

Transformation of Islamic Religious Education Learning in High Schools in the Digital Era

Nur Rohman*¹, Nur Cholid*², M. Ahsanul Husna*³

¹²³ Universitas Wabid Hasyim Semarang, Indonesia

e-mail Correspondence: nur.rohmanmpd83@gmail.com

Submitted: 10-06-2026

Revised : 13-07-2026

Accepted: 02-08-2026

ABSTRACT. The rapid development of digital technology has significantly transformed educational practices, including Islamic Religious Education (PAI) teaching in secondary schools. However, many PAI teaching processes still rely on conventional, teacher-centered approaches that are less responsive to the characteristics of digital-generation students. This study aims to analyze the transformation of PAI teaching in senior high schools by examining pedagogical changes, digital technology integration, and character building in the learning process. This study used a qualitative approach with a case study design conducted in three secondary schools in Bojonegoro Regency, Indonesia. Participants consisted of PAI teachers, principals, and students selected through purposive sampling. Data were collected through in-depth interviews, classroom observations, and document analysis. The results show that the transformation of PAI teaching has gradually shifted toward student-centered learning through collaborative learning, reflective discussions, and contextual learning practices. The use of digital media such as interactive videos, online learning platforms, and multimedia presentations has also increased student engagement and motivation. In addition, character education has been integrated into learning through discussions on social ethics, digital literacy, and religious values in everyday life. However, several obstacles remain, including limited digital competency among teachers, uneven technological infrastructure, and resistance to pedagogical change. The novelty of this study lies in its integrated analysis of pedagogical transformation, the use of digital technology, and character education in Islamic Religious Education (IS) learning in secondary schools. This study contributes both theoretically and practically to the development of innovative and contextual Islamic education models in the digital era.

Keywords: *Islamic Religious Education, learning transformation, digital pedagogy, character education, high school.*

ABSTRAK. Pesatnya perkembangan teknologi digital telah mengubah praktik pendidikan secara signifikan, termasuk pengajaran Pendidikan Agama Islam (PAI) di sekolah menengah. Namun, banyak proses pengajaran PAI masih mengandalkan pendekatan konvensional yang berpusat pada guru dan kurang responsif terhadap karakteristik siswa generasi digital. Penelitian ini bertujuan untuk menganalisis transformasi pengajaran PAI di sekolah menengah atas dengan mengkaji perubahan pedagogis, integrasi teknologi digital, dan pembentukan karakter dalam proses pembelajaran. Penelitian ini menggunakan pendekatan kualitatif dengan desain studi kasus yang dilakukan di tiga sekolah menengah di Kabupaten Bojonegoro, Indonesia. Partisipan penelitian terdiri dari guru PAI, kepala sekolah, dan siswa yang dipilih melalui teknik *purposive sampling*. Data dikumpulkan melalui wawancara mendalam, observasi kelas, dan analisis dokumen. Hasil penelitian menunjukkan bahwa transformasi pengajaran PAI secara bertahap telah beralih menuju pembelajaran yang berpusat pada siswa melalui pembelajaran kolaboratif, diskusi reflektif, dan praktik pembelajaran kontekstual. Penggunaan media digital seperti video interaktif, platform pembelajaran daring, dan presentasi multimedia juga telah meningkatkan keterlibatan serta motivasi siswa. Selain itu, pendidikan karakter telah diintegrasikan ke dalam pembelajaran melalui diskusi mengenai etika sosial, literasi digital, dan nilai-nilai agama dalam kehidupan sehari-hari.

Kendati demikian, masih terdapat beberapa hambatan, termasuk keterbatasan kompetensi digital guru, infrastruktur teknologi yang belum merata, dan resistensi terhadap perubahan pedagogis. Kebaruan penelitian ini terletak pada analisis terintegrasi mengenai transformasi pedagogis, penggunaan teknologi digital, dan pendidikan karakter dalam pembelajaran Pendidikan Agama Islam di sekolah menengah. Penelitian ini memberikan kontribusi baik secara teoretis maupun praktis bagi pengembangan model pendidikan Islam yang inovatif dan kontekstual di era digital.

Kata kunci: *Pendidikan Agama Islam, transformasi pembelajaran, pedagogi digital, pendidikan karakter, sekolah menengah atas.*



[HTTPS://DOI.ORG/10.31538/CJOTL.V4I2.3237](https://doi.org/10.31538/CJOTL.V4I2.3237)

INTRODUCTION

The global educational landscape in the era of the Industrial Revolution 4.0 and Society 5.0 demands a profound paradigm shift. Education is no longer merely about knowledge dissemination but about equipping students with critical thinking, digital literacy, and strong moral fortitude (Apia & Yugopuspito, 2024; Muhlasin & Salik, 2022). In Indonesia, this transformation is structurally supported by strategic policies such as the Independent Curriculum (Kurikulum Merdeka) and school digitalization programs (Baro et al., 2023).

