



Original Articles

Integration of AI Tools in Islamic Pedagogy: Opportunities and Challenges for Contemporary PAI Teachers

Shelly Arsita ¹, Mukhlizar Mukhlizar ¹, Dedy Novriadi, Syukri Amin ^{*1}, N. Baskautshar ²

¹ Department of Islamic Communication Broadcasting, Muhammadiyah University Bengkulu, Indonesia; ² Department of Management, Muhammadiyah University Bengkulu, Indonesia.

*Correspondence Author: Syukri Amin

Jalan Bali Kota Bengkulu.

✉ aminsyukri@umb.ac.id

This article contributes to:



Abstract. This study explores how Islamic Religious Education (*Pendidikan Agama Islam* / PAI) teachers integrate artificial intelligence (AI) tools into their pedagogy, and identifies the opportunities and challenges that arise. Using a descriptive qualitative design, data were collected through semi-structured online interviews with five PAI teachers at SMA Negeri 4 Bengkulu, Indonesia, all of whom had prior experience using AI-based applications in lesson planning or teaching. Thematic analysis revealed that AI is primarily used in “back-end” domains of instruction: generating lesson outlines, designing assessment items, and developing presentation media, with more limited and carefully supervised use in student-facing activities. Teachers reported clear benefits, including increased efficiency in preparing materials, more varied explanations and examples of Islamic concepts, and simple forms of differentiation for students with different levels of readiness. However, they also expressed strong concerns about the theological accuracy of AI-generated content, the risk of plagiarism and student over-reliance, unequal access to devices and internet, and the potential erosion of the teacher’s role as *murabbi* and moral model. Overall, the findings suggest that AI in Islamic pedagogy is best positioned as a supportive tool, filtered through Islamic sources and teacher judgment, to strengthen rather than weaken the core aims of PAI.

Keywords: Artificial Intelligence, Islamic Religious Education, PAI Teachers, Islamic Pedagogy, Indonesia.

1. Introduction

The rapid development of artificial intelligence (AI), particularly generative AI such as large language models and educational chatbots, has begun to reshape the global landscape of teaching and learning. Recent studies show that AI can support learning design, formative assessment, adaptive feedback, and personalized learning paths, while also automating routine instructional tasks traditionally carried out by teachers [1]. In higher and school education settings, AI is increasingly positioned not merely as a technological tool, but as a socio-technical actor that influences classroom interactions, assessment practices, and students’ approaches to knowledge and skills [2]. These developments inevitably raise fundamental questions for religious education, where the aims of instruction are not limited to cognitive achievement but also encompass spiritual formation, moral character, and the cultivation of critical but faithful engagement with religious tradition.

In Indonesia, the discourse on AI in education has moved beyond abstraction to concrete regulatory and pedagogical responses. The Ministry of Communication and Informatics issued ethical guidelines on AI use in 2023, emphasizing transparency, accountability, and the protection of personal data in digital ecosystems [3]. Complementing this, the Ministry of Education, Culture, Research, and Technology has provided guidance on the responsible use of generative AI in higher education, highlighting the need to maintain academic integrity, protect intellectual property, and position AI as a support—not a substitute—for human creativity and critical thinking [4]. More recently, the Indonesian government announced plans to introduce AI-related learning in primary and secondary schools starting from the 2025–2026 academic year, signalling that AI literacy and AI-supported pedagogy will soon become part of the formal

Article info

Revised:
2024-5-1

Accepted:
2024-10-13

Publish:
2024-12-12



This work is licensed under a Creative Commons Attribution 4.0 International License.

school ecosystem [5]. Within this broader policy context, Pendidikan Agama Islam (PAI) teachers are increasingly expected to navigate AI integration in ways that are pedagogically effective, ethically responsible, and aligned with Islamic values.

Islamic pedagogy has distinctive ontological and epistemological characteristics. It seeks not only the transmission of religious knowledge (*ta'lim*), but also the holistic cultivation of students' faith, character, and practice (*tarbiyah* and *ta'dib*). This involves harmonising reason (*'aql*), revelation (*naql*), and lived experience within the framework of *maqāṣid al-sharī'ah* (the higher objectives of Islamic law) and classical conceptions of adab in seeking and transmitting knowledge. In such a paradigm, the introduction of AI tools is not a neutral technical act; it carries implications for authority, interpretation, and the ethics of learning. Scholars of Islamic education have therefore begun to interrogate how AI may support, complement, or potentially disrupt traditional teacher–student relationships and the role of religious authorities in guiding understanding of the Qur'an, Hadith, and classical texts [6].

