

Integration of Artificial Intelligence in *Kurikulum Berbasis Cinta*: Challenges and Ethics in Islamic Science Education

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Abstract

The integration of artificial intelligence (AI) in education has significantly transformed learning processes, including in Islamic education, where maintaining moral and spiritual values is essential. This study aims to explore the potential, challenges, and ethical implications of integrating AI into a *Kurikulum Cinta* that emphasizes compassion and empathy in Islamic science education. The research employs a qualitative approach through a systematic literature review, collecting data from relevant journals, books, and research reports. Data were analyzed using content analysis techniques to identify key themes related to AI integration, digital literacy challenges, and ethical considerations. The findings reveal that AI enhances learning effectiveness through personalized instruction, increased student engagement, and improved accessibility. However, significant challenges persist, particularly in teachers' digital literacy, technical readiness, and concerns regarding data privacy and ethical use. The study also highlights that a *Kurikulum Cinta* can bridge the gap between technological advancement and spiritual values by integrating empathy and moral teachings into AI-supported learning environments. Ethical principles such as responsibility (*amanah*) and proper conduct (*adab*) must guide AI implementation. In conclusion, AI integration in Islamic education is promising but requires strategic planning, ethical guidelines, and continuous capacity building to ensure alignment with humanistic and spiritual objectives.

INTRODUCTION

Artificial intelligence (AI) in education, particularly in the context of Islamic studies, is increasingly critical amid rapid technological advancements (Dwivedi, 2021). Transformations in teaching have significantly altered how learners engage with and interact with instructional materials (Valverde-Berrocoso et al., 2022). The integration of AI not only enhances efficiency in the learning process but also influences the way religious teachings are conveyed and comprehended. As stated in the Qur'an:

"وَمَا أَرْسَلْنَاكَ إِلَّا رَحْمَةً لِّلْعَالَمِينَ"

"And We did not send you, [O Muhammad], except as a mercy to the worlds." (Surah Al-Anbiya 21:107)

The importance of conveying values with compassion and empathy aligns with the principle of *Rahmatan lil 'Alamin* in Islamic teachings. This is affirmed in the Qur'an, Surah Al-Anbiya, verse 107, which emphasizes that the prophetic mission is to bring mercy to the universe. Consequently, a *Kurikulum Berbasis Cinta* serves as an essential emotional bridge,

ensuring that technology does not alienate students from the core of spirituality (Williamson, 2020;Kose, 2023; Selwyn, 2019).

The urgency of this research lies in the potential of artificial intelligence (AI) to personalize learning experiences according to the unique needs of each student. AI can accelerate the learning process by providing tailored materials, thereby maintaining educational quality. This aligns with the hadith's emphasis on professionalism (*itqan*) and excellence in every endeavor.

Evidence indicates that AI can enhance educational effectiveness by increasing accessibility for diverse learners. Other studies have shown that AI fosters higher student engagement and motivation during the teaching-learning process. Through personalized learning, students can acquire knowledge more effectively while remaining connected to the religious values underpinning their character development. However, implementing AI faces significant challenges, particularly regarding teachers' digital literacy, which remains insufficient. Findings reveal that both teachers and students often lack the technological skills needed to maximize these digital tools. This issue is further compounded by concerns over data privacy, a critical consideration in deploying AI-based platforms in schools.

Previous studies indicate that many teachers experience technical difficulties in effectively utilizing digital technologies and AI-powered tools to support teaching and learning. These challenges are often associated with limited digital competencies, insufficient professional training, and inadequate technological resources. As a result, many educators remain hesitant to adopt AI in their instructional practices despite recognizing its potential benefits. Therefore, continuous technical support and specialized training programs are essential to strengthen teachers' digital competencies and facilitate the effective integration of AI in Islamic educational contexts (Pujeda, 2023).

Previous research Valverde-Berrocoso et al. (2022) has highlighted how digital transformation reshapes interactions with teaching materials. (Sharma & Sharma, 2021) stress the importance of aligning technological practices with ethical considerations to prevent harm. (Dron, 2018) provide a theoretical foundation on AI's impact on virtual learning environments, which are increasingly adopted. García-Martínez et al (2023) demonstrates a positive relationship between technology and student learning outcomes, Zawacki-Richter et al. (2019) examine the application of artificial intelligence in higher education and highlight its potential to support teaching, learning, and educational decision-making. Nevertheless, literature remains limited regarding AI's specific application within a love-based, religious curriculum.

