



UTILIZATION OF ARTIFICIAL INTELLIGENCE IN ISLAMIC RELIGIOUS EDUCATION LEARNING: OPPORTUNITIES AND CHALLENGES

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Abstract

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The development of Artificial Intelligence (AI) presents both opportunities and challenges for Islamic Religious Education (PAI). Its urgency lies in the need for learning that is relevant to the digital era without neglecting PAI's primary objective: the formation of noble character (akhlak mulia). This study aims to analyze the potential utilization of AI in PAI and identify the accompanying challenges. The research gap emerges from the scarcity of comprehensive studies highlighting AI integration in PAI from pedagogical, ethical, and value internalization perspectives. This research employs a qualitative library research method with content analysis of books, scientific articles, and official documents. The findings indicate that AI offers opportunities to enhance personalized learning, develop innovative media, expand access to learning resources, and improve teacher administrative efficiency. However, challenges include the accuracy of religious information, shifting teacher roles, academic ethics, digital literacy gaps, and the potential weakening of value internalization. Recommendations emphasize strengthening digital literacy, developing adaptive curricula, and implementing human-centered AI approaches to ensure technology utilization remains aligned with PAI's objectives of forming faithful, pious, and morally upright students.

Keywords: Artificial Intelligence; Islamic Religious Education; Academic Ethics; Character Education; Adaptive Learning.



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INTRODUCTION

The advancement of information and communication technology in the Industrial Revolution 4.0 era, along with the transformation toward Society 5.0, has brought significant dynamics to various aspects of life, including education.¹ Digitalization of learning no longer merely functions as a supporting medium; rather, it has evolved into an integral component of modern education systems.² One of the most rapidly progressing technological innovations in recent years is Artificial Intelligence (AI).³ AI is a branch of computer science designed to develop systems capable of mimicking human cognitive abilities, such as learning, understanding language, analyzing information, solving problems, and making data-driven decisions.⁴

The evolution of AI has had a significant impact on how humans acquire, manage, and utilize information. In education, AI adoption is accelerating alongside the growing need for adaptive, flexible, and student-centered learning. Various learning platforms currently integrate AI technology in the form of adaptive learning systems, automated assessment, virtual tutors, chatbots, learning analytics, and Generative AI technologies such as ChatGPT, Gemini, Claude, and others.⁵ The presence of these technologies enables students to obtain more personalized and interactive learning experiences tailored to their individual needs and abilities. On the other hand, teachers are facilitated in developing learning materials, creating digital media, designing evaluation instruments, and analyzing student learning progress more effectively and efficiently.⁶

Data indicates that at the secondary and tertiary education levels, AI adoption among Indonesian students is remarkably high. According to the Chegg Global Student Survey, approximately 95% of university students in Indonesia utilize generative AI technology (such as ChatGPT, Claude, or Gemini) to support their learning processes.⁷ This figure places Indonesian students among the highest globally in GenAI adoption. Independent research conducted by Tirto and Jakpat involving 1,501 students demonstrated that 86.21% of them use AI-based tools at least once a month for academic tasks (such as summarizing materials, creating essay frameworks, and searching for data). Only approximately 13.8% of students reported never using AI for academic purposes.⁸

Various learning platforms now integrate AI in the form of adaptive learning systems, automated assessment, virtual tutors, chatbots, learning analytics, and generative

¹ Herman Dwi Surjono, *Penggunaan Teknologi Informasi Dan Komunikasi Dalam Pembelajaran* (UNY Press, 2013).

² Munir, *Pembelajaran Digital* (Alfabet, 2020).

³ Bambang Yuwono, *Pengantar Kecerdasan Buatan Dan Penerapannya* (Deepublish, 2020).

⁴ Suyanto, *Pengantar Kecerdasan Buatan Dan Penerapannya* (Informatika, 2018).

⁵ Rusli Muhammad et al., *Memahami AI dalam Pembelajaran Modern* (Kencana, 2023).

⁶ Hamzah B. Uno, *Model Pembelajaran: Menciptakan Proses Belajar Mengajar Yang Kreatif Dan Efektif* (Bumi Aksara, 2021).

⁷ Chegg, *Global Student Survey 2023: How Students Worldwide Are Experiencing Generative AI* (Chegg Institute, 2023).

⁸ Tirto.id & Jakpat Research, *Laporan Survei Penggunaan AI Di Kalangan Pelajar Indonesia* (Jakarta, 2023).

technologies such as ChatGPT, Gemini, and Claude. The presence of these technologies enables students to obtain more personalized and interactive learning experiences while assisting teachers in developing instructional materials, creating digital media, and conducting evaluations more efficiently.