The emerging body of research on AI within Islamic education points to significant opportunities. Studies document the use of AI-based Qur'an applications for tajwīd assistance and memorization support, as well as the digitalization and recognition of Qur'anic manuscripts using AI for preservation and study [7]. Gamification approaches supported by AI have been proposed to increase student engagement and motivation in PAI learning, offering adaptive feedback and interactive religious learning environments [8]. In addition, deep-learning-based pedagogical models and DEEP-AI designs for strengthening Qur'anic comprehension illustrate how AI can facilitate multimodal exploration of sacred texts and scaffold deeper conceptual understanding when carefully framed by sound methodology [9]. Within Indonesian PAI classrooms, AI has been explored as a “virtual assistant” that helps teachers prepare learning materials, generate questions, design learning scenarios, and differentiate tasks based on student needs [10].

More specifically, research on AI chatbots in Islamic Religious Education indicates that dialogue-based systems can function as supplementary tutors for explaining basic concepts, drilling key terms, and providing immediate clarification of religious questions at various educational levels [11]. Zahratunnisa [12] report that many students perceive AI tools as helpful in overcoming time constraints, organizing assignments, and accessing learning resources in Islamic education contexts, suggesting that AI can play a role in supporting self-regulated learning in faith-based subjects. These findings resonate with broader AI-in-education literature, which emphasizes that AI can help personalise learning, automate routine feedback, and provide new forms of multimodal content, while also reconfiguring teachers' roles from primary information transmitters to learning designers and mentors [13]. For contemporary PAI teachers, such possibilities open the door to richer learning experiences, more efficient lesson preparation, and potentially greater inclusivity for students with diverse needs.

In PAI contexts, these general concerns intersect with specifically Islamic ethical and epistemological issues: the possibility of AI “hallucinating” false religious statements, misquoting or de-contextualizing Qur'anic verses and hadith, or presenting interpretations that lack grounding in recognised scholarly tradition [14]. Scholars of Islamic ethics have begun to outline adab for using generative AI in knowledge production, stressing the necessity of human scholarly oversight, transparency about AI involvement, and preservation of students' effort and sincerity in learning [15]. For practising PAI teachers, these opportunities and challenges are further shaped by the realities of Indonesian classrooms. Many teachers face unequal access to devices and connectivity, varying levels of digital literacy, and institutional expectations to implement

Kurikulum Merdeka, which encourages project-based, student-centred, and technology-rich learning. At the same time, PAI teachers are expected to model Islamic character, guard against plagiarism and academic dishonesty, and ensure that students' engagement with digital media strengthens rather than dilutes their spiritual and moral development [16]. Preliminary evidence suggests that some teachers are enthusiastic adopters of AI, using it for lesson planning and media development, while others remain cautious or resistive due to concerns about authenticity, "instant" religious answers, and the erosion of teacher authority [17]. This divergence indicates that AI integration in Islamic pedagogy is not merely a technical issue, but a matter of teacher beliefs, institutional culture, and broader theological discourse.

Despite the rapid growth of publications on AI and Islamic education, existing research remains fragmented. A considerable portion of the literature focuses on higher education or conceptual reflections on AI and Islamic thought, while empirical studies that specifically investigate classroom-level integration of AI tools by PAI teachers—particularly at the primary and secondary school levels—are still limited [18]. Moreover, many studies emphasise either optimistic narratives of innovation or broad lists of challenges, without providing nuanced, practice-oriented analysis of how PAI teachers can design AI-supported learning experiences that remain faithful to Islamic pedagogical principles and contemporary curriculum demands. In this context, there is a need for scholarship that systematically maps both the opportunities and challenges experienced by PAI teachers as they begin to incorporate AI tools—such as generative chatbots, automated quiz generators, Qur'an learning apps, and learning analytics dashboards—into their pedagogical practice.

