

Integration of Artificial Intelligence in Love-Based Curriculum: 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 love-based curriculum 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 love-based curriculum 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

(Dwivedi, 2021) Artificial intelligence (AI) in education, especially in the context of Ilmu Islam learning, is very crucial in the midst of rapid technological developments. Transformations in teaching have changed the way people learn and interact with teaching materials (Smith, 2022). Integrasi AI not only brings efisiensi in the learning process, but also has an impact on the way religious teachings are presented and understood. As explained in the Qur'an:

"وَمَا أَرْسَلْنَاكَ إِلَّا رَحْمَةً لِّلْعَالَمِينَ"

"And Kami did not send you, (Muhammad) sent to be a blessing to the universe." (Q.S. Al-Anbiya: 107)

The importance of conveying values in a compassionate and empathetic way is in line 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 grace to the universe. Therefore, a love-based curriculum becomes an emotional bridge that is necessary

so that technology does not distance students from the essence of spirituality (Williamson, 2020;Kose, 2023; Selwyn, 2019).

The urgency of this research lies in the potential of AI in personalizing learning experiences that suit the unique needs of each individual. The use of AI technology can speed up the learning process by providing customized materials, so that the quality of education is maintained. This is in line with the message of the hadith which emphasizes the importance of professionalism (*itqan*) and quality in every work done.

Data shows that the use of AI can improve educational effectiveness through increased accessibility for different levels of learners. Other research has also found that AI plays a role in increasing student participation and enthusiasm during the teaching and learning process. Through personalized learning methods, students can learn more effectively while staying connected to the religious values that are the foundation of their character.

However, the implementation of this technology faces major challenges related to teachers' digital literacy that still needs to be significantly improved. The results show that both teachers and students often do not have adequate technological skills to maximize these digital tools. This challenge is further complicated by the issue of data privacy, which is a major concern in the use of artificial intelligence-based platforms in the school environment.

In several field observations, teachers expressed technical difficulties in fully utilizing digital devices to support their teaching (Ifenthaler, 2022). This technical unpreparedness raises doubts for educators to embark on AI integration even though they are aware of its potential benefits for students. Therefore, technical support and special training are needed to bridge the digital competency gap in the Islamic education environment.

Previous research by (Smith, 2022) has discussed how digital transformation is changing the interaction patterns of teaching materials in general. In addition, a study by (Sharma & Sharma, 2021) underscores the importance of aligning technology practices with ethical considerations so as not to harm users. On the other hand, (Alavi & Leidner, 2018) provide a theoretical foundation regarding the impact of AI on virtual learning environments that are now starting to be widely adopted. Furthermore, research by Ali (2023) shows a positive relationship between technology and student learning outcomes at various levels. Meanwhile, (Fachrunnisa, 2020) have evaluated the role of technology in Islamic education through a comprehensive qualitative approach. However, the current literature is still very limited in discussing specific applications of AI within the framework of a love-based curriculum in a religious setting.

There is a real *research gap*, where Ali (2023) does not focus on Islamic values that may be eroded by uncontrolled use of AI. Research by Kosasih et al. (2024) has also addressed the ethical challenges of technology, but lacks a deeper connection to students' spiritual experiences. This is what leads to an urgent need to understand how AI can be integrated without sacrificing moral values.

The novelty of this research is the combination of artificial intelligence with a "Love-Based Curriculum" that emphasizes dialogical relationships and empathy. This approach offers a transformation of the teaching mindset from instructive to transformative, where the teacher is present as a servant of humanity (Luckin, 2016; Chen & Chen, 2020). This strategy bridges between science and compassion, which is in harmony with the goals of national education and Islamic values (Zawacki-Richter, 2019).

The ethical implications of this integration are also in major focus, given the risk of eroding moral values if the technology is implemented unsupervised. It is important for educational institutions to involve scholars and education experts in formulating ethical guidelines for the responsible use of AI. Without strict policies, it is feared that technological integration can lead to deviations from the essence of character development in Islamic education.