UNESCO affirms that AI utilization in education holds great potential for improving learning quality, expanding access, and supporting inclusive education systems.⁹ However, ethical aspects, fairness, transparency, and accountability must remain priorities to ensure that this technology genuinely benefits education. In the Indonesian context, educational digital transformation is accelerated through government policies encouraging technology utilization in learning processes. Teachers are required to possess adequate digital competencies to effectively utilize AI-based applications, while students are expected to have strong digital literacy to use technology critically, creatively, and responsibly.

Nevertheless, AI development also raises various issues requiring serious attention. One of the primary challenges is the emergence of student dependency on technology, potentially reducing critical thinking skills, creativity, and learning autonomy. Information generated by AI is not always accurate, as these systems operate based on data probabilities rather than specific scholarly authority. In the context of Islamic Religious Education, this condition becomes particularly significant because errors in understanding Qur'anic verses, hadith, or scholarly opinions can lead to inaccurate religious understanding if AI-provided information is accepted without prior verification.¹⁰

Beyond information accuracy concerns, AI usage also presents ethical challenges related to academic integrity, personal data protection, copyright, and potential technology misuse in learning processes. The ease with which AI can generate answers, essays, and academic assignments instantly may increase plagiarism risks and reduce student motivation for independent thinking. Furthermore, AI has inherent limitations that cannot fully replace the role of Islamic Religious Education teachers. Teachers are not merely information transmitters; they also function as educators, mentors, motivators, role models (*uswah hasanah*), and character builders for students. Spiritual values, worship habituation, character cultivation, empathy, compassion, and role modeling represent educational dimensions that can only be realized through direct human interaction. Therefore, AI utilization must be accompanied by strengthened digital literacy, information literacy, and character education so that students can use technology responsibly in accordance with Islamic moral and ethical values.

Several previous studies have addressed digital technology integration in education, such as Riska Armianti et al.'s research on digital technology integration in Pancasila Education learning to strengthen the Pancasila Student Profile. However, there is a

⁹ UNESCO, *Guidance for Generative AI in Education and Research* (UNESCO Publishing, 2023).

¹⁰ M. Quraish Shihab, *Membumikan Al-Qur'an: Fungsi Dan Peran Wahyu Dalam Kehidupan Masyarakat* (Mizan, 2020).

scarcity of studies specifically examining AI utilization in the context of PAI. Existing studies tend to emphasize technical aspects and efficiency, while pedagogical dimensions, ethics, academic integrity, and religious value internalization remain rarely explored. This research gap is significant because PAI objectives are not solely oriented toward cognitive achievement but also the formation of noble character, faith, and piety in students.

Based on the above description, the utilization of Artificial Intelligence in Islamic Religious Education learning represents a phenomenon that requires in-depth examination as it presents two interrelated aspects: opportunities and challenges. On one hand, AI can enhance effectiveness, efficiency, creativity, and learning quality through various adaptive technological innovations. On the other hand, its implementation demands readiness from teachers, students, educational institutions, and the government in establishing AI governance grounded in ethical, pedagogical, and Islamic principles. Therefore, this article aims to comprehensively analyze the various opportunities that can be optimized and the challenges that must be anticipated in the utilization of Artificial Intelligence in Islamic Religious Education learning, so that technology can be wisely utilized to support the achievement of Islamic education's goals: forming faithful, pious, morally upright, knowledgeable individuals capable of facing scientific and technological developments without losing their Islamic identity.

RESEARCH METHOD

This research employs a qualitative approach with library research type.¹¹ This approach was selected because the research focus centers on conceptual and critical examination of Artificial Intelligence (AI) utilization in Islamic Religious Education (PAI) learning, particularly regarding opportunities, challenges, and pedagogical implications.¹² Research data were entirely obtained from secondary sources in the form of relevant and academically accountable scientific literature.¹³

Data collection was conducted through documentation study techniques by systematically searching literature across various indexed scientific databases, including Google Scholar, Scopus, SINTA/Garuda, and DOAJ, using Boolean operator-based keyword combinations.¹⁴ Inclusion criteria encompassed nationally accredited or internationally reputable scientific journal articles, textbooks, proceedings, and official reports from authoritative institutions specifically discussing AI integration in PAI learning.¹⁵ Meanwhile, exclusion criteria covered popular opinion articles without scientific references, publications discussing AI generally without correlation to religious education domains, and duplicate literature.

¹¹ Mestika Zed, *Metode Penelitian Kepustakaan* (Yayasan Obor, 2014).

¹² Sugiyono, *Metode Penelitian Kuantitatif Kualitatif Dan RND* (Alfabet, 2022).

¹³ Lexy J. Moleong, *Metodologi Penelitian Kualitatif* (Remaja Rosdakarya, 2021).

¹⁴ M. Burhan Bungin, *Penelitian Kualitatif: Komunikasi, Ekonomi, Kebijakan Publik, Dan Ilmu Sosial Lainnya* (Kencana, 2020).