Therefore, this article seeks to analyse the integration of AI tools in Islamic pedagogy from the perspective of contemporary PAI teachers. Specifically, it aims to (a) identify key domains in which AI tools are currently or potentially used to support PAI instruction, (b) examine the perceived pedagogical benefits and risks associated with such tools, and (c) articulate an initial framework of opportunities and challenges that can guide PAI teachers in making informed, ethical, and contextually grounded decisions about AI use.

2. Method

This study employed a simple descriptive qualitative design to provide a clear, straightforward account of how Islamic Religious Education (*Pendidikan Agama Islam* or PAI) teachers integrate artificial intelligence (AI) tools into their everyday teaching, as well as the opportunities and challenges they perceive. A descriptive qualitative approach was chosen because it is relatively easy to implement, does not require complex statistical procedures, and is well suited to presenting participants' experiences in their own words with minimal abstraction [18]. The aim was not to test specific hypotheses but to construct a structured description of AI integration within Islamic pedagogy in the context of Indonesian secondary schooling.

The study was conducted at SMA Negeri 4 Bengkulu, a public senior high school in Bengkulu, Indonesia. Five PAI teachers from this school were selected as participants using purposive sampling. The inclusion criteria were that they (a) were actively teaching PAI within the current curriculum and (b) had used at least one AI-based tool—such as ChatGPT or similar large language models, AI-based quiz generators, Qur'anic applications with AI features, or AI-powered presentation tools—during the planning, implementation, or evaluation of PAI lessons. A sample of five teachers was considered adequate for a descriptive qualitative study whose goal is to capture common patterns

and variations in experience rather than to produce statistically generalizable findings. Basic demographic information, including gender, age, teaching experience, and types of AI tools used, was collected to provide contextual background for interpreting the qualitative data.

Data were gathered using two main instruments: a brief background questionnaire and a semi-structured interview guide. The questionnaire, created in Google Forms, consisted of multiple-choice and short-answer items and was designed to be completed in approximately 5–10 minutes. It focused on demographic characteristics and basic information about AI usage. The semi-structured interview guide contained open-ended questions organised around three focal areas: (a) domains of AI use in PAI instruction (for example, lesson planning, media development, assessment, or direct interaction with students), (b) perceived opportunities and benefits of AI tools, and (c) perceived challenges and risks. Probing questions were prepared to encourage participants to provide concrete examples, such as specific classroom situations, sample prompts they had used, or AI-generated outputs that had been incorporated into learning activities. All data collection procedures were conducted online to reduce cost and make participation easier. Teachers who agreed to take part were contacted through existing school and PAI teacher networks (including WhatsApp groups) and were first asked to complete an online informed consent form and the background questionnaire. Individual interviews were then conducted via WhatsApp voice calls, Zoom, or Google Meet, depending on each teacher's preference and internet access. Each interview lasted approximately 30–45 minutes and, with the participants' permission, was audio-recorded for accuracy.

Audio recordings were transcribed verbatim in Indonesian. The researcher checked each transcript while listening to the recordings to correct errors and ensure completeness. To protect confidentiality, all identifiable information—such as the names of teachers, students, and specific classes—was removed or replaced with pseudonyms. Each participant was assigned a code (P1, P2), and these codes were used throughout the analysis and reporting. The anonymised transcripts formed the primary data set for analysis.

Data were analysed using thematic analysis following the basic steps outlined by Sugiyono [19], a method chosen for its flexibility and relative simplicity. First, the researcher familiarised themselves with the data by reading each transcript multiple times to gain an overall sense of how participants described their use of AI tools. Second, initial codes were generated by highlighting meaningful segments of text related to AI use, perceived benefits, and perceived challenges and assigning short labels such as “time-saving lesson planning,” “increased student motivation,” “concerns about authenticity,” or “fear of misinterpretation of Qur’anic verses.” Coding was conducted manually using word-processing or spreadsheet software so that the procedure would be easy to replicate. Third, codes were collated into potential themes by grouping similar codes together. For example, codes such as “faster preparation of learning media,” “easy quiz generation,” and “help in structuring lessons” were grouped under a broader theme of “efficiency in instructional preparation.” Fourth, the emerging themes were reviewed against the coded extracts and the full data set to ensure that they accurately represented participants' accounts and were supported by sufficient evidence. Fifth, each theme was clearly defined and named, with attention to delineating its boundaries—for instance, distinguishing “pedagogical opportunities” from “technical conveniences,” and “ethical concerns” from “institutional constraints.” Finally, the themes were organized to answer the research questions concerning (a) domains of AI use in PAI pedagogy, (b) perceived opportunities, and (c) perceived challenges, and

representative quotations from the teachers were selected to illustrate each theme in the results section.