A clear research gap exists: Kosasih et al. (2024) discuss the ethical implications of artificial intelligence from an Islamic perspective, yet they do not specifically examine how Islamic educational values may be preserved through the implementation of a Kurikulum Berbasis Cinta in AI-supported learning environments, and discuss ethical challenges without sufficiently linking them to students' spiritual experiences. Therefore, it is crucial to examine how AI can be integrated without undermining moral values. This study's novelty lies in combining AI with a *Kurikulum Berbasis Cinta* emphasizing dialogue and empathy. This approach transforms teaching from an instructive to a transformative model, positioning the teacher as a servant of humanity (Chen et al., 2020). It bridges science and compassion, harmonizing with national education goals and Islamic values (Eva Sunarya & Komarudin Sassi, 2025)

Ethical considerations are paramount, as unsupervised technology risks eroding moral values. Educational institutions must engage scholars and experts to develop ethical guidelines for responsible AI use. Without strict policies, technological integration could compromise character development in Islamic education. This paper aims to explore the potential, challenges, and ethical implications of AI in a *Kurikulum Berbasis Cinta*. It investigates how technology can optimize learning while preserving sacred religious values. By addressing the

literature gap, this study offers new perspectives for Islamic Religious Education in the digital era. Through a holistic analysis, it provides strategic recommendations for ethically implementing AI, contributing to a more relevant, humanitarian, and morally guided learning model. Ultimately, integrating technology with compassion is expected to cultivate a generation that is both intellectually capable and ethically upright.

METHOD

This study employed a qualitative approach through a systematic literature review to examine the integration of artificial intelligence (AI) into a Kurikulum Berbasis Cinta within the context of Islamic education (Tuckett, 2020). This approach enables a contextual and holistic exploration of the phenomenon, providing a deeper understanding of how AI technologies can be implemented without compromising the moral and spiritual values embedded in Islamic teachings. The study focuses on identifying the potential benefits, opportunities, and challenges associated with AI implementation in religious education, particularly in fostering a balance between technological innovation and value-based learning.

Data were collected through a systematic review. The researcher surveyed a broad range of sources, including journals, books, conference proceedings, and research reports relevant to the topic. Data retrieval was conducted using keywords such as “artificial intelligence,” “Islamic learning,” “ethnology,” and “*Kurikulum Berbasis Cinta*” (Sharma & Sharma, 2021). Each source was evaluated based on relevance, credibility, and methodological quality following established systematic literature review procedures (Xiao & Watson, 2019).

Data analysis employed content analysis techniques, including data reduction, data presentation, conclusion drawing, and verification. The findings were organized into key themes related to AI integration in learning, digital challenges, and ethical considerations.

To ensure data accuracy and credibility, information was cross-verified from multiple sources, validated by external authorities, and discussed with colleagues (Yin, 2018; (Korstjens & Moser, 2018)). This methodological rigor strengthens the study’s reliability and accountability. Through this systematic framework, the research is expected to offer both theoretical contributions and practical implications, supporting the development of a more innovative, ethical, and spiritually aligned model of religious education in the modern era.

RESULTS AND DISCUSSION

Conceptualization of *Kurikulum Berbasis Cinta* in the Perspective of Islamic Education

The *Kurikulum Berbasis Cinta* is not merely a rhetorical expression but a practical embodiment of the value of *Rahmatan lil 'Alamin*, which lies at the heart of Islamic teachings. Operationally, this curriculum is defined as an educational model that prioritizes compassion (*rahmah*) and empathy as the foundational principles guiding every educational interaction (Eva Sunarya & Komarudin Sassi, 2025). The theological basis for this concept is grounded in the words of Allah SWT in Surah Al-Anbiya, verse 107:

وَمَا أَرْسَلْنَاكَ إِلَّا رَحْمَةً لِّلْعَالَمِينَ

"And We did not send you (Muhammad) but to be a blessing to the whole world."

This verse underscores that the primary mission of Islamic education is to promote benefit and compassion. In practice, the curriculum integrates "heart pedagogy" with humanistic educational theory, where the teacher functions not only as a cognitive instructor but also as a humanitarian guide who ensures that every student feels spiritually recognized and supported (Botha & Nel, 2022). This transformation is particularly critical in the digital age, ensuring that, despite the pervasive presence of technology, the warmth of the teacher-student relationship is preserved.