¹⁵ Suharsimi Arikunto, *Prosedur Penelitian* (Rineka Cipta, 2022).

The data analysis technique employed was qualitative content analysis conducted through four systematic stages.¹⁶ The initial stage began with data reduction to select and eliminate literature not aligned with the research focus.¹⁷ Subsequently, data categorization was performed into four main themes: mapping AI concepts in education, implementation forms in PAI, opportunities for learning quality improvement, and pedagogical, ethical, and Islamic values challenges. The categorized data were then interpreted by synthesizing literature findings using digital education theory analysis tools—such as the SAMR and TPACK models—alongside Islamic education principles.¹⁸ The final stage concluded with descriptive-comprehensive conclusion drawing and verification to formulate answers to the research focus while developing practical recommendations for educators and policymakers.

RESULTS AND DISCUSSION

Transformation of Islamic Religious Education Learning in the Artificial Intelligence Era

The development of Artificial Intelligence (AI) has driven significant transformation in the education sector, including Islamic Religious Education (PAI) learning. AI is no longer understood merely as a conventional technological innovation; rather, it has evolved into a strategic instrument supporting the learning process through rapid information provision, material personalization, and interactive media development.¹⁹ The presence of technologies such as Generative AI, chatbots, virtual tutors, and adaptive learning systems has shifted the learning paradigm from teacher-centered to student-centered.²⁰

In the context of digital education transformation theory, this phenomenon transcends the substitution stage and enters the Modification and Redefinition stages within Ruben Puentedura's SAMR Model (Substitution, Augmentation, Modification, Redefinition).²¹ PAI learning no longer merely transfers religious texts to digital screens but redesigns learning tasks that were previously impossible through conventional methods.

This transformation has broad implications for PAI learning. Students are no longer fully dependent on physical textbooks but can access Islamic literature interactively. Generative AI platforms such as ChatGPT and Google Gemini enable students to discuss abstract concepts such as creed (*akidah*), Islamic civilization history, and Qur'anic exegesis (*tafsir*) contextually through systematic and easily comprehensible

¹⁶ Imam Gunawan, *Metode Penelitian Kualitatif: Teori Dan Praktik* (Bumi Aksara, 2022).

¹⁷ Matthew B. Miles et al., *Analisis Data Kualitatif: Buku Sumber Tentang Metode-Metode Baru*, Terj. Tjetjep Rohendi Rohidi (UI Press, 2020).

¹⁸ Rusman, *Pembelajaran Berbasis Teknologi Informasi Dan Komunikasi* (Pres, Rajawali, 2019).

¹⁹ Azhar Arsyad, *Media Pembelajaran* (Rajawali Pers, 2020).

²⁰ Wina Sanjaya, *Strategi Pembelajaran Berstandar Proses Pendidikan* (Kencana, 2021).

²¹ Ruben R. Puentedura, *Transformation, Technology, and Education* (Hippasus, 2014).

explanations.²² Meanwhile, specialized AI-based applications such as Tarteel AI utilize voice recognition technology to listen to students' Qur'anic recitation in real-time, detecting errors in pronunciation (*makhraj*) and recitation rules (*tajwid*), and providing immediate feedback.²³

The presence of religious reference-based search engine platforms such as Perplexity AI or Hadith AI also helps students precisely trace hadith entries along with their authenticity grades. Beyond expanded access, AI supports adaptive learning implementation. AI-based systems can analyze students' learning rhythms, identify weaknesses in understanding *fiqh muamalah* or *hukum taklifi* (Islamic legal classifications), and then prescribe customized practice modules.²⁴ This approach aligns with Holmes's findings, which demonstrate that AI has the potential to enhance learning quality through personalization, responsive feedback, and increased student engagement.²⁵

This transformation also redefines the educator's role through Koehler & Mishra's TPACK (Technological Pedagogical Content Knowledge) framework.²⁶ PAI teachers are required not only to master religious subject matter (content knowledge) and teaching methods (pedagogical knowledge) but also to integrate technological proficiency (technological knowledge) to design relevant instruction.²⁷ In the digital era, teachers no longer act as the sole authority of knowledge. The teacher's role shifts to that of a facilitator, content curator, and mentor who guides students to utilize AI critically, selectively, and ethically.²⁸

Nevertheless, this role shift does not diminish the urgency of the teacher's position in PAI. Islamic education is not solely oriented toward knowledge transfer; it is deeply rooted in value transfer and character formation through role modeling (*uswah hasanah*). Texts and AI algorithms—no matter how capable of processing information—cannot and will not replace the emotional, spiritual, and character-building dimensions. AI is vulnerable to data bias and hallucination risks (presenting fictional/incorrect information), so scholarly authority still requires absolute quality assurance mechanisms through the tradition of *talaqqi* (direct learning from teachers) and teacher guidance. Therefore, this technological diversity framework must firmly adhere to the human-centered approach principles as emphasized by UNESCO. Technology is positioned as a tool, while humans retain control over pedagogical and moral decisions.