To enhance the trustworthiness of the findings, several basic strategies were employed. Credibility was supported through member checking: concise summaries of the preliminary themes were shared with a subset of participants via WhatsApp, and they were invited to comment on whether these summaries reflected their experiences. Dependability was strengthened by keeping brief analytic notes in a reflexive journal during coding and theme development to document key decisions and reflections. Confirmability was supported by retaining anonymized transcripts and coding tables so that another researcher could, in principle, trace the analytic process. Ethical principles for educational research were followed throughout the study. Participation was voluntary, and teachers were informed that they could withdraw at any time without penalty. Informed consent was obtained prior to data collection, and all digital data were stored in password-protected folders. Because the study focused on teachers' reflections and did not involve direct data collection from students, the risk to participants was minimal and consistent with standard expectations for research in school settings.

3. Result and Discussion

3.1 Domains of AI Use in PAI Pedagogy

All five teachers reported that they had begun to integrate AI tools at several points in the teaching–learning process, although the depth and frequency of use varied. The most common area of integration was lesson planning and material preparation. Four teachers (P1, P2, P3, P5) described using AI—primarily large language models such as ChatGPT or similar applications—to generate lesson outlines, examples, and explanations aligned with the PAI curriculum. One teacher stated:

“Before, I spent a lot of time looking for examples and case studies for akhlak lessons. Now I can ask the AI to suggest scenarios, then I adjust them so they fit Islamic values and my students’ context.” (P2)

Three teachers (P1, P3, P4) also used AI to support assessment design, especially for drafting multiple-choice and short-answer questions. They reported using AI as a “first draft generator” and then revising items manually to ensure theological accuracy and appropriate difficulty levels. P1 noted that AI was particularly helpful when they needed many items in a short time, for example before a formative quiz. In terms of learning media development, four teachers (P1, P2, P4, P5) used AI-powered tools to help design presentation slides, visual illustrations, or simple infographics for topics such as *rukun iman*, *rukun Islam*, Islamic history, and contemporary issues in Islamic ethics. Some used AI image generators or design assistants integrated into presentation platforms to produce more engaging visual material.

Direct interaction with students via AI was less common. Only two teachers (P3, P5) had explicitly encouraged students to try AI-based tools—for example, using AI to brainstorm questions about a hadith, or to summarise a long article on Islamic civilization. Even in these cases, the teachers emphasised that AI was presented as a supplementary tool, not a primary source of religious knowledge.

3.2 Perceived Pedagogical Opportunities

Across the interviews, the teachers identified several recurring benefits of AI integration. The most frequently mentioned theme was efficiency in instructional preparation. All five teachers felt that AI significantly reduced the time needed to prepare

materials and assessments. They described AI as a “teaching assistant” that helped them move faster from ideas to concrete lesson plans:

“If I have a topic like shalah jama’ dan qashar, I can ask the AI to draft an outline, then I check the content with my own references. It saves time, but I still control the substance.” (P1)

A second opportunity concerned diversifying learning resources and explanations. Four teachers (P1, P2, P3, P5) found AI useful for generating alternative explanations, analogies, or real-life examples when students had difficulty understanding a concept. For instance, P3 explained that when several students struggled with the concept of *ikhlas* (sincerity), they used AI to help generate different stories and analogies, then selected and adapted the ones that were most pedagogically and doctrinally appropriate.

Third, three teachers (P2, P4, P5) highlighted increased student engagement and curiosity when AI-generated media or tasks were used. Students were reportedly more interested when they were asked to “critically evaluate” or “correct” AI-generated content regarding Islamic topics. P4 described an activity where students compared AI-generated definitions of *ghibah* (backbiting) with definitions from classical fiqh texts, and then discussed the differences. This format encouraged critical thinking while reinforcing reliance on authoritative sources.

