daily life that are relevant to Islamic teachings. Thus, online learning training (e-learning) is very important for teachers. Effective material design, platform administration, and the ability to help and guide students virtually are part of this learning. Teachers who are technologically literate will be better equipped to answer the needs of students and provide PAI materials (Osman et al., 2019).

Discussion

Strategies of Islamic Religious Education Teachers in Digital Class Learning

The study conducted by Safira Nisaul Azizah and Anita Puji Astutik (2025), titled “Differentiated Learning of Islamic Religious Education in Improving Literacy in the Digital Era,” revealed that peer tutoring, various learning models, literacy programs and their educational applications, along with the balanced use of books and technology, were among the implemented strategies. By aligning teaching methods with each student’s characteristics and abilities, differentiated learning models have proven effective in enhancing digital literacy and building a more engaging classroom atmosphere that supports students’ active participation.

Likewise, a study by Miliantoro Argo Pambudi Windasari (2022), “Teacher Strategies in Enhancing Students’ Digital Literacy,” highlighted that digital literacy is essential for both learning success and personal development. However, the current level of digital literacy and the integration of technology in education remain moderate and have not reached their optimal potential. Teachers can address this by adapting their teaching approaches, modifying learning materials, and nurturing students’ character and responsibility in using digital media as a learning resource to improve the overall learning experience. Meanwhile, the present research focuses on strategies used by teachers in Al-Azhar, digital based schools, particularly in optimizing the use of iPads and the school’s LMS, and how these contribute to observable student engagement in digital classrooms.

In the digital era, creative and innovative teaching methods are increasingly important to align education with advances in information and communication technology as well as pedagogical philosophy. These strategies encourage individualized learning and enable students to take an active role in the process. This shows that both inside and outside the classroom, students gain meaningful and enjoyable independent learning experiences. By providing constructive feedback and fostering a supportive yet stimulating environment, teachers help students develop a sense of enjoyment in the learning process itself which promotes creativity while ensuring that learning remains both effective and engaging (Fathimah Raniyah et al., 2024).

In addition, an interesting class environment will be created through the use of creative and innovative learning practices. According to Temple, the class atmosphere includes both physical and intellectual environments. Seating arrangements, good lighting and ventilation, and classrooms full of digital media resources and real-world task simulations, can all contribute to that physical atmosphere. To prevent classrooms from turning into prisons for students, the intellectual atmosphere focuses more on establishing a learning environment that enables more interesting and enticing learning activities. Competency is not possible only through class learning. Students' learning outcomes are also heavily influenced by the physical and psychological environment. A supportive school climate can bring about many learning activities that are not conducted in class.

Effective learning is achieved by cultivating students' creativity and activating it both inside and outside the classroom (Temple et al., 1987).

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Digital Technology Integration in PAI Learning in Digital Classes

In the digital era, integrating technology into Islamic Religious Education (PAI) is an appropriate step to improve the quality and effectiveness of learning. In this context, technology functions not only as a teaching aid but also as a means to enhance student learning, increase access to learning resources, and boost learning motivation. Through the integration of technology in PAI, students can learn religious values in a more engaging and contextual way. The use of digital media as a learning tool marks an important first step in incorporating technology into PAI education. To deepen students' understanding of Islamic teachings, educators can take advantage of various interactive resources, videos, and learning applications. Online tafsir platforms, virtual lectures, and digital Qur'an applications are among the additional tools that help students gain a better understanding of Islam. Beyond the classroom, these media also support students' independent and flexible learning (Hartati et al., 2022). In addition, Islamic Religious Education instructors can take advantage of online learning environments such as Edmodo, Moodle, or Google Classroom. Teachers can use this platform to present content, discuss online, assign assignments, and give exams. Teachers can upload video lectures, religious articles, or other learning resources for students to watch at any time during PAI classes. Teachers and students can communicate through the platform's chat or discussion features, which makes their interactions more lively.

Another successful method of using technology in PAI learning is through the use of interactive multimedia. A simulation of the hajj, an animated film about the history of Islam, or a graphic representation of prayer techniques, can all help make religious education more interesting and easy to understand. By connecting content to students' real-world experiences, these media not only help in communicating abstract ideas but also increase the significance of learning. Furthermore, PAI can use digital project-based learning. Instructors may assign project-based assignments to students that utilize technology, such as creating multimedia presentations about Islamic leaders or short films about Islamic ideals. In addition to utilizing technology, these assignments inspire students to use their imagination and apply religious principles in practice (Ridwan, 2022). Technology also allows for the implementation of more creative learning assessments. Using apps like Kahoot or Quizizz, teachers can create interactive tests that allow students to answer questions about PAI content online and get instant feedback. Because they are interactive and competitive, these technology-based evaluations not only speed up and improve the efficiency of the assessment process, but also increase student engagement (Wijaya K, 2023).

Therefore, integrating technology into PAI learning is not only about incorporating digital resources; but it also requires examining how technology shapes the way students learn, interact, and apply Islamic principles in their daily lives. By making the PAI learning process more inclusive, adaptive, participatory, and keeping up with the times, technology can significantly enhance its overall quality. To ensure that students become both proficient in technology and morally grounded in accordance with religious teachings, it is essential to maintain a balance between the use of technology and the basic principles of Islamic education.

4. Conclusion

Based on the findings of the research on learning transformation in the digital era, particularly regarding Islamic Education teachers' strategies to enhance student engagement at SMAI Al-Azhar 7 Sukoharjo, it can be concluded that Islamic Education teachers successfully integrated various digital technologies such as LMS, iPads, Quizizz, and interactive projectors into the learning process. The applied strategies included selecting relevant materials, presenting them visually and attractively, and managing digital activities that foster active student participation. School support through the provision of technological facilities and teacher training also strengthened the success of this learning transformation. The study showed a significant increase in students' engagement and enthusiasm in digital classrooms, as reflected in their active participation and improved learning outcomes. Although challenges such as gadget distractions and information fatigue still appeared, teachers were able to address them through creativity, varied strategies, and continuous mentoring. Overall, this research demonstrates that learning transformation in the digital era can enhance the quality of Islamic Education learning when supported by appropriate teaching strategies and optimal use of technology. Future researchers may broaden the scope of the study to better understand the dynamics of digital learning in various conditions. These findings

also open opportunities for replication in other contexts to enrich subsequent research.

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