²² Abuddin Nata, *Perspektif Islam Tentang Strategi Pembelajaran* (Kencana, 2021).

²³ Ahmad Zarkasyi, 'Penggunaan Teknologi AI Voice Recognition Dalam Pembelajaran Tajwid Al-Qur'an', *Jurnal Pendidikan Agama Islam* 19, no. 1 (2022): 45–58.

²⁴ Syamsuddin Arif, *Islam Dan Perkembangan Sains-Teknologi* (INSISTS, 2022).

²⁵ Wayne Holmes, *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning* (Center for Curriculum Redesign, 2019).

²⁶ Matthew J. Koehler, 'Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge', *Teachers College Record* 108, no. 6 (2006).

²⁷ Jejen Mustafah, *Peningkatan Kompetensi Guru Melalui Pelatihan Digital* (Kencana, 2020).

²⁸ Muhaimin, *Rekonstruksi Pendidikan Islam: Dari Ontekstualisasi Hingga Integrasi* (Rajawali Pers, 2020).

Based on this description, the transformation of Islamic Religious Education learning in the AI era is not a change that eliminates the teacher's role but rather a paradigmatic shift toward a more adaptive, collaborative, and technology-based learning system. AI provides opportunities to enhance learning quality through broader information access, learning personalization, and innovative learning media. However, the success of AI implementation remains dependent on teachers' ability to integrate technology with pedagogical values and Islamic education principles so that the ultimate educational goal—forming faithful, pious, and morally upright individuals—remains the primary orientation.

Opportunities for Artificial Intelligence Utilization in Islamic Religious Education Learning

The development of Artificial Intelligence (AI) has opened new opportunities for enhancing learning quality across various disciplines, including Islamic Religious Education (PAI).²⁹ AI functions not only as a technological innovation but also as an instrument capable of supporting the transformation of teaching and learning processes into more effective, adaptive, and student-centered experiences.³⁰ In the educational context, AI enables the implementation of more personalized, efficient, and responsive learning tailored to individual student needs.³¹ UNESCO affirms that Generative Artificial Intelligence utilization has the potential to improve education quality through broader learning resource provision, support for teacher creativity, and development of more flexible learning experiences while maintaining a human-centered approach.

In Islamic Religious Education learning, the first opportunity offered by AI is ease of access to Islamic scholarly sources.³² Students and teachers can utilize ChatGPT or Google Gemini to translate foreign literature (such as classical *kitab kuning* in digital format, international research articles on Islamic studies, or multilingual manuscripts) to enrich their knowledge.³³ Additionally, AI-based platforms can assist students in finding references or summarizing key points from various literature sources. Nevertheless, teachers remain responsible for guiding students to use credible sources and verify obtained information, as AI operates based on learned data and cannot always definitively distinguish scholarly authority in Islamic studies.

The second opportunity is the creation of more adaptive and personalized learning.³⁴ AI can analyze students' learning abilities through activity records, then adjust material difficulty levels, exercises, and feedback according to individual needs. Through this approach, students struggling to understand *fiqh* (Islamic jurisprudence) or Islamic civilization history can receive gradual additional explanations, while more advanced

²⁹ Muhammad Azhar, *Digitalisasi Khazanah Islam* (Suara Muhammadiyah, 2022).

³⁰ Ridwan Abdul Sani, *Inovasi Pembelajaran Di Era Digital* (Bumi Aksara, 2019).

³¹ Cecep Kustandi, *Pengembangan Media Pembelajaran: Konsep & Aplikasi Praktis* (Kencana, 2020).

³² Hamdar Arraiyyah, *Metodologi Studi Islam Era Digital* (Alauddin University Press, 2023).

³³ Azyumardi Azra, *Pendidikan Islam: Tradisi Dan Modernisasi Menuju Milenium Baru* (Kalimah, 2020).

³⁴ M. Yusuf, 'Implementasi Adaptive Learning Dalam Pendidikan Agama Islam', *Jurnal Edukasi Islam* 11, no. 2 (2021).

students can be given more complex learning challenges. Holmes and Tuomi explain that AI systems in education enable learning differentiation that is difficult to achieve optimally through conventional methods, especially in large classes.³⁵

Beyond enhancing individual learning quality, AI also provides opportunities for PAI teachers to develop more innovative learning media.³⁶ Teachers can utilize platforms such as NotebookLM to upload various modules, texts, or PAI reference materials, then automatically transform them into comprehensive summaries, interactive study guides, and even audio discussion materials (*podcasts*) that facilitate student understanding.³⁷ To strengthen formative assessment aspects, teachers can use Quizlet to design interactive quizzes, memorization cards (*flashcards*) for verses, or practice questions for fun *fiqh* comprehension tests. The presence of this technology allows teachers to reduce time spent on technical tasks, thereby having greater opportunities to prepare learning strategies oriented toward character strengthening and student moral development.³⁸

