

Digital Transformation of Islamic Religious Education: Integrating Artificial Intelligence and Religious Moderation in Inclusive Islamic Religious Education Learning

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Abstrak

Transformasi digital Pendidikan Agama Islam (PAI) telah menciptakan peluang dan tantangan baru dalam proses pembelajaran, khususnya melalui integrasi kecerdasan buatan (AI). Penelitian ini bertujuan untuk menganalisis bagaimana AI dapat diintegrasikan secara bertanggung jawab ke dalam pembelajaran PAI inklusif untuk memperkuat moderasi beragama, integritas akademik, dan literasi data. Penelitian ini menggunakan metode penelitian perpustakaan dengan pendekatan deskriptif kualitatif, meninjau literatur ilmiah yang relevan, artikel jurnal, dokumen kebijakan, dan laporan kelembagaan tentang AI dalam pendidikan, Pendidikan Agama Islam, pembelajaran inklusif, moderasi agama, risiko plagiarisme, dan kesiapan guru-siswa. Hasil penelitian menunjukkan bahwa AI memiliki potensi untuk mendukung pembelajaran PAI melalui instruksi yang dipersonalisasi, materi pembelajaran adaptif, fitur aksesibilitas, umpan balik formatif, dan keterlibatan digital. Namun, integrasi AI juga menimbulkan masalah etika, termasuk plagiarisme, ketergantungan yang berlebihan pada teknologi, informasi yang salah, bias algoritmik, dan pembentukan spiritual yang lemah. Oleh karena itu, AI harus diposisikan sebagai asisten pembelajaran daripada pengganti guru. Studi ini menekankan bahwa pembelajaran PAI berbasis AI yang inklusif harus didasarkan pada nilai-nilai etika Islam dan moderasi agama, termasuk toleransi, keseimbangan, keadilan, non-kekerasan, dan penghormatan terhadap keragaman. Kebaruan dari penelitian ini terletak pada kerangka konseptual integratif yang menghubungkan penggunaan AI yang bertanggung jawab, moderasi agama, integritas akademik, literasi data, dan pendidikan Islam inklusif. Studi ini merekomendasikan agar sekolah dan madrasah mengembangkan pedoman yang jelas untuk penggunaan AI, memperkuat kompetensi guru, dan merancang model penilaian reflektif yang mempromosikan kejujuran, pemikiran kritis, dan kewarganegaraan digital yang bertanggung jawab.

Abstract

Key Word:

Artificial Intelligence,
Islamic Religious
Education, Academic
Integrity, Data Literacy,
Religious Moderation,
Inclusive Learning

The digital transformation of Islamic Religious Education (PAI) has created new opportunities and challenges in the learning process, particularly through the integration of artificial intelligence (AI). This study aims to analyze how AI can be responsibly integrated into inclusive PAI learning to strengthen religious moderation, academic integrity, and data literacy. This research uses a library research method with a qualitative descriptive approach, reviewing relevant scholarly literature, journal articles, policy documents, and institutional reports on AI in education, Islamic Religious Education, inclusive learning, religious moderation, plagiarism risk, and teacher-student readiness. The results show that AI has the potential to support PAI learning through personalized instruction, adaptive learning materials, accessibility features, formative feedback, and digital engagement. However, AI integration also raises ethical concerns, including plagiarism, overreliance on technology, misinformation, algorithmic bias, and weak spiritual formation. Therefore, AI should be positioned as a learning assistant rather than a substitute for teachers. The study emphasizes that inclusive AI-based PAI learning must be grounded in Islamic ethical values and religious moderation, including tolerance, balance, justice, non-violence, and respect for diversity. The novelty of this study lies in its integrative conceptual framework that connects responsible AI use, religious moderation, academic integrity, data literacy, and inclusive Islamic education. This study recommends that schools and madrasahs develop clear guidelines for AI use, strengthen teachers' competence, and design reflective assessment models that promote honesty, critical thinking, and responsible digital citizenship.