A fourth opportunity, mentioned by three teachers (P1, P3, P5), was support for differentiation and personalised learning. Teachers observed that AI could help them design tasks at varying levels of difficulty, or provide additional practice items for students who needed more support. P5 shared that for students who were shy in class, AI-generated question sets used in homework allowed them to practice independently at their own pace. Finally, two teachers (P2, P4) perceived AI as a potential tool for professional development and reflection. They used AI to obtain suggestions for classroom activities, to rephrase instructions in clearer language, or to explore new ways of integrating Islamic values into project-based learning. One teacher noted:

“Sometimes I ask the AI, ‘How can I teach this topic with more student-centered methods?’ The ideas are not always perfect, but they inspire me to think more creatively.” (P4)

3.3 Perceived Challenges and Risks

Alongside these opportunities, the teachers expressed strong and consistent concerns. The most prominent theme was theological accuracy and reliability of AI-generated content. All five participants stressed that AI could not be trusted as an authoritative source for Qur’anic interpretation or hadith explanation. They had encountered cases where AI misquoted verses, gave incomplete references, or presented interpretations that were not in line with mainstream Sunni scholarship.

“Sometimes the AI gives a verse but the surah and ayah numbers are not exact, or the explanation seems too general. I tell my students: AI is not a ustadz. Your primary reference is the Qur’an, hadith, and the ulama.” (P3)

A related concern was the risk of students becoming overly dependent on AI for tasks that should build their own effort and sincerity (*mujahadah* and *ikhtiar*). Four teachers (P1, P2, P4, P5) worried that students might use AI to complete assignments, reflections, or essays without genuine engagement. They linked this directly to issues of academic integrity and the cultivation of *amanah* (trustworthiness). P2 reported having to remind students repeatedly that copying AI-generated text without understanding or proper citation was a form of dishonesty. Another major theme was limited digital literacy

and uneven access to devices and connectivity. Three teachers (P1, P4, P5) pointed out that not all students owned smartphones or had stable internet connections at home, which restricted the extent to which AI-based activities could be assigned as homework. Moreover, two teachers (P1, P3) acknowledged their own learning curve in understanding how to use AI safely and effectively. They expressed the need for structured training and clear school-level guidelines.

Teachers also raised concerns about ethical and pedagogical boundaries in AI use. Three participants (P2, P3, P4) stressed that AI should remain a tool under human control, not a replacement for the teacher's role as *murabbi* (educator and character builder). They feared that if AI was used uncritically, it could reduce opportunities for direct dialogue, emotional connection, and spiritual mentoring in PAI lessons. P4 phrased it as follows:

“The heart-to-heart element in PAI is very important. AI can help with text, images, questions—but it cannot replace our keteladanan (role modelling) and the warm atmosphere we try to build in class.” (P4)

Finally, two teachers (P3, P5) mentioned institutional and policy-related uncertainties. At the time of data collection, the school had not yet established specific policies on AI in teaching and learning. As a result, teachers were unsure about how far they were allowed to experiment with AI, what kinds of AI-assisted student work would be accepted, and how to document AI use in lesson plans and assessments. This lack of clarity sometimes led them to adopt a cautious, “trial-and-error” approach.

3.4 Discussion

The findings from SMA Negeri 4 Bengkulu show that PAI teachers are in an early yet active phase of integrating AI, using it mainly for lesson planning, assessment design, and media development, with more cautious experimentation in student-facing activities. Overall, teachers perceive clear pedagogical benefits—especially in efficiency, resource diversification, and support for differentiation—alongside serious concerns about theological accuracy, character formation, and equity of access. These patterns resonate strongly with, but also extend, emerging scholarship on AI in Islamic Religious Education (IRE/PAI).

First, the dominant use of AI for back-end instructional tasks aligns with several recent studies. Ritonga [15] found that Islamic education practitioners widely use AI to streamline lesson preparation, generate assessment items, and organize learning resources, while still positioning teachers as the main decision-makers in content selection. The Bengkulu teachers' use of AI for diversifying explanations and examples also echoes the broader literature on AI-supported personalization in Islamic education. Sicha et al. [18] argues that AI applications can present Islamic concepts through multiple modes and analogies adapted to students' local and cultural contexts, thereby increasing accessibility and engagement. In our study, teachers reported using AI to generate alternative stories or analogies for complex concepts such as *ikhlas* or *ghibah*, then curating and editing them to fit their theological stance and student profile. This selective appropriation suggests that PAI teachers are not simply “consumers” of AI content, but actively exercise pedagogical and theological judgement—an important nuance that some more techno-optimistic accounts risk underplaying.