Synergy of AI Algorithms with Affective Dimensions

A key finding of this study is that artificial intelligence, often perceived as a "cold" and purely computational technology, can be effectively harmonized with elements of care and empathy through personalized learning. AI enables teachers to precisely understand each student's unique needs, a task that is challenging to perform manually in large classrooms (Sharma & Sharma, 2021). By delegating cognitive data analysis to algorithms, teachers can devote more time and attention to students requiring emotional support or individualized mentoring.

The following table illustrates the distinct roles of AI and humanistic elements within a *Kurikulum Berbasis Cinta*:

Table 1. the difference between the role between AI and the humanist aspects in the *Kurikulum Berbasis Cinta*

Dimensions	The Role of Artificial Intelligence (AI)	The Role of <i>Kurikulum Berbasis Cinta</i> (Humanist)
Method	Data processing and adaptive learning	Dialogical approach, empathy, and example
Focus	Cognitive efficiency and learning speed	Formation of character, morals, and spirituality
Purpose	Personalization of teaching materials technically	Transformation of students' mindset and mind
Output	Completeness of the material (Academic Grades)	Moral Glory (Character/Manners)

This synergy aims to achieve the highest quality of work (*itqan*), as the Prophet Muhammad (peace be upon him) emphasized that Allah loves His servants who perform their work to the utmost standard.

Practical Implementation and Case Examples of AI in Madrasah

The integration of AI in Islamic education does not aim to replace the spiritual guidance of teachers; rather, it serves to enhance their role through appropriate technological tools. For instance, adaptive learning platforms can deliver moral messages or relevant hadith quotations when students succeed or fail to complete an assignment (Zawacki-Richter et al., 2019). This approach fosters a learning environment that remains aligned with religious values within the digital space.

Below is a simple flowchart illustrating the process of integrating AI into a *Kurikulum Berbasis Cinta*:

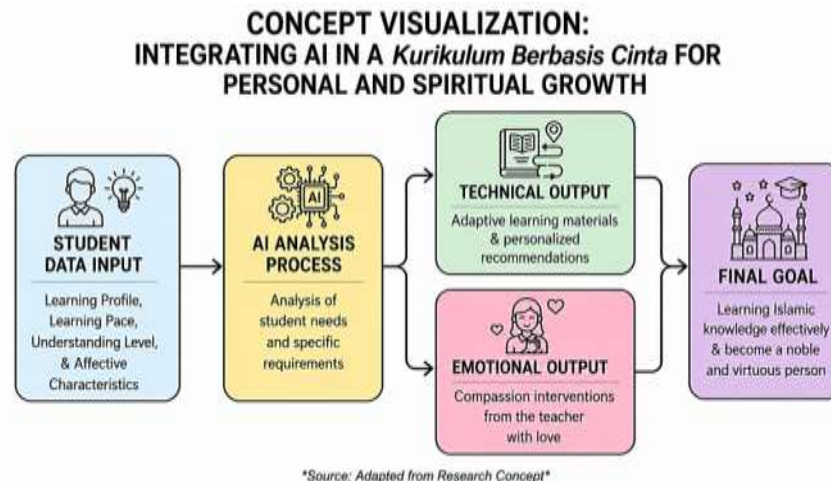


Figure 1. Conceptual Visualization of AI Integration in *Kurikulum Berbasis Cinta* (adapted from Sharma & Sharma, 2021; Zawacki-Richter et al., 2019; Sunarya & Sassi, 2025).

This visualization presents the flow of integrating Artificial Intelligence (AI) into a *Kurikulum Berbasis Cinta* through a series of images. The diagram demonstrates how students' technical data (Input) is processed by AI, yet ultimately guided by a human touch compassionate intervention from an educator producing synergistic dual outputs aimed at a comprehensive educational goal. A practical example of this approach is the use of spiritual consultation chatbots, which provide responsive guidance on foundational worship practices, allowing students to experience a 24-hour learning companion that remains aligned with Islamic ethical principles.

Analysis of Islamic Ethics and Implementation Challenges

The integration of technology into Islamic education must adhere to ethical principles that preserve both educational quality and spiritual values. In the context of Islamic education, the implementation of artificial intelligence should be guided by values such as amanah (responsibility), adab (ethical conduct), and accountability to ensure that technological innovation remains aligned with Islamic teachings (Khoiruddin & Dzulkifli, 2026). Without a strong ethical foundation, AI may become a purely mechanistic instrument that prioritizes efficiency while overlooking the moral, spiritual, and character development of learners.