AI also opens significant opportunities in supporting authentic assessment in PAI learning.³⁹ In the realm of performance assessment, teachers can use AI to assist in developing comprehensive assessment rubrics for worship practices (such as prayer procedures, ablution, or hajj rituals) and digital da'wah projects. AI can be utilized as an interactive simulation medium where students practice presenting arguments or discussing contemporary *fiqh* case studies, while teachers analyze their responses in depth. Furthermore, AI systems can help process student portfolios—such as daily worship reflection journals or character reflective essays—enabling teachers to monitor students' spiritual and cognitive development accurately and objectively without neglecting qualitative human assessment.

Additionally, AI utilization contributes to improving teacher administrative efficiency. Various activities such as developing learning materials, creating Higher Order Thinking Skills (HOTS)-based test grids, analyzing evaluation results, and preparing learning reports can be assisted by AI systems.⁴⁰ This efficiency allows teachers to allocate more time for learning mentoring, spiritual guidance, and strengthening interpersonal relationships with students. This aligns with Zakiah Daradjat's view that the success of Islamic Religious Education is largely determined by the quality of educative interaction between teachers and students, not merely by the completeness of learning materials.⁴¹

However, these various opportunities can only be realized if AI utilization is conducted critically, ethically, and responsibly. AI should be positioned as a learning

³⁵ Holmes, *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*.

³⁶ Syafruddin Nurdin, *Media Dan Teknologi Pembelajaran Agama Islam* (Rajawali Pers, 2021).

³⁷ Lukman Hakim, 'Pemanfaatan Platform AI Generatif Dalam Menyusun Bahan Ajar PAI', *Jurnal Pendidikan Islam Indonesia* 8, no. 1 (2023).

³⁸ Imam Al-Ghazali, *Ihya 'Ulum al-Din, Jilid 1* (Dar al-Kutub al-'Ilmiyyah, 2018).

³⁹ Nana Sudjana, *Penilaian Hasil Proses Belajar Mengajar* (Remaja Rosdakarya, 2020).

⁴⁰ Badrudin, *Manajemen Pendidikan Islam Di Era Digital* (Pustaka Setia, 2021).

⁴¹ Zakiah Daradjat, *Metodik Khusus Pengajaran Agama Islam (Ed.2)* (Bumi Aksara, 2011).

partner that assists teachers and students in achieving learning objectives, not as a replacement for the humanistic educational process. Islamic Religious Education has broader objectives than mere knowledge transfer—namely, forming faithful, pious, and morally upright individuals. Therefore, AI integration must always be directed toward strengthening the internalization of Islamic values, improving learning quality, and building students' critical thinking skills without diminishing the central role of teachers as educators, mentors, and role models in their lives.

Challenges of Artificial Intelligence Utilization in Islamic Religious Education

The development of Artificial Intelligence (AI) has provided various conveniences in the learning process, including in Islamic Religious Education (PAI) subjects. Nevertheless, AI implementation also presents several challenges requiring serious attention from educators, students, and education policymakers. This is because Islamic Religious Education is not solely oriented toward knowledge mastery but also emphasizes character formation, faith strengthening, noble character cultivation, and habituation of Islamic values in daily life.⁴² Therefore, AI utilization in PAI learning cannot be viewed merely as technological innovation; rather, it must consider pedagogical, ethical, technical, and spiritual aspects so that Islamic education objectives can still be optimally achieved.

One fundamental challenge faced in Indonesia is the digital infrastructure disparity and uneven internet access.⁴³ The availability of technological devices, high-speed internet networks, and stable electricity supply remains concentrated in urban areas and certain regions, while 3T areas (Underdeveloped, Frontier, and Outermost) often experience limitations. This disparity potentially creates a digital divide among educational units in adopting AI.⁴⁴ Schools in urban areas can massively utilize various AI-based adaptive learning platforms, while schools in remote areas risk falling further behind in literacy and access to modern technology-based learning media.

The next challenge relates to algorithmic accuracy and bias that can affect religious understanding.⁴⁵ AI systems are trained using large text datasets (*Big Data*), most of which originate from Western literature or general digital spaces that may not necessarily represent moderate and authentic Islamic scholarly traditions.⁴⁶ Consequently, AI algorithms are vulnerable to representation bias, school-of-thought (*mazhab*) bias, and AI hallucination (generating fictional information that appears factual). AI algorithms operate based on language pattern predictions, not through the

⁴² Hasan Langgung, *Manusia Dan Pendidikan: Suatu Analisa Psikologi Dan Pendidikan* (Al-Husna Zikra, 2018).