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PENDAHULUAN

Digital transformation of education has accelerated the integration of artificial intelligence (AI) into teaching, learning, assessment, and educational management. In Islamic Religious Education, or Pendidikan Agama Islam (PAI), this transformation is not only a technological shift but also a pedagogical and ethical challenge because PAI aims to develop religious understanding, moral character, spiritual awareness, and social responsibility. UNESCO emphasizes that generative AI in education must be directed toward a human-centered vision, supported by policy, regulation, and capacity development (Miao & Holmes, 2023). Therefore, the digital transformation of PAI requires more than adopting AI tools; it requires a value-based framework that aligns technological innovation with Islamic ethics, religious moderation, and inclusive learning.

In the Indonesian context, PAI learning faces increasing pressure to adapt to the AI era while preserving its core Islamic values. Wedi, Mardiana, and Umiarso (2025) found that digital transformation in Madrasah Aliyah requires institutional strategies, digital infrastructure, stakeholder collaboration, Learning Management Systems, flipped classroom models, ethical content filtering, and teacher training grounded in Islamic principles. This indicates that AI-based transformation in PAI is not merely about digitizing religious materials but about designing a sustainable learning ecosystem that maintains the balance between innovation and value transmission.

AI offers significant potential to support inclusive learning through personalization, adaptive learning, accessibility tools, and data-informed feedback. A systematic review by Melo-López, Basantes-Andrade, Gudiño-Mejía, and Hernández-Martínez (2025) shows that AI can improve accessibility and personalize learning experiences for students with disabilities, although it also raises challenges related to privacy, ethical use, and equal access. Similarly, Varsik and Vosberg (2024) argue that AI can support equity and inclusion, but its adoption must address access gaps, algorithmic bias, teacher training, privacy, and accountability. This creates a key challenge for PAI: how to use AI to support diverse learners without weakening human interaction, spiritual guidance, or fairness in religious learning.

The central problem is that AI integration in PAI may improve learning efficiency, access, and personalization, but it can also create new ethical risks. Bittle and El-Gayar (2025) show that generative AI in higher education provides opportunities for learning engagement and efficiency while also increasing risks of academic dishonesty, plagiarism, overreliance, and weak originality. In PAI learning, these risks become more sensitive because the subject is closely related to honesty, moral formation, adab, responsibility, and religious understanding. Therefore, the research problem is how PAI can integrate AI responsibly while strengthening academic integrity, religious moderation, and inclusive pedagogical practices.

Religious moderation is an important foundation for Islamic education in plural and digital societies. Nasir and Rijal (2021) explain that Islamic higher education institutions in Indonesia internalize moderation through curriculum, religious activities, tolerance, non-violence, national commitment, and accommodation of local culture. Ma'arif, Ibda, Ahmadi, Qosim, and Muanayah (2023) further show that Islamic moderation in education is relevant for preventing cyberterrorism through ideological approaches, digital literacy, counter-narratives, peaceful digital media, and deradicalization. These findings indicate that PAI in the digital era must not only teach religious knowledge but also guide students to interpret, evaluate, and respond to digital religious content critically and moderately.

Previous studies have discussed AI in education, inclusive education, academic integrity, digital transformation in PAI, and religious moderation. However, these areas are often studied separately. AI studies frequently focus on technical efficiency, personalization, or academic integrity; inclusive education studies emphasize accessibility and equity; while religious moderation studies focus on tolerance, anti-radicalism, and national-religious harmony. The gap lies in the limited integration of these perspectives into one conceptual framework for inclusive PAI learning. Specifically, there is still a need for research that connects responsible AI use, religious moderation values, plagiarism risk mitigation, academic integrity, teacher readiness, student readiness, and data literacy in PAI classrooms.

The novelty of this study lies in its integrative perspective. Rather than viewing AI only as a digital learning tool, this study positions AI as part of a broader transformation of PAI that must be governed by Islamic ethical values, religious moderation, inclusivity, and academic integrity. The incremental contribution is the construction of a conceptual foundation that links technological readiness with spiritual-moral readiness. This approach expands existing discussions on digital PAI by emphasizing that AI-based learning should be inclusive, ethically supervised, culturally responsive, and aligned with the values of wasatiyyah, honesty, responsibility, tolerance, and justice.