This study identified that the primary obstacles are not only technological availability but also educators' digital literacy, pedagogical preparedness, and AI readiness. Successful AI integration requires teachers to possess adequate cognition, technical abilities, ethical awareness, and a clear vision regarding the educational use of artificial intelligence (Wang et al., 2023). Many teachers feel inadequately prepared to leverage technology, highlighting the need for systemic institutional support (Botha & Nel, 2022). Consequently, pro-humanistic policies are essential, ensuring that technology reinforces rather than replaces the spiritual closeness between teachers and students.

The Potential to Increase the Effectiveness of Learning through AI

Recent research indicates that AI can improve learning effectiveness within Islamic education contexts. According to (Sharma & Sharma, 2021), AI technologies can accelerate learning by delivering content tailored to individual needs. Adaptive teaching applications allow students to progress according to their abilities and pace, promoting personalized learning. This approach aligns with the hadith emphasizing the pursuit of quality and proficiency in all endeavors.

"إِنَّ اللَّهَ يُحِبُّ إِذَا عَمَلَ أَحَدُكُمْ عَمَلًا أَنْ يُتِمَّهُ"

"Indeed, Allah is pleased with anyone who does a job, so he finishes it with ease." (H.R. Ibn Majah)

Hadiths emphasize the importance of maintaining quality in teaching, including the use of appropriate technology to facilitate effective learning. For instance, studies have shown that Artificial Intelligence (AI) can assist in identifying learners' abilities, recommending suitable learning materials, and designing learning processes tailored to individual needs. According to (Zawacki-Richter et al., 2019), AI can enhance student engagement, increasing motivation and enthusiasm throughout the learning process. By employing personalized learning methods, students can learn more effectively while remaining connected to the religious teachings being imparted.

Digital Literacy Challenge

Although AI's potential to improve learning effectiveness has been theoretically established, digital literacy remains a significant challenge. Research indicates a clear competency gap: both teachers and students often lack sufficient technological skills to fully utilize AI platforms. (Zawacki-Richter et al., 2019) highlights the urgent need for sustainable technology training for educators to overcome these limitations.

During data collection, it was observed that many teachers are highly motivated but hindered by technical difficulties. For example, one interviewee stated: "I want to use AI in learning, but I feel technically unprepared and do not know where to start." This underscores that the potential of AI in classrooms cannot be fully realized without specialized training and structured technical support.

Below is a diagram illustrating the hierarchy of digital literacy challenges identified in the study:

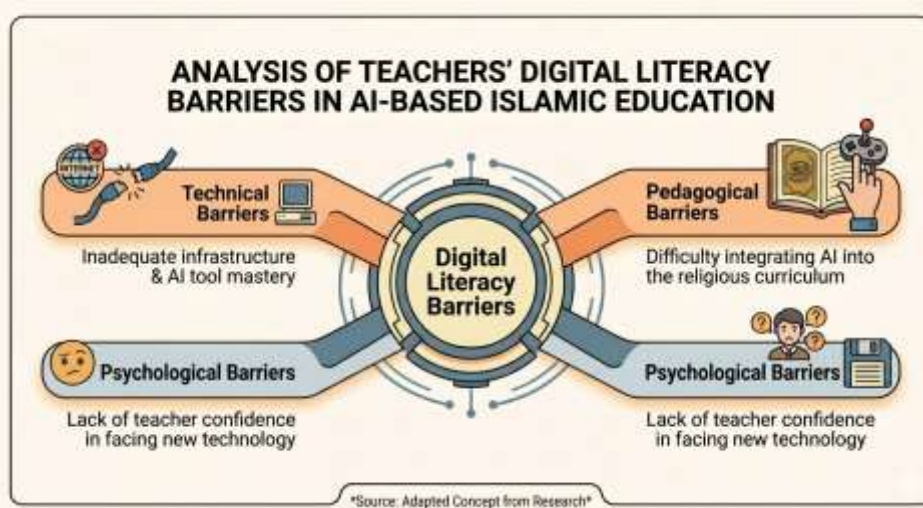


Figure 2 Analysis of Teachers' Digital Literacy Constraints in AI-Based Islamic Education

The diagram categorizes teachers' digital literacy barriers into three interrelated pillars: technical barriers, which include inadequate infrastructure and limited mastery of AI tools; pedagogical barriers, reflecting the challenges of aligning machine intelligence with humanist religious curriculum values; and psychological barriers, characterized by insecurity when facing technological disruptions. These pillars illustrate that low digital literacy is not merely about operational proficiency with hardware, but a systemic challenge requiring a holistic approach from providing adequate facilities to strengthening educators' mindsets so that AI

integration harmonizes with the essence of spirituality and moral development in Islamic education (Botha & Nel, 2022).