⁴³ APJII, *Laporan Penetrasi Internet Dan Profil Pengguna Digital Indonesia 2023* (Asosiasi Penyelenggara Jasa Internet Indonesia, 2023).

⁴⁴ Onno W. Purbo, *Infrastruktur Dan Kesenjangan Digital Indonesia* (Andi Offset, 2022).

⁴⁵ Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism* (NYU Press, 2018).

⁴⁶ Emily M. Bender, 'On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?', (Cambridge), 2021.

process of *ijtihad* (independent reasoning), contextual understanding (*asbabun nuzul/asbul wurud*), or *fiqh* legal determination principles.⁴⁷ This can potentially present thoughts that inadvertently mix opinions across schools of thought (*talfiq*) without adequate legal analysis, or even discredit moderate (*wasathiyah*) religious views. Without teacher guidance and verification (*tabayyun*), students risk absorbing partial or biased religious understandings.

This condition also impacts the potential shift in the teacher's role as scholarly authority.⁴⁸ Easy access to AI applications can create the perception that answers to religious questions can be obtained instantly without needing to discuss with educators.⁴⁹ In Islamic education perspective, teachers are not merely material conveyors (*mu'allim*) but also educators (*murabbi*), spiritual guides (*mursyid*), and role models (*uswah hasanah*). While AI can assist in conveying technical information, it cannot replace the functions of role modeling, scholarly chains of transmission (*sanad*), character development, and moral mentoring that constitute the essence of Islamic Religious Education.⁵⁰

Furthermore, AI usage raises ethical and academic integrity issues.⁵¹ Generative AI's ability to produce texts and answers quickly can encourage students to use it irresponsibly, such as committing plagiarism or copying AI responses without critical analysis. This practice not only dulls critical thinking skills and creativity but also erodes the value of honesty (*sidq*), which is a fundamental value in Islam.⁵² Therefore, AI integration must be accompanied by strengthened digital ethics so that technology is positioned as an assistive instrument, not a tool for avoiding academic responsibility. Another equally important challenge is the AI literacy gap among PAI teachers.⁵³ Many educators still face obstacles in understanding AI's workings, benefits, and ethical limitations, leading to unfocused technology integration in classrooms. Enhancing teacher digital competence through ongoing training and mentoring is an urgent need so that educators can select, critique, and utilize AI effectively in alignment with Islamic pedagogical principles.

Overall, the greatest challenge of AI utilization in PAI centers on the potential weakening of value internalization and character formation processes.⁵⁴ Islamic Religious Education balances cognitive, affective, and spiritual dimensions. AI can process data and present information but cannot provide emotional touch, role

⁴⁷ Wael B. Hallaq, *A History of Islamic Legal Theories* (Cambridge University Press, 2019).

⁴⁸ Gary R. Bunt, *Hashtag Islam: How Cyber-Islamic Environments Are Reshaping Religious Discourse* (University of North Carolina Press, 2018).

⁴⁹ Ahmad Tafsir, *Ilmu Pendidikan Dalam Perspektif Islam* (Remaja Rosdakarya, 2020).

⁵⁰ Hery Noer Aly, *Ilmu Pendidikan Islam* (Logos, 2019).

⁵¹ Sarah Elaine Eaton, *Plagiarism in Higher Education: Tackling Academic Integrity* (Libraries Unlimited, 2021).

⁵² Majid Irsan Al-Kilani, *Ahdaf Al-Tarbiyah al-Islamiyyah* (Dar al-Qalam, 2018).

⁵³ Hamzah B. Uno, *Profesi Kependidikan: Problem, Solusi, Dan Reformasi Pendidikan Di Indonesia* (Bumi Aksara, 2021).

⁵⁴ Jalaluddin Rahmat, *Psikologi Agama: Sebuah Pengantar* (Miza, 2020).

modeling, compassion, and spiritual interaction between teachers and students. Therefore, AI implementation in PAI must be approached wisely by positioning teachers as the center of value and character development, while technology is positioned as a supporting means in realizing faithful, pious, and morally upright individuals (*insan kāmīl*).