Within this framework, Islamic Religious Education (PAI) holds a vital, strategic position. PAI is tasked not only with teaching theological doctrines but also with fostering spiritual awareness and ethical integrity to help students navigate modern complexities (Ahmadi, 2023). However, conventional PAI practices often remain rigid, teacher-centric, and heavily reliant on rote memorization, failing to bridge the gap between theoretical religious knowledge and real-world moral behavior (Yanto et al., 2023).

This pedagogical disconnect is acutely visible at the grassroots level. Preliminary empirical observations in several high schools across Bojonegoro Regency reveal a stark contrast between policy ideals and classroom realities. PAI instruction is still heavily dominated by passive textbook reading and one-way lectures. Furthermore, the integration of digital technology is severely hindered by two factors: uneven infrastructure—such as unstable internet connectivity and limited digital resources—and a noticeable gap in teachers' digital competencies. This technological lag is particularly problematic given that high school students are in a critical phase of adolescent identity formation. Characterized by intense exposure to social media, these students frequently encounter unverified, emotionally charged, or inaccurate digital religious content. Without interactive, digitally synchronized, and reflective PAI learning, students lack the critical digital literacy and ethical frameworks needed to filter this information safely.

While contemporary scholarship has attempted to address these challenges, existing studies remain siloed and fail to offer an integrated solution. For instance, Izzah et al. (2026) demonstrate that digital tools can boost student engagement, yet their focus is strictly technical, leaving the crucial dimension of character development unaddressed. Conversely, Rachmawati et al. (2021) champion the benefits of collaborative, student-centered learning but limit their scope to general education, neglecting the unique doctrinal and spiritual nuances inherent to PAI. Compounding these issues, Hasanah & Sukri (2023) highlight the severe disparities in teachers' digital literacy, which ultimately cripples any standalone technological intervention.

Educational transformation doesn't just mean adopting new technologies; it also requires fundamental changes in pedagogical orientation and learning philosophy. The old learning paradigm, which positioned teachers as the sole authority on knowledge, is slowly being replaced by an approach that focuses more on student engagement, collaboration, and the ability to construct knowledge independently (Ikbal et al., 2026). The constructivist perspective views

learning as an active process in which students build understanding based on their experiences and interactions with their surroundings. Furthermore, connectivism theory asserts that in the digital era, learning occurs through interconnected networks of information and technology, making digital literacy skills and information management skills vital (Inayati et al., 2025). Therefore, modern education should encourage students to become active learners capable of critically analyzing information, rather than simply memorizing material presented by teachers.

At the national level, Indonesia has accelerated its educational transformation through a number of strategic policies, including the implementation of the Independent Curriculum (Kurikulum Merdeka), a school digitalization program, and strengthening character education (Baro et al., 2023). These policies reflect the government's commitment to realizing a more flexible, contextual, and student-centered education system amidst rapid social and technological

The Research Gap: Previous research treats pedagogical innovation, technological tools, and character building as isolated variables. There is a distinct lack of literature that critically synthesizes how these three dimensions intersect, particularly within the unique cultural and infrastructural constraints of secondary education.

To address this void, this study aims to analyze the comprehensive transformation of PAI learning in high schools by simultaneously evaluating pedagogical shifts, digital technology integration, and character education. The novelty of this research lies in its holistic, multidimensional framework, moving away from fragmented analyses to provide a cohesive model for modern Islamic education. Theoretically, this study advances the application of constructivist and connectivist learning theories within religious education. Practically, it offers actionable insights for policymakers and educators striving to make PAI both technologically relevant and morally impactful for the digital native generation.

METHOD

This research employed a qualitative approach with a case study design to obtain an in-depth overview of the transformation of Islamic Religious Education (PAI) learning in high schools. As Creswell, (2015) noted, qualitative case studies are highly appropriate for exploring complex educational phenomena in real-life contexts. This research was conducted in three high schools located in Bojonegoro Regency, East Java: SMA Islam Sendangrejo Bojonegoro, SMA Plus Al Amanah Bojonegoro, and MA Abu Darin Bojonegoro. Data collection took place from January to March 2026.

To ensure data richness, subjects were selected using a deliberate purposive sampling technique (Rachman et al., 2024). Rather than a generalized selection, specific inclusion criteria were established for each participant group:

PAI Teachers (, two from each school): Must have a minimum of three years of active teaching experience, be formally certified or trained in the Kurikulum Merdeka, and regularly integrate digital platforms (e.g., Learning Management Systems, interactive media) into their weekly lessons.

School Principals (, one from each school): Must have served a minimum tenure of two years, possessing direct executive authority over the school's digitalization blueprints and pedagogical policy implementations.

Students (, eight from each school): Selected from the 11th and 12th grades to ensure they had experienced both the conventional and the transformed digital PAI learning models. The selection balanced different academic performance levels and varying degrees of active participation in digital classrooms.