Our findings on student engagement are broadly consistent with previous studies showing that AI, when carefully framed, can increase curiosity and participation in IRE. Nasikhin [13] observed that students appreciated AI's speed and interactivity, particularly in organizing tasks and accessing explanations of religious concepts. Likewise, Digital

Transformation of Islamic Education studies suggest that AI-based modules and intelligent tutoring systems can make learning more interactive and appealing. However, the present study adds a distinctive twist: teachers at SMA Negeri 4 Bengkulu deliberately used AI as an object of critique—for example, asking students to evaluate AI-generated definitions against classical fiqh texts. This design positions AI not as a neutral “answer machine” but as a stimulus for critical comparison and as a tool to teach epistemic humility, thereby contributing to what UNESCO and others describe as “critical AI literacy” in education.

The theme of AI-supported differentiation and personalized practice also aligns with existing scholarship. Hakim and Anggraini [11] highlights that adaptive AI systems and chatbots can tailor learning pathways and provide varied difficulty levels, thereby offering new opportunities for individualized religious learning. Sicha et al. [18] similarly notes that AI-enhanced PAI can support more effective delivery of material and create room for targeted practice for learners with different needs. In our study, teachers used AI to create extra practice items and graded tasks, especially for shy students or those needing additional reinforcement outside class time. At the same time, they maintained that such differentiation remains subordinate to the teacher’s personal knowledge of the students, reinforcing Rahmawati’s (2025) recommendation that AI-based evaluation and practice must remain under ethical human supervision.

When we turn to teacher perceptions and professional identity, the Bengkulu findings broadly corroborate earlier research on PAI teachers’ ambivalence toward AI. Nafi’a (2023), in a qualitative study of madrasah teachers in East Java, found a mix of enthusiasm and anxiety: teachers acknowledged AI’s potential to support administration and content creation, but expressed fear about dependence, job displacement, and the erosion of teachers’ moral authority. Nasikin (2024) likewise emphasises that strengthening PAI teacher competence in the Society 5.0 era requires both technological skills and reinforcement of pedagogical and spiritual roles, highlighting that digital competence alone is insufficient. Our participants’ insistence that AI “cannot be a *ustadz*” and their emphasis on the irreplaceability of *keteladanan* (role modelling) and heart-to-heart interaction reflect these concerns and empirically confirm the continuing centrality of the teacher as *murabbi* in Islamic pedagogy.

The challenges and risks articulated by teachers in this study echo, but also sharpen, those documented in prior work. Concerns over theological accuracy—misquoted verses, imprecise references, or doctrinally problematic explanations—directly mirror Hakim and Anggraini [11] warning that AI must not be treated as a primary religious authority and should be tightly integrated with Islamic ethical frameworks and scholarly oversight. Elihami et al. [14] likewise argues that AI in Islamic education must be governed by *adab* (proper conduct) in knowledge production, emphasizing transparency about AI use and the necessity of human scholars as final arbiters. The Bengkulu teachers’ practice of systematically checking AI outputs against classical sources and discouraging students from treating AI responses as definitive evidences that these theoretical concerns are already being operationalized at the classroom level.

Our findings on over-reliance, plagiarism, and character formation also converge with broader ethical discussions. UNESCO’s guidance for generative AI in education explicitly warns that AI can undermine students’ effort, critical thinking, and integrity if they simply copy AI-generated outputs. In Islamic education, these issues are particularly acute because tasks often aim to nurture sincerity (*ikhlas*), honesty (*amanah*), and perseverance (*mujahadah*). Mawardi and Sukandar [20] both highlight risks of academic dishonesty and superficial understanding when students lean heavily on AI. The Bengkulu

teachers' repeated reminders that "AI is not a shortcut to piety" and their efforts to design tasks that require personal reflection, not just reproduction, underscore the need to articulate explicit Islamic ethical guidelines for student use of AI, not only for teachers and institutions.