Ethical Implication in AI Implementation

The use of AI in Islamic education intersects with technical challenges and carries profound ethical implications. According to Khoiruddin & Dzulkifli (2026), the application of smart technology must account for critical issues such as data privacy and the long-term social impact on users. Within Islamic education, the principle of Amanah (responsibility) for personal data is non-negotiable in formulating AI usage guidelines.

Educational institutions must engage scholars and stakeholders to develop ethical frameworks that preserve religious values. This study found that technology integration without strict policies and adequate oversight may deviate from the core of Islamic education, namely the cultivation of students' morals and spirituality, raising concerns about the erosion of values due to reliance on morally unaccountable machines.

The theological basis for responding to scientific developments is reinforced in Surah Al-Isra, verse 36:

وَلَا تَقْفُ مَا لَيْسَ لَكَ بِهِ عِلْمٌ إِنَّ السَّمْعَ وَالْبَصَرَ وَالْفُؤَادَ كُلُّ أُولَئِكَ كَانَ عَنْهُ مَسْئُولًا

"And do not follow anything of which you have no knowledge. Indeed, hearing, sight, and heart, they will all be held accountable."

This verse underscores that AI use must be guided by knowledge and moral responsibility. Consequently, collaboration among educators, technology developers, and religious leaders is essential to ensure AI serves as a tool that supports spirituality rather than undermines it.

Implementation Constraints and Proposed Problem Solving

Despite its potential, the *Kurikulum Berbasis Cinta* faces obstacles. A key issue is teachers' limited understanding of its essence and practical application. Some educators assume that conveying *cinta* values verbally suffices, without integrating it into teaching methods or materials, potentially diminishing learning quality (Eva Sunarya & Komarudin Sassi, 2025).

Administrative burdens and national curriculum demands further complicate matters, as teachers struggle to distinguish cognitive objectives from the internalization of affective values. Many madrasas lack systematic training or guidelines for the *Kurikulum Berbasis Cinta* (Murti, 2023).

To address this, several madrasas have established teacher learning forums to share experiences and develop teaching modules collaboratively. These forums facilitate the exchange of ideas, deepen pedagogical understanding, and provide mutual support in delivering communication-focused content (Botha & Nel, 2022). School leadership also plays a pivotal role through initiatives like morning reflection programs, teacher mentoring, and personal recognition.

According to Sunarya and Sassi (2025), the *Kurikulum Berbasis Cinta* plays an important role in fostering students' character development, social awareness, and moral responsibility. Its core values are embedded through reflective learning practices, instructional materials grounded in ethical and spiritual principles, and compassionate interactions between teachers and students. Such a supportive and human-centered learning environment encourages greater learning engagement, emotional well-being, and the cultivation of moral and spiritual virtues among learners.

The *Kurikulum Berbasis Cinta* fosters a transformative teaching approach: teachers are guides for humanity, not mere content deliverers. Success depends on teacher expertise, institutional support, and human-centered policies. Therefore, strategic planning and social support are essential to implement the *Kurikulum Berbasis Cinta* broadly and effectively.

CONCLUSION

This study highlights the potential of integrating Artificial Intelligence (AI) within a *Kurikulum Berbasis Cinta* as a means of enhancing the quality of Islamic education. The findings indicate that AI can facilitate more personalized learning experiences, support adaptive evaluation processes, and assist educators in making informed instructional decisions. When utilized thoughtfully, AI can enrich educational practices by promoting both academic achievement and the holistic development of learners, including their moral and spiritual growth.

Nevertheless, several obstacles continue to hinder the effective adoption of AI in educational settings. These include inadequate digital literacy, limited preparedness among educators to engage with AI technologies, and unequal access to technological resources and infrastructure. Such challenges demonstrate that the successful integration of AI requires more than technological availability; it also depends on sustained professional development, institutional commitment, and ongoing support for teachers.

In addition, ethical considerations remain central to the application of AI in Islamic education. The implementation of AI should be guided by Islamic values such as amanah (responsibility) and adab (ethical behavior), alongside broader principles of transparency and accountability. These values help ensure that technological innovation serves educational and humanistic purposes rather than diminishing the role of educators. Therefore, AI should be regarded as a complementary instrument that strengthens teaching and learning while preserving the moral, spiritual, and character-building objectives embedded in the *Kurikulum Berbasis Cinta*. Future studies may further explore practical models of AI integration that effectively combine technological advancement with the core values of Islamic education.

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