Strategies for Artificial Intelligence Integration in Islamic Religious Education Learning

The utilization of Artificial Intelligence (AI) in Islamic Religious Education (PAI) learning requires appropriate strategies so that technology not only enhances learning effectiveness but also remains aligned with Islamic education objectives. AI integration should not be understood as a process of replacing the teacher's role with technology but rather as an effort to utilize technology to strengthen learning processes oriented toward character formation, faith, and piety in students. Therefore, AI implementation in Islamic Religious Education must be conducted in a planned manner while maintaining human-centered education as the core principle.⁵⁵

The first strategy is positioning AI as a learning partner, not a teacher replacement. AI has the ability to process large amounts of data, provide rapid feedback, and assist students in obtaining information according to their learning needs. However, AI lacks the emotional, spiritual, and moral dimensions that characterize Islamic Religious Education. Teachers retain the central role as *murabbi*, *mu'allim*, and *muaddib* who guide, educate, and instill Islamic values through role modeling. According to Hasan Langgung, Islamic education is not merely a knowledge transfer process but also a personality formation process grounded in divine values. Therefore, AI serves only as a supporting instrument, while teachers remain the primary actors in building educative relationships with students.⁵⁶

The second strategy is strengthening Islamic digital literacy for teachers and students. Digital literacy in the Islamic Religious Education context means not only the ability to operate technological devices but also the capacity to understand, evaluate, and utilize information critically based on Islamic teachings principles. Students need to be habituated to practicing *tabayyun* (verification) of information obtained from AI, especially when it relates to Qur'anic interpretation, hadith, fiqh rulings, and other religious matters. Teachers must also guide students to understand AI usage ethics, respect intellectual property rights, avoid plagiarism, and use technology as a means to improve learning quality, not as a shortcut for completing academic assignments. Strengthening Islamic digital literacy will form students capable of using technology intelligently and responsibly.⁵⁷

The next strategy is developing an Islamic Religious Education (PAI) curriculum that is adaptive to the dynamics of Artificial Intelligence (AI) development. The PAI

⁵⁵ Omar Mohammad Al-Toumy Al-Syaibany, *Falsafah Pendidikan Islam* (Bulan Bintang, 1979).

⁵⁶ Langgung, *Manusia Dan Pendidikan: Suatu Analisa Psikologi Dan Pendidikan*.

⁵⁷ Nata, *Perspektif Islam Tentang Strategi Pembelajaran*.

curriculum is no longer sufficient to only contain normative-doctrinal religious material; it needs to concretely integrate 21st-century competencies into the learning process. In the critical thinking aspect, students are trained to examine and verify (*tabayyun*) religious texts generated by AI algorithms by tracing them back to primary sources such as *tafsir* (exegesis) books, hadith, and scholarly authorities. In the creativity domain, learning is directed toward producing innovative digital da'wah works, such as designing *fiqh muamalah* infographics, moral message videography, or Islamic cultural history podcasts with the assistance of AI-based instruments. Furthermore, collaboration competencies are realized through teamwork in designing socio-religious projects, such as mapping digital ethical problems in the school environment and formulating solutions based on Islamic principles. Communication aspects are developed by training students to present and voice inclusive and moderate (*wasathiyah*) religious ideas in digital public spaces courteously and effectively.

Finally, technical understanding of AI's workings, ethical boundaries, and the dangers of hallucination or algorithmic bias is integrated into digital literacy so that students become intelligent and responsible technology users. The integration of these competencies does not alter the substance of Islamic teachings but rather updates learning methods and approaches to remain relevant to contemporary demands. In practical terms, teachers can implement project-based learning or problem-based learning models—for example, by raising contemporary *fiqh* legal case studies such as crypto transactions or AI ethics—where technology functions as a data exploration tool. Through this adaptive and concrete curriculum approach, students not only understand Islamic concepts theoretically but also possess academic and spiritual skills in responding to modern societal issues.⁵⁸

Beyond curriculum development, teacher competency enhancement is also a crucial strategy. PAI teachers are required to possess pedagogical, professional, social, and personality competencies supported by digital competence. AI mastery enables teachers to utilize technology for developing learning materials, creating interactive learning media, designing evaluation instruments, and analyzing student learning outcomes more effectively. However, technological mastery must be balanced with the ability to select and validate information generated by AI. Thus, teachers not only become technology users but also directors ensuring that all learning processes remain aligned with Islamic education objectives.⁵⁹

Another equally important strategy is implementing the human-centered Artificial Intelligence model in Islamic Religious Education learning. This model positions technology as a tool supporting human decision-making, not replacing human functions in education. In practice, AI is used to assist administrative processes, provide learning resources, offer adaptive exercises, and support learning evaluation. Conversely, character development, worship habituation, character cultivation, spirituality

⁵⁸ Muhaimin, *Rekonstruksi Pendidikan Islam: Dari Ontekstualisasi Hingga Integrasi*.