This research is urgent because AI adoption in education is growing faster than institutional readiness, teacher competency, student literacy, and ethical governance. Without clear pedagogical and ethical direction, AI in PAI may lead to superficial learning, plagiarism, misinformation, biased religious content, reduced teacher authority, and unequal access for students with different learning needs. Conversely, when implemented responsibly, AI can strengthen inclusive PAI learning through adaptive materials, differentiated instruction, digital religious literacy, and reflective assessment. Therefore, the digital transformation of Islamic Religious Education must be guided by a balanced model that integrates artificial intelligence, religious moderation, academic integrity, and inclusive learning, serving as a foundation for preparing morally responsible Muslim learners in the digital era.

Digital transformation in Islamic Religious Education, or Pendidikan Agama Islam (PAI), should be understood as a comprehensive change in learning culture, pedagogy, curriculum design, assessment, and institutional management. It is not limited to the use of digital devices or online platforms, but also involves how Islamic values are transmitted, interpreted, and practiced in a technology-mediated learning environment. In the AI era, PAI is required to respond to new educational realities such as digital learning resources, AI-based content generation, learning analytics, adaptive learning systems, and virtual religious discourse. Wedi, Mardiana, and Umiarso (2025) explain that the digital transformation of PAI in Madrasah Aliyah requires learning management systems, flipped classroom practices, ethical content filtering, stakeholder collaboration, and teacher training based on Islamic values. This shows that the transformation of PAI must be both technologically adaptive and religiously grounded.

The integration of AI into Islamic education provides opportunities to improve learning personalization, access to religious learning materials, feedback quality, and student engagement. AI can help teachers design differentiated instruction, generate learning scenarios, support formative assessment, and provide additional explanations for students with different levels of understanding. However, AI should not replace the role of teachers as moral guides, spiritual mentors, and interpreters of Islamic values. UNESCO emphasizes that generative AI in education must be guided by a human-centred approach that protects human agency, inclusion, equity, linguistic diversity, cultural diversity, and plural expressions (Miao & Holmes, 2023). Therefore, in PAI, AI should function as a pedagogical assistant, not as the main authority in religious interpretation.

AI in education has been widely discussed as a tool for improving efficiency, personalization, and learning outcomes. Garzón (2025) notes that AI research in education has increased significantly, particularly in relation to intelligent tutoring systems, adaptive learning, automated assessment, and learning analytics. In the context of PAI, these technologies may support students in understanding Islamic concepts, memorizing Qur'anic verses and hadith, exploring moral cases, and engaging in reflective learning. Nevertheless, religious learning requires careful supervision because AI-generated content may contain inaccuracies, bias, weak contextual understanding, or inappropriate religious interpretations. Therefore, AI literacy is essential for both teachers and students.

Responsible AI use in PAI requires ethical awareness, critical evaluation, and clear institutional guidelines. UNESCO's AI Competency Framework for Teachers identifies several important dimensions, including a human-centred mindset, ethics of AI, AI foundations and applications, AI pedagogy, and AI for professional learning (UNESCO, 2024). These competencies are highly relevant for PAI teachers because they must be able to select AI tools, evaluate AI-generated religious content, guide students in ethical use, and prevent overreliance on machine-generated answers. In this sense, AI integration in PAI should be connected to teacher readiness, student readiness, and institutional policy readiness.

Inclusive PAI learning refers to a learning process that accommodates differences in students' abilities, backgrounds, learning styles, digital access, and socio-cultural experiences. AI has the potential to strengthen inclusion through adaptive content, text-to-speech, speech-to-text, translation support, personalized feedback, and assistive technologies. Melo-López, Basantes-Andrade, Gudiño-Mejía, and Hernández-Martínez (2025) found that AI can support inclusive education by improving accessibility and personalizing learning experiences for students with diverse needs. However, they also highlight ethical concerns such as privacy, unequal access, and the need for teacher competence.