Data were gathered using three synchronized qualitative instruments to allow for robust data triangulation :

In-Depth Interviews: Semi-structured, face-to-face interviews were conducted utilizing a pre-validated interview guide. Each session lasted approximately 45 to 60 minutes, was audio-recorded with explicit written consent, and later transcribed verbatim. The interview protocols focused on exploring personal experiences with digital pedagogy, structural and technological barriers, and observed shifts in student moral behavior.

Classroom Observations: The researchers acted as non-participant observers, conducting four to six observation sessions at each school. Guided by a structured observation protocol, the focus was centered on teacher-student interaction dynamics, student engagement levels during technology use, and how naturally moral/spiritual values were embedded within digital tasks.

Documentation Studies: To corroborate verbal and observational data, institutional artifacts were audited. These included PAI lesson plans (*Modul Ajar*), digital teaching repositories, student evaluation rubrics, and official school policy documents concerning digital literacy and character cultivation.

For qualitative research such as classroom action research, case studies, etc., it is necessary to add the presence of researchers, research subjects, informants who helped along with ways to explore research data, location and duration of research as well as a description of checking the validity of research results.

Data were analyzed iteratively following the thematic framework outlined by Miles, Huberman, and Saldaña (2014), which transitions through data condensation, data display, and conclusion drawing. The actual generation of themes was operationalized through a rigorous three-stage coding process:

Analysis Stage	Coding Process & Theme Generation
Stage 1: Open Coding (Data Condensation)	Transcripts and field notes were broken down into discrete conceptual parts. Initial raw tags (e.g., "unstable Wi-Fi," "one-way PowerPoint lecturing," "social media distraction") were assigned directly to the text segments.
Stage 2: Axial Coding (Category Assembly)	The initial open codes were scrutinized for conceptual overlaps, patterns, and intersections. Related codes were clustered into broader, distinct categories (e.g., merging "unstable Wi-Fi" and "lack of devices" into the category of "Infrastructural Limitations").
Stage 3: Selective Coding (Theme Refinement)	Categories were systematically integrated and synthesized into overarching macro-themes that directly addressed the research questions. This culminated in three core thematic pillars: 1. Pedagogical Reorientation Toward Student-Centricity 2. Infrastructural-Competency Paradox in Digital PAI Integration 3. Digital Spaces as the New Frontier for Character Building

To guarantee the credibility and trustworthiness of these generated themes, data triangulation (across sources and methods) was continuously applied (Senjaya, 2017). Furthermore, formal member checking was conducted by returning the synthesized transcripts and thematic summaries to the teachers and principals to verify that the researchers' interpretations accurately reflected their field realities.

RESULT AND DISCUSSION

Result

Transformation of Pedagogical Approaches in Islamic Religious Education in Response to Contemporary Educational Demands

The transformation of pedagogical approaches in Islamic Religious Education (PAI) refers to the shift from traditional teacher-centered instruction toward student-centered learning that

emphasizes active participation, collaboration, critical thinking, and contextual understanding. In the context of this study, pedagogical transformation is operationally defined as the adoption of innovative teaching strategies that encourage students to engage actively in the learning process through discussions, collaborative activities, problem-solving exercises, and reflective learning. This transformation reflects educational efforts to align Islamic Religious Education with the demands of contemporary society and twenty-first-century learning competencies. A teacher of Islamic Religious Education explained that conventional lecture-based methods are becoming less effective in meeting the learning preferences of contemporary students:

“Today, it is difficult to rely solely on lectures throughout the lesson. Students become more engaged when they participate in discussions, group presentations, and activities related to real-life situations. They understand Islamic values better when those values are connected to their daily experiences.” (Ust. Hadi, PAI Teacher)

This statement indicates that teachers increasingly recognize the need to modify instructional approaches in response to changing student characteristics. Rather than serving merely as transmitters of knowledge, teachers are gradually assuming the role of facilitators who guide students in constructing their own understanding of Islamic teachings. Such an approach enables students to develop a deeper and more meaningful engagement with religious learning. Similarly, a school principal emphasized the institutional support for pedagogical innovation: “We encourage teachers to adopt more interactive learning methods. Students need opportunities to think critically, discuss ideas, and express their opinions. Religious education should help them address the challenges they encounter in everyday life.” (School Principal)

The principal’s statement demonstrates that pedagogical transformation is not solely an individual initiative of teachers but is also supported at the institutional level. Schools increasingly recognize the importance of creating learning environments that promote student participation, critical thinking, and the practical application of religious values in contemporary contexts. Classroom observations revealed that Islamic Religious Education lessons increasingly incorporate student-centered activities such as group discussions, collaborative projects, case-study analysis, and reflective assignments. During observed sessions, students actively discussed topics related to social responsibility, environmental awareness, religious tolerance, and ethical behavior on social media from an Islamic perspective. Students appeared more enthusiastic and willing to express their opinions when learning activities involved interaction and collaboration. Compared to conventional lecture-based instruction, participatory learning approaches generated higher levels of student engagement, motivation, and classroom interaction. These observations suggest that pedagogical transformation contributes positively to the quality of learning experiences in Islamic Religious Education. The findings indicate that Islamic Religious Education is undergoing a gradual transition from teacher-centered instruction to student-centered learning. Teachers increasingly employ interactive and contextual teaching methods that encourage students to become active participants in the learning process. This transformation is intended to improve student engagement and ensure that Islamic teachings remain relevant to contemporary educational and social realities.