⁵⁹ Zakiah Daradjat, *Ilmu Pendidikan Islam* (Bumi Aksara, 2014).

strengthening, and personality formation remain the teacher's responsibility. This approach aligns with the essence of Islamic education, which views humans as beings with physical, intellectual, and spiritual dimensions that must be developed in balance. Therefore, the success of AI integration is measured not by how much technology is used but by the extent to which technology supports the achievement of Islamic education objectives.⁶⁰

Evaluating the success of Artificial Intelligence (AI) integration in Islamic Religious Education (PAI) requires a comprehensive, structured, and value-oriented approach. The success of this digital transformation cannot be assessed solely from technical aspects or software adoption but must measure the extent to which technology strengthens the achievement of religious and character goals in students. Therefore, an ideal evaluation model is built by integrating Stufflebeam's CIPP Evaluation Model (Context, Input, Process, Product) with the TPACK (Technological Pedagogical Content Knowledge) framework and Islamic Education Holistic Evaluation dimensions. This multidimensional approach ensures that assessment covers the entire chain of the educational process, from systemic readiness to spiritual impact on students.⁶¹

In the Context and Input domains, evaluation focuses on needs analysis, digital infrastructure readiness, AI ethics literacy of teachers and students, and availability of academic regulations in educational institutions. This dimension examines the extent to which educator capacity building (technological knowledge) is integrated in alignment with deep understanding of religious subject matter (content knowledge). Subsequently, in the Process domain, evaluation assesses the quality of educative interaction and implementation of classroom learning strategies (pedagogical knowledge). Success indicators at this stage include the implementation of tabayyun principles (critical verification) of AI outputs, effectiveness of interactive platform usage such as Quizlet or NotebookLM, and the preservation of reflective discussion spaces and emotional-spiritual mentoring by teachers. This process evaluation ensures that AI does not displace the educator's role as *murabbi* and *uswah hasanah*.

In the final stage, the Product domain measures the long-term outcomes and impacts of AI integration in PAI. Unlike general education evaluation focusing on cognitive domains and 21st-century skills (4C), product evaluation in PAI necessitates the addition of affective and spiritual indicators (*spiritual and moral outcomes*). The success of AI integration is measured by improved understanding of religious concepts, critical-ethical thinking ability in responding to digital issues, and internalization of *akhlakul karimah* (noble character) values in students' daily lives. Through this synthesis of CIPP and TPACK models grounded in Islamic values, educational institutions possess valid and objective evaluation instruments to ensure that AI utilization remains within the framework of forming *insan kāmīl* (perfect human beings).

⁶⁰ Azra, *Pendidikan Islam: Tradisi Dan Modernisasi Menuju Milenium Baru*.

⁶¹ Daniel L. Stufflebeam, *Systematic Evaluation: An Introduction and Guide* (Kluwer-Nijhoff Publishing, 2007).

Based on this description, the strategy for Artificial Intelligence (AI) integration in Islamic Religious Education (PAI) learning must be built upon the principle of balance between technological innovation and Islamic values. AI needs to be utilized as a learning partner that helps improve learning quality, expand access to knowledge sources, and enhance teacher work efficiency. However, the entire educational process must maintain teachers as role models (*uswah hasanah*), mentors, and instillers of moral values. To realize this ideal integration, the government through the Ministry of Education, Culture, Research, and Technology and the Ministry of Religious Affairs needs to take strategic steps by accelerating digital infrastructure equalization in 3T areas to bridge the digital divide, formulating ethical guidelines and AI utilization policy standards specifically for Islamic education, and integrating AI literacy into the PAI curriculum through continuous teacher digital competency enhancement programs.

Concurrently, educational institutions such as schools, madrasahs, and religious higher education institutions are required to formulate internal codes of ethics to prevent plagiarism, facilitate educator learning communities for sharing best practices, and provide verified digital Islamic knowledge repositories to avoid algorithmic bias or AI hallucination. Through this policy synergy, AI utilization will not shift the essence of Islamic Religious Education but rather become a powerful means to strengthen the achievement of educational goals: forming faithful, pious, knowledgeable, morally upright individuals (*insan kāmīl*) capable of wisely facing the dynamics of science and technology.

CONCLUSION

The utilization of Artificial Intelligence (AI) in Islamic Religious Education (PAI) offers significant opportunities in expanding access to learning resources, personalizing learning, and improving teacher administrative efficiency. However, its integration presents fundamental challenges such as the risk of religious material accuracy, algorithmic bias, potential shifting of teacher roles, and threats to academic ethics. Therefore, AI must be positioned as a learning partner that strengthens—rather than replaces—the educator's role. Practical implications include PAI teachers transforming into critical facilitators and moral cultivators, while policymakers must ensure equitable digital infrastructure distribution and the formulation of religious AI ethics guidelines. Concretely, educational institutions are recommended to implement digital academic codes of ethics and project-based learning models that develop 21st-century competencies. For future research, in-depth examination is recommended regarding the development of evaluation instruments for AI's impact on students' spiritual-affective dimensions, pilot testing of AI-based PAI models in 3T areas, and strategies for mitigating algorithmic bias toward moderate (*wasathiyah*) religious narratives. This wise integration ensures that AI can be optimized without eroding PAI's essence in forming *insan kāmīl*.

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