The use of AI in inclusive PAI must be connected to the principle of educational justice. Varsik and Vosberg (2024) argue that AI may support equity and inclusion, but it may also reproduce inequality if access gaps, algorithmic bias, privacy risks, and insufficient teacher training are not addressed. This is important for PAI because inclusive Islamic education should not only provide equal access to learning materials but also ensure that every student can participate meaningfully in moral, spiritual, and social learning. Therefore, inclusive AI-based PAI must be designed with fairness, accessibility, cultural sensitivity,

and teacher supervision.

Religious moderation is a central value in Islamic education, especially in plural societies such as Indonesia. Religious moderation emphasizes tolerance, balance, anti-violence, national commitment, respect for diversity, and acceptance of local wisdom. Nasir and Rijal (2021) explain that Islamic higher education institutions in Indonesia internalize religious moderation through curriculum, academic culture, religious activities, tolerance, non-violence, and national commitment. In PAI learning, religious moderation is important because students are exposed to various religious narratives through digital platforms, social media, and AI-generated content. Without critical digital literacy, students may encounter intolerant, extreme, or misleading religious information.

The relationship between religious moderation and digital learning becomes more important in the AI era. Ma'arif, Ibda, Ahmadi, Qosim, and Muanayah (2023) show that Islamic moderation in education is relevant to preventing cyberterrorism through digital literacy, peaceful counter-narratives, and deradicalization strategies. This means that PAI teachers must guide students not only to understand Islamic teachings but also to evaluate digital religious content critically. AI can support this process by providing comparative learning materials and discussion prompts, but teacher supervision remains necessary to prevent religious misunderstanding, simplification, or doctrinal bias.

The emergence of generative AI creates new challenges for academic integrity. Students can use AI to generate essays, summaries, reflections, answers, and religious arguments without fully understanding the content. Bittle and El-Gayar (2025) explain that generative AI in higher education creates both opportunities and risks, including improved learning support but also plagiarism, academic dishonesty, overreliance, and unclear authorship. In PAI learning, this issue is more serious because academic honesty is directly related to Islamic moral values such as amanah, sidq, responsibility, and adab.

Plagiarism risk in AI-based PAI should not be addressed only through prohibition or detection tools. Instead, it requires a pedagogical strategy that combines AI literacy, ethical guidance, reflective assessment, oral explanation, process-based assignments, and transparent citation practices. Students need to understand when AI assistance is allowed, how to acknowledge AI use, and why originality matters in religious learning. Academic integrity in PAI should therefore be developed as both an academic norm and a religious-moral commitment. This approach aligns with the broader argument that AI policies in education must focus on ethical use, learning objectives, assessment redesign, and human responsibility.

Teacher readiness is a determining factor in the successful integration of AI into PAI. Teachers need technological competence, pedagogical creativity, ethical awareness, and religious literacy to use AI appropriately. They must be able to evaluate whether AI-generated content is accurate, relevant, moderate, and suitable for students' developmental stages. Student readiness is equally important because students need digital literacy, data literacy, prompt literacy, and ethical awareness. UNESCO's AI Competency Framework for Students emphasizes that students should become responsible users and co-creators of AI by developing competencies related to ethical thinking, critical judgment, AI techniques, and responsible citizenship (UNESCO, 2024).

Data literacy is also essential in AI-based PAI learning. AI systems often operate through data collection, prediction, personalization, and automated feedback. Students and teachers need to understand how data are used, how privacy is protected, and how algorithmic recommendations may influence learning. In the context of Islamic education, data literacy should be connected to ethical values such as trustworthiness, responsibility, justice, and protection of personal dignity. Thus, AI readiness in PAI is not only technical but also ethical, spiritual, pedagogical, and social.

METODE PENELITIAN

This study uses a library research method with a qualitative descriptive approach. Library research is appropriate because the study focuses on analyzing, comparing, and synthesizing existing scholarly literature on the digital transformation of Islamic Religious Education, artificial intelligence, religious moderation, academic integrity, data literacy, and inclusive learning. The data sources consist of journal articles, books, conference papers, institutional reports, and policy documents published within the last five years, especially those indexed in Scopus and other reputable academic databases. The literature was selected based on topic relevance, publication quality, theoretical contribution, and connection to the research focus. This method allows the researcher to identify conceptual patterns, theoretical developments, and research gaps in previous studies (Snyder, 2019).