The data consistently demonstrate that pedagogical transformation in Islamic Religious Education is characterized by greater student participation, contextualized learning experiences, and collaborative learning practices. Teachers, school leaders, and students all acknowledge the importance of moving beyond traditional instructional models toward approaches that foster critical thinking, communication skills, and meaningful engagement with religious values. Consequently, Islamic Religious Education is increasingly positioned as a dynamic educational process that develops both religious understanding and essential life competencies.

Table 1. Interview Summary Table

Informant Position	Interview Excerpt	Indicator
PAI Teacher	“Students become more engaged when	Student-centered learning
School Principal	“We encourage teachers to adopt more	Institutional support for pedagogical innovation Student engagement and motivation
Student	“Religious lessons are more interesting	
PAI Teacher	“Islamic concepts are often connected to social media, environmental issues, and everyday life.”	Contextual learning approach

The data presented in the table indicate a shared perception among educational stakeholders regarding the necessity of pedagogical transformation in Islamic Religious Education. Teachers and school administrators emphasize the importance of interactive and participatory learning methods, suggesting a growing awareness that traditional lecture-centered approaches are insufficient for addressing contemporary educational challenges. Institutional encouragement further supports the adoption of innovative pedagogical practices within schools. In addition, students’ responses reveal that contextual and collaborative learning approaches significantly enhance their interest and engagement in Islamic Religious Education. When religious concepts are linked to real-life experiences and contemporary social issues, students are more likely to understand, internalize, and apply Islamic values in their daily lives. These findings suggest that pedagogical transformation contributes not only to improved learning outcomes but also to the development of students’ social, ethical, and critical capacities. A clear pattern emerging from the data is the gradual movement toward student-centered, contextual, and participatory learning within Islamic Religious Education. This transformation is driven by the need to respond to the characteristics of contemporary learners and the demands of modern education. The findings suggest that effective Islamic Religious Education increasingly combines religious knowledge with critical engagement, real-world relevance, and active student participation, thereby fostering a more holistic and meaningful learning experience.

Integration of Digital Technology and Character Education in Islamic Religious Education Learning

The integration of digital technology and character education in Islamic Religious Education (PAI) refers to the systematic incorporation of digital learning tools alongside Islamic moral and ethical values within the teaching and learning process. In this study, the concept encompasses the use of educational technologies such as multimedia presentations, educational videos, online learning platforms, interactive quizzes, and digital communication tools to facilitate learning while simultaneously promoting character values including honesty, responsibility, tolerance, empathy, discipline, digital ethics, and social responsibility. This integration seeks to ensure that technological advancement serves not only cognitive development but also the cultivation of students’ moral and spiritual character. One Islamic Religious Education teacher emphasized the importance of integrating digital technology with character formation:

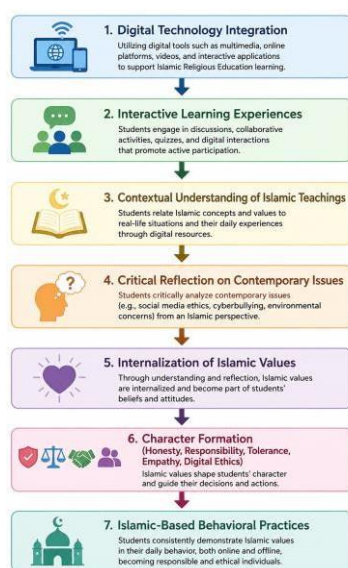
“Technology is not only a learning tool; it is also a medium through which students learn values. When discussing social media use, for example, we teach students about honesty, responsibility, and respect for others from an Islamic perspective.” (Ust. Sidqi PAI Teacher)

This statement indicates that teachers increasingly perceive digital technology as more than a technical instrument for delivering educational content. Instead, technology serves as a contextual platform through which students can understand and practice Islamic ethical principles in their everyday digital interactions. The integration of character education within

digital learning environments allows students to apply religious values to contemporary challenges. A student similarly highlighted the positive impact of technology-based learning on understanding moral values:

“Learning through videos and online discussions helps me understand how Islamic teachings relate to issues such as cyberbullying, social media ethics, and respecting differences.”
(Student)

The student’s response demonstrates that digital learning environments can facilitate meaningful connections between religious teachings and real-world social issues. The use of multimedia resources encourages students to critically reflect on their online behavior and evaluate contemporary social phenomena through an Islamic ethical lens.