4. Conclusion

This study examined how PAI teachers at SMA Negeri 4 Bengkulu integrate AI tools into their teaching, the opportunities they experience, and the challenges they face. The results show that AI is mainly used for lesson planning, material preparation, assessment design, and media development, while direct student use is still limited and carefully controlled. Teachers treat AI as a helper that speeds up their work, provides varied examples and explanations, and supports simple differentiation, without replacing their role as the main source of religious and pedagogical authority. At the same time, teachers are strongly aware of the risks: inaccurate or incomplete religious content, student dependence and dishonesty, unequal access to devices, and fear that AI could reduce the relational and spiritual dimensions of PAI. These findings suggest that AI in Islamic pedagogy should be positioned as a supportive tool, filtered through Islamic sources and teacher judgment, and used in ways that strengthen—not weaken—faith, character, and critical thinking. Clear guidelines and simple training are needed so that PAI teachers can use AI confidently, ethically, and in line with the core aims of Islamic education.

5. Acknowledgements

The author would like to thank the entire service team of the Muhammadiyah University Bengkulu who have helped in completing the service activities and provided full support in completing this service activity.

6. Declaration

Author contributions and responsibilities - The authors made substantial contributions to the conception and design of the study. The authors were responsible for the data analysis, interpretation, and discussion of the results. The authors read and approved the final manuscript.

Funding - This study received no external funding. Availability of data and materials - All data are available from the authors.

Conflict of interest - The authors declare no conflicts of interest.

Did you use generative AI to write this manuscript? - I did not use AI assistance in my manuscript.

Generative AI and AI-assisted technology statement in the writing process - During the preparation of this work, the authors did not use AI for writing, editing, or anything else related to the manuscript.

7. How to Quote

S. Arsita et al., Integration of AI Tools in Islamic Pedagogy: Opportunities and Challenges for Contemporary PAI Teachers. *Memoirs C* 2025; 1 (1): oa49 - <https://doi.org/10.59535/w52djz43>.

8. References

- [1] R. Belwal, S. Belwal, and O. Al Jabri, 'Training needs assessment of fishermen on Oman's Batinah coast: using exploratory factor analysis', *Journal of Vocational Education & Training*, vol. 67, no. 3, pp. 310–331, July 2015, doi: 10.1080/13636820.2015.1022581.
- [2] R. Setiawan *et al.*, 'Implementation Of The Hero Waste Application To Increase Environmental Awareness Of Mi At-Taufiq Students In The Merdeka Curriculum', *EduStream: Jurnal Pendidikan Dasar*, vol. 8, no. 1, pp. 44–50, May 2024, doi: 10.26740/eds.v8n1.p44-50.