The analysis was conducted in several stages: identifying keywords, collecting relevant literature, classifying sources by theme, reviewing theoretical perspectives, and synthesizing findings into an integrated

conceptual discussion. The main keywords used include Islamic Religious Education, artificial intelligence in education, religious moderation, inclusive education, academic integrity, plagiarism risk, teacher readiness, student readiness, and data literacy. The collected literature was analyzed thematically to understand how AI can be integrated responsibly into PAI learning while maintaining Islamic ethical values and inclusive principles. This study does not use field data; instead, it relies on critical interpretation of previous research to develop a conceptual framework for inclusive AI-based PAI learning grounded in religious moderation and academic integrity.

HASIL DAN PEMBAHASAN

The Based on the library research, the results show that the digital transformation of Islamic Religious Education should not be understood only as the use of digital media, online platforms, or AI-based learning tools. The transformation of PAI requires institutional readiness, pedagogical redesign, ethical governance, and value-based learning orientation. Wedi et al. (2025) found that the digital transformation of PAI in Madrasah Aliyah is reflected in two major aspects: institutional strategy, including digital infrastructure and stakeholder collaboration, and pedagogical systems, including Learning Management Systems, flipped classroom models, ethical content filtering, and teacher training based on Islamic principles. This finding indicates that AI integration in PAI must be managed as a systemic educational transformation, not merely as technological adoption.

The first key result is that AI can support more adaptive, personalized, and inclusive PAI learning. AI-based tools can help teachers prepare learning materials, provide differentiated explanations, support formative feedback, and assist students with different learning abilities. In inclusive education, AI has been found to improve accessibility and personalization, especially for students with diverse learning needs and disabilities (Melo-López et al., 2025). However, AI-based inclusion must also consider access inequality, algorithmic bias, data privacy, and teacher competence. Varsik and Vosberg (2024) emphasize that AI can support equity and inclusion only when its implementation is accompanied by teacher training, access fairness, and institutional accountability. Therefore, in PAI learning, AI should be used to strengthen educational justice and accessibility, while the teacher remains the main moral and pedagogical guide.

The second result shows that responsible AI integration in PAI must be grounded in Islamic ethical values. AI can generate religious explanations, summaries, quizzes, and learning scenarios, but it cannot fully replace the authority of teachers, scholars, and authentic Islamic sources. UNESCO states that generative AI in education should be guided by a human-centred vision, policy planning, regulation, and human capacity development (Miao & Holmes, 2023). In the context of PAI, this principle is highly relevant because religious learning involves not only cognitive understanding but also spiritual formation, moral reasoning, adab, and character development. Thus, AI should function as a learning assistant, while teachers remain responsible for validating religious content and guiding students' ethical understanding.

The third result is that religious moderation should become the normative foundation of AI-based PAI learning. Religious moderation in Islamic education includes tolerance, balance, non-violence, national commitment, and accommodation of local culture. Nasir and Rijal (2021) found that Islamic higher education institutions in Indonesia internalize religious moderation through curriculum, pesantren-based culture, religious activities, and ideological formation. This shows that moderation is not merely a concept but a learning culture that must be embedded in educational practices. In AI-assisted PAI, religious moderation is important because students are increasingly exposed to digital religious content that may contain bias, exclusivism, misinformation, or intolerant narratives.

The fourth result indicates that AI-based PAI learning needs strong digital religious literacy. Ma'arif et al. (2023) found that Islamic moderation in education plays a role in preventing cyberterrorism through ideological approaches, digital literacy, counter-narratives, deradicalization, peaceful digital media, and soft power deterrence. This finding is important for PAI because students do not only consume religious knowledge from textbooks or teachers, but also from social media, search engines, and AI-generated responses. Therefore, PAI teachers need to train students to verify sources, compare interpretations, recognize intolerant narratives, and use AI critically. In this context, AI can support religious moderation if it is used to develop critical thinking, peaceful dialogue, and contextual understanding of Islamic teachings.