The conceptual flow illustrates that digital technology functions as the initial catalyst in the learning process by creating interactive and engaging educational experiences. Through digital media, students encounter authentic social issues and contemporary challenges that encourage active participation and critical inquiry. This process helps bridge the gap between abstract religious concepts and students’ lived experiences. The subsequent stages demonstrate that meaningful engagement with digital learning resources facilitates the internalization of Islamic values. Rather than merely memorizing religious doctrines, students develop ethical awareness through reflection and application. As Islamic values become embedded in students’ understanding, they contribute to character formation and influence behavioral practices both within and beyond the educational environment. Thus, digital technology acts as a medium through which character education can be strengthened and contextualized. Classroom observations revealed that teachers frequently utilized multimedia presentations, educational videos, online discussion forums, and interactive quizzes during Islamic Religious Education lessons. Topics such as cyber ethics, responsible social media use, religious tolerance, environmental stewardship, and digital citizenship were regularly integrated into learning activities. Students appeared highly engaged during video-based discussions and demonstrated greater participation when analyzing real-world cases involving ethical dilemmas in digital environments. The observations suggest that the integration of technology enhances student motivation while simultaneously providing opportunities for character development through experiential and contextual learning.

The findings demonstrate that digital technology and character education are increasingly integrated within Islamic Religious Education learning. Teachers utilize digital tools not only to improve instructional effectiveness but also to cultivate Islamic values and ethical awareness. Through contextualized learning experiences, students are encouraged to connect religious teachings with contemporary social and technological realities. The data consistently indicate that digital technology serves a dual function within Islamic Religious Education. First, it enhances learning engagement and accessibility. Second, it acts as a vehicle for character education by providing contexts through which students can understand and practice Islamic ethical values. The integration of these two dimensions reflects a broader educational shift toward holistic learning that combines cognitive, moral, and spiritual development.

The data indicate that educational stakeholders perceive digital technology not as a replacement for character education but as a complementary mechanism that strengthens moral learning. Teachers and school administrators consistently emphasize that technological innovation should remain aligned with educational objectives aimed at developing ethical and responsible individuals. This finding challenges assumptions that digitalization necessarily weakens moral values, demonstrating instead that technology can support value-based education when used intentionally. Furthermore, students' responses suggest that digital learning environments create opportunities for more meaningful engagement with ethical issues relevant to their daily lives. Rather than receiving moral instruction in abstract terms, students encounter concrete examples of ethical challenges through digital media and online interactions. Consequently, the integration of technology and character education promotes deeper reflection and facilitates the practical application of Islamic values in contemporary social contexts. A dominant pattern emerging from the data is the convergence of digital innovation and character formation within Islamic Religious Education. The findings reveal that digital technology is increasingly employed not only to improve learning effectiveness but also to strengthen the internalization of Islamic values. Across interviews, observations, and institutional practices, a consistent pattern emerges in which technology functions as a contextual medium for ethical learning, while character education provides the moral framework guiding students' engagement with the digital world. This pattern reflects an evolving model of Islamic Religious Education that seeks to balance technological advancement with the cultivation of strong Islamic character and responsible citizenship.

Challenges Encountered in the Transformation of Islamic Religious Education in the Digital Era

The challenges encountered in the transformation of Islamic Religious Education (PAI) in the digital era refer to the various structural, technological, pedagogical, cultural, and institutional barriers that hinder the effective implementation of innovative learning practices. In this study, these challenges encompass limited digital literacy among teachers, inadequate technological infrastructure, resistance to pedagogical change, unequal access to digital resources, and difficulties in integrating technology with Islamic character education. These factors collectively influence the effectiveness and sustainability of educational transformation initiatives within Islamic Religious Education.

Table 2. Interview Findings on Challenges in the Transformation of Islamic Religious Education

Interview Excerpt	Indicator	Informant
"Some teachers still find it difficult to operate digital learning platforms and educational applications."	Limited digital literacy	School Principal
"Internet connectivity is often unstable, which disrupts online learning activities."	Technological infrastructure constraints	Teacher

“Not all students have equal access to digital devices at home.”	Digital access inequality	Teacher
“Some teachers prefer traditional teaching methods because they feel more comfortable with them.”	Resistance to pedagogical change	School Principal
“Managing students’ attention during technology-based learning is sometimes challenging.”	Classroom management challenges	Teacher

The findings presented in Table indicate that the transformation of Islamic Religious Education is not merely a technological process but also a socio-cultural and institutional transition. The most prominent challenge identified by informants relates to the uneven distribution of digital competencies among teachers. While educational policies increasingly encourage technology integration, many educators have not received sufficient professional development opportunities to acquire the necessary digital pedagogical skills. Consequently, the effectiveness of digital transformation largely depends on individual teachers’ capacity to adapt to rapidly evolving educational technologies. Furthermore, the data reveal that technological transformation is influenced by broader structural inequalities. Limited internet connectivity and unequal access to digital devices create disparities in students’ learning experiences and opportunities. These inequalities may hinder the realization of equitable and inclusive digital education. At the same time, resistance to pedagogical change suggests that educational transformation involves shifts in professional identity and long-established teaching cultures. Therefore, successful transformation requires not only technological resources but also continuous support, institutional commitment, and mindset change among educators.