The purpose of this paper is to explore in depth the potential, challenges, and ethical implications of AI applications in love-based curriculum. This research focuses on how technology can optimize the learning experience while maintaining the integrity of sacred religious values. With this approach, it is hoped that this manuscript will be able to fill the literary gap and offer a new perspective for the Islamic Religious Education learning model in the digital era. Through a holistic analysis, the study provides strategic recommendations for the ethical implementation of AI in the context of Islamic education. This research is expected to contribute to the improvement of a fresher, more relevant, and adherent learning model to humanitarian principles. Finally, the synergy between technology and compassion is expected to be able to give birth to a generation that is intellectually intelligent as well as morally noble.

METHOD

(Tuckett, 2020) The research uses a qualitative approach with a regular study village to study artificial intelligence (AI) in the curriculum based on cinta in Ilmu Islam learning. This approach allows researchers to delve into phenomena contextually and holily, in order to understand how AI technologies can be applied without sacrificing religious values. The main focus of the research is on the potentials, challenges, and challenges that arise from the use of AI in the context of religious learning.

The data was collected through a systematic study. The researcher searches a wide range of sources, including journals, books, conference articles, and research reports, that are relevant to the research topic. Data dissemination is carried out using keywords such as "artificial intelligence", "Islam learning", "ethnologist", and "curriculum based on cinta" (Sharma & Sharma, 2021). A systematic review is evaluated based on criteria to determine its relevance and quality (Fachrunnisa, 2020).

Data analysis techniques use content analysis with steps such as data reduction, data presentation, conclusion analysis, and verification. The data obtained are grouped into key themes related to the AI integrasi in the Idivitas, liii digital challenges, and isu ethika.

To ensure that the data used is accurate, check it from various sources, validated by external authorities, and discussion with colleagues (Yin, 2018; Lincoln & Guba, 2020). The approach is carried out to strengthen the value and accountability of the company, so that the results can be accounted for in a timely manner. Through a solitary methodological framework, the study is expected to be able to contribute theoretically and practical usefulness to the development of a learning model of Religious Education that is fresher and more ethical in the modern era.

HASIL AND DISCUSSION

Conceptualization of Love-Based Curriculum in the Perspective of Islamic Education

The Love-Based Curriculum is not just a rhetorical term, but a manifestation of the value of *Rahmatan lil 'Alamin* which is the core of Islamic teachings. Operationally, this curriculum is defined as an educational model that places compassion (*rahmah*) and empathy as the main foundation in every educational interaction (Dewi & Firmansyah, 2023). The theological foundation of this concept refers to 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 emphasizes that the main mission of Islamic education is to spread benefits and compassion. In practice, the curriculum combines "heart pedagogy" with humanistic education theory, in which the teacher is not only present as a cognitive instructor, but as a humanitarian servant who ensures every student feels spiritually valued and supported (Sari, 2021). This transformation is crucial in the digital age to ensure that despite the massive

presence of technology, the warmth of the relationship between teachers and students is not lost.

Synergy of AI Algorithms with Affective Dimensions

One of the key findings in the study is that artificial intelligence, which is often thought of as a "cold" and mathematical technology, can actually be synergized with aspects of "love" through the personalization of learning. AI allows teachers to understand each student's unique needs precisely, a task that is difficult to do manually in large classrooms (Sharma & Sharma, 2021). By leaving cognitive data analysis tasks to algorithms, teachers have more time to provide emotional attention to students who need special mentoring.

Here is a table detailing the different roles between AI and humanist aspects in the Love-Based Curriculum:

Table 1. the difference between the role between AI and the humanist aspects in the Love-Based Curriculum

Dimensions	The Role of Artificial Intelligence (AI)	The Role of Love-Based Curriculum (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 perfect quality of work (*itqan*), as the hadith of the Prophet PBUH states that Allah loves his servants who do their work to the maximum.

Practical Implementation and Case Examples of AI in Madrasah

The implementation of AI in Islamic education does not have to replace the spiritual role of teachers, but rather strengthens them through the right tools. For example, adaptive learning platforms can insert moral messages or relevant hadith quotes when students succeed or fail to complete an assignment (Fachrunnisa, 2020). This creates a learning environment that remains connected to religious values in the digital space.