The fifth result concerns academic integrity and plagiarism risk. Generative AI can help students learn more efficiently, but it can also encourage academic dishonesty when students submit AI-generated work without understanding, reflection, or proper acknowledgment. Bittle and El-Gayar (2025) found that generative AI in higher education creates both benefits and risks, including increased engagement and efficiency, but also plagiarism, cheating, ghostwriting, and threats to originality. In PAI learning, this issue is

more serious because honesty, responsibility, trustworthiness, and adab are central Islamic values. Therefore, plagiarism prevention in AI-based PAI should not rely only on detection tools, but also on moral education, transparent AI-use rules, reflective assignments, oral confirmation, process-based assessment, and proper citation practices.

The sixth result shows that teacher and student readiness is a determining factor in the success of AI integration. UNESCO's AI Competency Framework for Teachers highlights five competency dimensions: human-centred mindset, ethics of AI, AI foundations and applications, AI pedagogy, and AI for professional learning. These competencies are relevant to PAI teachers because they must understand how AI works, how to evaluate AI-generated content, how to prevent misuse, and how to integrate AI with Islamic values. Student readiness is also important because students need digital literacy, prompt literacy, source evaluation skills, data literacy, and ethical awareness. Without these competencies, AI may weaken students' independent thinking and spiritual reflection.

The discussion suggests that inclusive AI-based PAI learning should be built on four integrated pillars. The first pillar is technological-pedagogical readiness, which includes infrastructure, teacher competence, AI literacy, and learning design. The second pillar is religious moderation, which ensures that AI-assisted learning promotes tolerance, balance, peace, and respect for diversity. The third pillar is academic integrity, which guides students to use AI honestly and responsibly. The fourth pillar is inclusive learning, which ensures that AI supports different student needs without creating new forms of inequality. These four pillars show that the transformation of PAI in the digital era must combine technological innovation with Islamic ethical responsibility.

Overall, the findings reveal that AI has strong potential to improve PAI learning when it is integrated responsibly. AI can support personalization, accessibility, learning efficiency, and digital engagement. However, AI also presents risks related to plagiarism, misinformation, bias, overdependence, reduced teacher authority, and weak spiritual formation. Therefore, the most appropriate model for PAI is not AI-driven education, but AI-assisted Islamic Religious Education. In this model, AI supports learning activities, while teachers, Islamic values, religious moderation, and academic integrity remain the main foundation of the learning process.

KESIMPULAN

The digital transformation of Islamic Religious Education requires an integrated approach that combines technological innovation, Islamic ethical values, religious moderation, academic integrity, and inclusive learning principles. The findings of this library research indicate that artificial intelligence has significant potential to support PAI learning through personalized instruction, adaptive learning materials, formative feedback, accessibility support, and more engaging digital learning experiences. However, AI should not be positioned as a substitute for teachers, because PAI learning involves spiritual guidance, moral formation, religious interpretation, and character development that require human responsibility and ethical supervision. This study concludes that the integration of AI in inclusive PAI learning must be guided by the values of religious moderation, including tolerance, balance, justice, non-violence, national commitment, and respect for diversity. In the digital era, students are increasingly exposed to various religious narratives through social media, search engines, and AI-generated content. Therefore, PAI teachers need to strengthen students' digital religious literacy so that they can critically evaluate information, avoid intolerant narratives, and understand Islamic teachings in a moderate and contextual way. The study also highlights that academic integrity is a central challenge in AI-based PAI learning. Generative AI may increase the risk of plagiarism, passive learning, and overreliance on technology. For this reason, PAI learning should develop clear ethical guidelines for AI use, process-based assessment, reflective assignments, oral explanation, proper citation practices, and honest disclosure of AI assistance. Academic integrity should be understood not only as an academic requirement but also as part of Islamic moral values such as honesty, trustworthiness, responsibility, and adab. Overall, responsible AI integration in PAI requires teacher readiness, student readiness, institutional support, and ethical governance. The novelty of this study lies in its integrative conceptual perspective, which connects AI, religious moderation, inclusive education, academic integrity, and data literacy within the framework of Islamic Religious Education. Future studies are recommended to conduct empirical research in schools or madrasahs to test the effectiveness of AI-assisted PAI learning models and to explore how teachers and students experience AI integration in real classroom contexts.

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