Classroom observations confirmed many of the challenges reported during interviews. Several teachers experienced difficulties operating digital learning platforms efficiently during instructional activities. In some cases, technical disruptions interrupted classroom interaction and reduced the effectiveness of lesson delivery. The researcher also observed variations in the quality of digital integration among teachers, with some demonstrating confidence and innovation while others relied heavily on conventional teaching approaches despite having access to technological resources. Additionally, differences in students’ access to personal digital devices affected participation levels during technology-based learning activities. These observations reinforce the view that educational transformation remains uneven and dependent upon both human and technological capacities. The findings suggest that the transformation of Islamic Religious Education in the digital era faces multiple interconnected challenges. These include limited digital literacy among educators, disparities in technological infrastructure, unequal student access to digital resources, and resistance to pedagogical innovation. Such challenges influence the effectiveness of digital learning implementation and the broader process of educational transformation. The data consistently demonstrate that barriers to transformation operate at multiple levels. Individual-level challenges involve teachers’ competencies and attitudes toward innovation, while institutional-level challenges relate to infrastructure, training, and policy support. At the societal level, unequal access to technology contributes to disparities in educational opportunities. These findings indicate that successful transformation requires comprehensive strategies that address technological, pedagogical, and organizational dimensions simultaneously.

A clear pattern emerging from the data is that the challenges of transforming Islamic Religious Education are multidimensional and interconnected. The findings consistently indicate that technological barriers, pedagogical adaptation, institutional support, and cultural resistance operate simultaneously and influence one another. Across interviews and observations, digital literacy and infrastructure emerge as the most significant structural challenges, while resistance to change and concerns about maintaining Islamic character education represent important cultural and pedagogical issues. This pattern suggests that the successful transformation of Islamic

Religious Education in the digital era requires a holistic approach that combines technological investment, professional development, institutional leadership, and the preservation of Islamic educational values.

Discussion

The findings of this study demonstrate that the transformation of Islamic Religious Education (PAI) learning reflects a broader educational shift toward a more dynamic, student-centered, and technology-based learning system. The shift from a teacher-centered teaching model to one that prioritizes student activity reflects the growing application of constructivist principles in education, which emphasize the importance of active student involvement in constructing knowledge (Ikbal et al., 2026 ; Diana Widhi Rachmawati et al., 2021). This transformation is significant, given that the current generation of students has been shown to absorb lessons more easily through social interaction, collaboration, and direct experience than through passive memorization. The increased use of collaborative discussions, reflective learning, and problem-solving activities identified in this study confirms that Islamic Religious Education (PAI) is gradually adapting to the demands of 21st-century learning. This student-centered approach provides opportunities for students to express their views, hone their communication skills, and critically analyze various social issues from an Islamic perspective. These findings align with those of Nasir et al., (2026), who concluded that a participatory learning approach significantly increases student engagement and motivation in the classroom.

The integration of digital technology into Islamic Religious Education (PAI) learning also reflects the growing importance of digital pedagogy in contemporary education. The use of multimedia presentations, educational videos, online platforms, and internet-based learning resources empowers teachers to create more interactive and flexible learning environments. Izzah et al., (2026) explain that the use of technology in Islamic education can increase student engagement and facilitate a more contextual understanding of religious concepts. Meanwhile, Apia & Yugopuspito, (2024) emphasize that digital learning environments can support more personalized and independent learning experiences. These findings further demonstrate that digital technology allows students to access learning resources beyond the classroom. This fosters independent learning and encourages students to be more proactive in exploring Islamic knowledge. However, the effectiveness of technology integration remains largely determined by teacher competence and the readiness of available infrastructure. Teachers with higher levels of digital literacy have been shown to be better able to design creative and innovative learning experiences than their peers with limited technological skills. This study also reveals that the transformation of Islamic Religious Education (PAI) places increasing emphasis on character education and the moral development of students. Teachers strive to contextualize Islamic teachings through discussions of social ethics, internet behavior, the value of tolerance, and responsibility towards others. These findings support the view of Damayanti & Pambayun, (2024), who assert that character education must be an integral part of every educational activity to address the moral challenges of the digital age.