- [3] W. Chen, Q. Wang, and H. Zhou, 'Digital Rural Construction and Farmers' Income Growth: Theoretical Mechanism and Micro Experience Based on Data from China', *Sustainability*, vol. 14, no. 18, Art. no. 18, Jan. 2022, doi: 10.3390/su141811679.
- [4] S. Sumitro, A. Firmansyah, R. A. Aryati, and M. Noviana, 'Analysis of Social Networks in Modern Society: Case Study on the Use of Social Media Instagram by Sociology Students', *Journal of Social and Humanities*, vol. 2, no. 2, Art. no. 2, Sept. 2024, doi: 10.59535/jsh.v2i2.412.
- [5] S. R. Sari, I. A. P. Suprpti, and P. J. Morgan, 'The Influence of Financial Attitudes, Financial Literacy, and Income Level on Informal Sector Financial Management Behavior among Basic Food Traders in Praya City, Lombok Tengah', *Economy and Finance Enthusiastic*, vol. 2, no. 1, Art. no. 1, Mar. 2024, doi: 10.59535/efe.v2i1.250.
- [6] S. Subur, I. Nugroho, and M. N. Qasim, 'Konsep SRA (Sekolah Ramah Anak) Dalam Membentuk Budaya Islami di Sekolah Dasar', *1*, vol. 10, no. 2, pp. 128–136, Dec. 2019, doi: 10.31603/tarbiyatuna.v10i2.3120.
- [7] A. S. Dewi and B. J. Sujibto, 'Laughing at religious radicalism: How memes promote interfaith, multiculturalism and nationalism', *Simulacra*, vol. 7, no. 2, pp. 209–224, Nov. 2024, doi: 10.21107/sml.v7i2.27240.
- [8] D. A. Booth, 'Learned Ingestive Motivation and the Pleasures of the Palate', in *Hedonics of Taste*, Psychology Press, 1991.
- [9] L. I. Nun, A. Mohtarom, A. Marzuki, and U. S. Lawal, 'The Integration of Artificial Intelligence as a Teacher's Partner in Islamic Religious Education Learning', *Journal of Islamic Education Research*, vol. 6, no. 2, pp. 145–162, Apr. 2025, doi: 10.35719/jier.v6i2.473.
- [10] M. D. A. Syukri, Sapiudin, and A. Rosyad, 'Integrating Modern Technology in Islamic Religious Education: Challenges and Opportunities for Teachers', *The Journal of Academic Science*, vol. 2, no. 4, pp. 1148–1156, Apr. 2025, doi: 10.59613/a05ebs36.
- [11] A. Hakim and P. Anggraini, 'Artificial Intelligence in Teaching Islamic Studies: Challenges and Opportunities', *Molang: Journal Islamic Education*, vol. 1, no. 2, pp. 19–30, July 2023, doi: 10.32806/jm.v1i2.619.
- [12] A. Zahratunnisa, 'Islamic Education in The Future: Strategies for Facing Challenges and Opportunities', *Proceeding of International Conference on Islamic and Interdisciplinary Studies*, vol. 4, pp. 389–393, Oct. 2025, Accessed: Nov. 19, 2025. [Online]. Available: <https://jurnal.iainpalu.ac.id/index.php/iciis/article/view/4471>
- [13] N. Nasikhin, F. Syukur, M. Junaedi, M. Ridwan, and Z. Hasan, 'Artificial Intelligence in Islamic Education: Student Strategies and Challenges in Pedagogical Development', *Eduprof: Islamic Education Journal*, vol. 7, no. 2, pp. 466–487, Oct. 2025, doi: 10.47453/eduprof.v7i2.356.
- [14] E. Elihami, M. I. Mas'ud, and A. Darmawan, 'Exploring the Landscape: Challenges and Opportunities in Islamic Education Technology', *Jurnal Pendidikan Progresif*, vol. 14, no. 2, pp. 1071–1092, Aug. 2024, Accessed: Nov. 19, 2025. [Online]. Available: <https://jpp.fkip.unila.ac.id/index.php/jpp/article/view/155>
- [15] S. Ritonga, 'Transforming Islamic Education in the Digital Age: Methodological Analyses, Challenges and Opportunities Based on Current Research', *Anshara Internasional Journal of Education and Science (AIJoES)*, vol. 2, no. 1, pp. 19–23, June 2025, Accessed: Nov. 19, 2025. [Online]. Available: <https://journal.anshara.id/index.php/aijoes/article/view/68>
- [16] D. Ubaedullah, Rokimin, and F. Suryono, 'Technology in Islamic Education Curriculum: Challenges and Opportunities', *Jurnal Al Burhan*, vol. 5, no. 2, pp. 369–391, Oct. 2025, doi: 10.58988/jab.v5i2.609.
- [17] A. Amilusholihah and N. J. H. Ramadhan, 'Exploring The Implementation of Artificial Intelligence in Islamic Education: A Systematic Literature Review', *Ngaji: Jurnal Pendidikan Islam*, vol. 5, no. 1, pp. 3–17, June 2025, doi: 10.24260/ngaji.v5i1.95.
- [18] A. Sicha, D. W. Rohmana, and M. W. Hidayat, 'Digital Pedagogical Transformation in Islamic Education: Deep Learning Integration, Challenges and Solutions', *Proceeding International Conference on Education*, pp. 85–94, Oct. 2025, Accessed: Nov. 19, 2025. [Online]. Available: <https://jurnalfaktarbiyah.iainkediri.ac.id/index.php/proceedings/article/view/6708>
- [19] D. Sugiyono, 'Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D', 2013, Accessed: Mar. 31, 2025. [Online]. Available: https://digilib.unigres.ac.id/index.php?p=show_detail&id=43
- [20] I. A. Mawardi and A. Sukandar, 'Islamic Education in the Digital Era: Pedagogical Competence, Technology Acceptance, and Managerial Supervision', *Journal of Science and Education (JSE)*, vol. 6, no. 1.1, pp. 1–11, Sept. 2025, doi: 10.58905/jse.v6i1.1.642.

Publisher's Note – Future Tecno-Science Publisher stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.