Character education in Islamic Religious Education (PAI) is increasingly relevant as the influence of social media and digital communication on students' daily behavior increases. The current generation of students is frequently exposed to disinformation, hate speech, cyberbullying, and various forms of unethical online interactions. Therefore, Islamic Religious Education (PAI) must not only emphasize doctrinal understanding but also guide students in applying Islamic ethical values in the digital world. Abeng et al., (2026), argue that contextual moral education will improve students' ability to internalize ethical values and apply them in everyday social interactions. Despite the progress that has been made, several obstacles continue to hinder educational transformation. One of the most prominent challenges identified in this study is limited digital literacy among educators. Many teachers still struggle to operate various

educational applications and adapt their teaching approaches to the demands of the digital learning environment. This finding aligns with research by Hasanah & Sukri, (2023), which states that uneven teacher digital competency is a major obstacle to the implementation of digital-based education in Indonesia. Infrastructure disparities are also a significant factor influencing the success of educational transformation. Schools with better internet access, adequate technological facilities, and strong institutional support are generally more successful in implementing innovative learning practices. Conversely, schools with limited resources often struggle to optimize the use of digital learning. Muhlasin & Salik, (2022), emphasize that successful educational transformation requires comprehensive ecosystem readiness, encompassing infrastructure, teacher competency, leadership, and consistent policy support.

Another important issue concerns resistance to changes in teaching methods. Some educators remain tied to conventional methods due to ingrained habits, lack of confidence, or limited professional development opportunities. Harahap et al., (2025), explain that sustainable educational transformation requires not only technological adaptation but also cultural and institutional change. Innovation in education can only succeed when schools successfully build a conducive organizational culture that supports continuous learning and encourages collaboration among educators. Overall, research findings indicate that Islamic Religious Education (PAI) learning transformation is a multidimensional and ongoing process, encompassing pedagogical, technological, social, and institutional dimensions simultaneously. Therefore, the success of this transformation requires a comprehensive strategy, encompassing teacher professional development, infrastructure improvements, curriculum updates, and ongoing policy support. Through holistic and collaborative efforts, Islamic Religious Education (PAI) is expected to remain relevant and effective in responding to the challenges of education in the digital age.

CONCLUSION

The transformation process of islamic religious education (pai) learning in high schools has shown significant progress in pedagogical innovation, the use of digital technology, and the strengthening of character education. Learning practices are gradually shifting toward a more student-centered, contextualized, and responsive approach to the demands of education in the digital age. However, several challenges still require serious attention, particularly those related to teachers' limited digital literacy, uneven technological infrastructure, and resistance to change in education. Therefore, a comprehensive and integrated strategy is needed to strengthen teacher capacity, improve the quality of educational facilities, and encourage sustainable policy implementation. This study makes a theoretical contribution by offering a unified framework that integrates pedagogical transformation, digital technology, and character education within a single islamic religious education (PAI) learning framework. Practically, these findings can serve as a valuable reference for educators and policymakers in formulating an innovative, contextual, and competitive islamic education model in the digital age.

Despite its valuable contributions, several inherent limitations must be acknowledged: Geographical and Contextual Restraints: This study was strictly conducted across three selected high schools in Bojonegoro Regency, East Java. Because these schools reflect a specific rural-semi-urban infrastructural dynamic, the findings cannot be broadly generalized to urban educational centers or regions with significantly different technological and socioeconomic landscapes. Methodological Boundaries: Relying on a qualitative case study design allowed for an in-depth exploration of participant perceptions and immediate classroom behaviors. However, this approach is inherently limited in capturing long-term behavioral metrics or establishing quantifiable correlations between digital tools and specific character development outcomes. Timeframe Constraints: The fieldwork spanned a cross-sectional three-month period (January to March 2026), which limits the ability to observe the long-term sustainability of the pedagogical

changes and how deeply the digital character-building practices take root over a full academic cycle.

To build upon the findings of this study and address its boundaries, future scholarship should consider the following specific avenues: Mixed-Methods and Large-Scale Quantitative Inquiries: Future researchers are encouraged to deploy mixed-methods or large-scale quantitative designs. Utilizing broad survey instruments across diverse provinces would allow for a statistical evaluation of the direct impact of digital PAI models on student moral resilience and critical digital literacy. Longitudinal Studies on Character Metrics: There is a critical need for longitudinal research that tracks high school cohorts over multiple years, particularly as they transition into higher education or the workforce, to evaluate whether the character values instilled via digital PAI endure over time. Evaluating Cross-Environment Synergies: Subsequent studies should investigate the role of parental mediation and community environments in reinforcing digital PAI initiatives. Examining how home environments interact with school digitalization policies would provide a more holistic model for character cultivation in the digital native generation.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to all individuals and institutions who contributed to the completion of this research. Special appreciation is extended to the teachers, school principals, and students who willingly participated in the study and shared their valuable experiences and perspectives. Their contributions provided essential insights into the transformation of Islamic Religious Education in the digital era. The authors also acknowledge the support of their respective academic institutions for providing an encouraging environment for research and scholarly development. Furthermore, appreciation is extended to colleagues, reviewers, and editors whose constructive comments and suggestions significantly improved the quality of this manuscript. Finally, the authors are deeply grateful to Allah SWT for His guidance, strength, and blessings throughout the research process and the completion of this article.

BIBLIOGRAPHY

- Abeng, A. T., Hastuti, S., & Irawanda, G. (2026). Membentuk Karakter Peserta Didik Melalui Internalisasi Nilai Religius di Sekolah. *Membentuk Karakter Peserta Didik Melalui Internalisasi Nilai Religius di Sekolah*. 6(1), 310–321. <https://doi.org/10.51574/jrip.v6i1.4667>
- Ahmadi. (2023). REKONSTRUKSI KURIKULUM STUDI ISLAM BERBASIS MODERASI BERAGAMA DI PERGURUAN TINGGI PAPUA BARAT.
- Apia, S., & Yugopuspito, P. (2024). LITERASI DIGITAL, KREATIVITAS, DAN KETERAMPILAN PEDAGOGI TEKNOLOGI TERHADAP PENGGUNAAN LMS MOODLE BAGI GURU SEKOLAH XYZ. 18(1978), 1543–1554. <https://doi.org/10.33758/mbi.v18i6.715>
- Baro, S., Nur, S., Trisnawati, I., Ernawati, A., & Azis, F. (2023). INOVASI KURIKULUM DI INDONESIA Tahta Media Group.
- Creswell, J. W. (2015). Penelitian Kualitatif & Desain Riset.
- Damayanti, F. A., & Pambayun, S. P. (2024). Menyongsong Masa Depan : Transformasi Karakter Siswa Generasi Alpha Melalui Pendidikan Islam yang Berbasis Al-Qur ' an. 7, 1–11. <https://doi.org/10.54069/attadrib.v7i1.628>
- Diana Widhi Rachmawati, M. I. A. G., Baktiar Nasution, Hamdan Firmansyah, Siti Asiah, A., Ridho, Indani Damayanti, Rospita Siagian, R. A., Rusdial Marta, Zaharah, Miftah Syarif,

- Kusmiran, Y., & Yenni Fitra Surya, Y. Y. K. (2021). TEORI & KONSEP PEDAGOGIK.
- Harahap, R. D. S., Rezkyana, F. I., Rahmatullaila, F., Ramadan, R. F., Raja, F. H. M., Septiani, V., Prima, N., Fahm, R., Hendayant, O., & Jannah, R. N. H. Al. (2025). INOVASI PENDIDIKAN
- Hasanah, U., & Sukri, M. (2023). Implementasi Literasi Digital Dalam Pendidikan Islam : Tantangan dan Solusi. XI, 177–188. <https://doi.org/10.26618/equilibrium.v11i2.10426>
- Ikbāl, M., Julizar, A., Rafiq, A., Sari, H. P., Studi, P., Islam, A., Islam, U., Sultan, N., & Kasim, S. (2026). Pengertian : Jurnal Pendidikan Indonesia (PJPI) Model Pembelajaran PAI Berbasis Teknologi : Inovasi Untuk Generasi Z dan Alpha.
- Inayati, I. N., Herlina, L., Muslih, I., Chodijah, S., & Harahap, S. D. (2025). STRATEGI PEMBELAJARAN DI ERA DIGITAL.
- Izzah, S. A., Mahmudah, N. A. R. A. A., Norsaniyah, S., & Mudarris, B. (2026). Peran psikologi pendidikan dalam transformasi pembelajaran digital dan sosial-emosional mahasiswa. 2, 563–581.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative Data Analysis. Muhlasin, Y. Al, & Salik, M. (2022). PERSPEKTIF FILSAFAT AL-GHAZALI. 9(1).
- Nasir, Deluma, R., Wahyuningsih, D., Mariati, E., Hajaruddin, Yunarzat, E., Deli, M., Roslani, Saharuddin, Yunus, R., Hamsah, Nuraidah, Astinaningsih, Baso, L., Nasriah, Amir, F., Asmawati, Fitriani, N., Sahidin, ... Muallimah. (2026). Kepemimpinan Pendidikan.
- Pasaribu, T. F., Harahap, A. N., Nasution, A. S., & Nusantara, U. G. (2022). PENGARUH KEMANDIRIAN BELAJAR TERHADAP HASIL BELAJAR MATEMATIKA SISWA SMP NEGERI 2. 5(2), 55–57. <https://doi.org/10.33365/ji-mr.v2i1.436>
- Rachman, A., Yochanan, E., Samanlangi, A. I., & Purnomo, H. (2024). METODE PENELITIAN KUANTITATIF, KUALITATIF DAN R&D.
- Senjaya, A. J. (2017). Tinjauan kritis terhadap istilah metode campuran (mixed method) dalam riset sosial. (December), 103–118. <https://doi.org/10.5281/zenodo.1240584>
- Yanto, A. N., Abdullah, W., & Zulfiqri, M. (2023). DIGITALISASI PESANTREN DARUL MUSTAFA LEBAK BANTEN. 16, 131–144. <https://doi.org/10.54471/tarbiyatuna.v16i2.2601>
- Zubaidah, S. (2017). KETERAMPILAN ABAD KE-21 : KETERAMPILAN. (December 2016).