Here is a simple flowchart regarding the process of integrating AI in a love-based curriculum:



Figure 1 Conceptual Visualization of AI Integration in Love-Based Curriculum (Love-Burriculum)

Here is a visualization of the flow of the integration of Artificial Intelligence (AI) into the Love-Based Curriculum in the form of images. This diagram illustrates how students' technical data (Input) is processed by AI but still comes down to a human touch (compassionate intervention) from an educator, creating synergistic dual outputs towards a comprehensive educational goal. Another real example is the use of *spiritual consultation chatbots* that can provide responsive answers about the basics of worship, so that students feel they have a 24-hour study companion who remains in the corridor of Islamic ethics.

Analysis of Islamic Ethics and Implementation Challenges

The integration of technology in Islamic education must be guided by strict ethical principles so as not to erode moral values. The two main principles that must be upheld are *Amanah* (responsibility for personal data) and *Adab* (ethics in interacting with technology) (Alavi & Leidner, 2018). Without ethical guidance, AI risks becoming a mere mechanistic tool and ignoring the inner development of students.

This study found that the main obstacle is not only the availability of technology, but also in digital literacy and the mental readiness of educators (Hidayat, 2022). Many teachers feel that they are not technically prepared and therefore need systemic support from institutions (Sari, 2021). Therefore, a pro-humanistic policy is needed in which technology is used to strengthen, not replace, the spiritual closeness between teachers and students.

The Potential to Increase the Effectiveness of Learning through AI

Recent studies have shown that AI can increase the effectiveness of learning in the context of Ididi Islam teaching. According to (Sharma & Sharma, 2021), the use of AI technology can speed up the learning process by providing materials that are tailored to the needs of the community. This is evident from the various teaching applications that allow adaptive teaching, where students can learn according to their abilities and speed. As stated in the hadith:

"إِنَّ اللَّهَ يُحِبُّ إِذَا عَمَلٌ أَحَدُكُمْ عَمَلًا أَنْ يُتَوَقَّهَ"

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

Hadits ini emphasized the importance of quality in teaching, including in the use of appropriate technology to facilitate effective learning.

As an example, some studies have shown that AI can help in identifying one's abilities and recommending the right learning materials, as well as creating a learning process that is tailored to the desired one. Research by (Fachrunnisa, 2020) said that AI can increase participants, making them more motivated and enthusiastic in the learning process. With a personalized learning method, you can learn more effectively while staying connected to the religious teachings that are taught.

Literasi Digital Challenge

Although the potential of Artificial Intelligence (AI) in improving learning effectiveness has been theoretically proven, the challenge of digital literacy remains a significant obstacle in the field. The results show that there is a real competency gap, where both teachers and students often do not have adequate technological skills to operate AI platforms optimally. This phenomenon is in line with the findings of (Fachrunnisa, 2020) who underline that sustainable technology training for educators is an urgent need to overcome these limitations.

In the process of data collection, it was found that many teachers are highly motivated but hampered by technical obstacles. For example, one of the interview subjects stated: *"I want to use AI in learning, but I feel less technically prepared and don't know where to start."* This proves that the potential of AI in the classroom will not be maximized without specialized training and structured technical support.

Here is a diagram illustrating the hierarchy of digital literacy challenges found in the study:

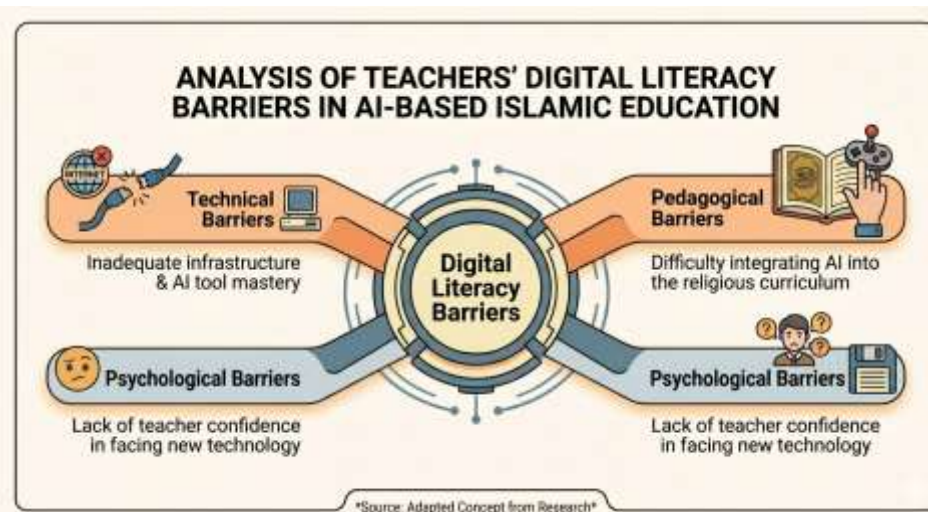


Figure 2 Analysis of Teachers' Digital Literacy Constraints in AI-Based Islamic Education

The diagram classifies teachers' digital literacy barriers into three main pillars that interact with each other, namely technical barriers that include infrastructure unpreparedness and mastery of AI tools, pedagogical barriers that highlight the difficulty in aligning machine intelligence with humanist religious curriculum values, and psychological barriers in the form of insecurity in the face of technological disruption. These three pillars show that low digital literacy is not just a matter of hardware operating proficiency, but a systemic challenge that requires a holistic approach—from providing facilities to strengthening educators' mentality—so that the integration of artificial intelligence can run in harmony with the essence of spirituality and morals in Islamic education (Sari, 2021; Hidayat, 2022).

Implikasi Etis in Implementasi AI

The use of AI in Islamic education not only intersects with technical issues, but also carries very profound ethical implications. Referring to the thinking of **Alavi and Leidner (2018)**, the application of smart technology must consider crucial issues such as data privacy and the long-term social impact on users. In the context of Islamic education, the principle of *Amanah* (responsibility) for personal data is a dead price that cannot be negotiated in the formulation of guidelines for the use of AI.

It is important for educational institutions to involve scholars and stakeholders in formulating the ethics of using technology so that religious values are maintained in a pure way. This study found that the integration of technology without strict policies and proper monitoring can lead to deviations from the essence of Islamic education, namely the development of students' morals and spirituality. This is based on the concern of the erosion of moral values due to dependence on machines that have no conscience.

The theological foundation in responding to the development of science can refer to the words of Allah SWT 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 that you do not know. Because of hearing, sight, and conscience, all of them will be held accountable."

This verse emphasizes that the use of AI must be based on science and awareness of moral responsibility (ethics). Therefore, collaboration between educators, technology

developers, and religious leaders is an urgent need to ensure that AI is present as a tool to support spirituality, not to scrape it.

Implementation Constraints and Proposed Problem Solving

Although it shows a tremendous impact, the implementation of the CiKulum Cinta is not without obstacles. The fundamental problem lies in the teacher's in-depth understanding of the essence and practice of the Cikulum Curriculum. Some teachers think that nilai-nilai cinta is enough to be conveyed verbally, without being integrated into teaching methods and materials. This has the potential to reduce the quality of learning, because it is less pervasive in the rigor of teaching and learning as it should be (Dewi & Firmansyah, 2023).

In addition, the administrative burden and the demands of the national curriculum also become obstacles. The teacher feels that it is difficult to distinguish between cognitive targets and internalisasi nilai-nilai affect. In a number of madrasas, special training or guidelines for the CiKulum Cinta that are sistematis masinim available (Hidayat, 2022).

In order to overcome this, several madrassas began to form teacher learning forums to share experiences and compile learning modules based on them. The forum serves as a means of exchanging views and deepening teachers' insights, as well as supporting each other in delivering material that focuses on the importance of communication and communication (Sari, 2021). The head of the madrasah also plays a key role in designing schools that support the approach of the school, for example through morning reflection programs, teacher assistance, and personal appreciation.

Based on the analysis of the findings and data (Baker, 2021), it can be concluded that the curriculum in Ilmu Islam learning has a real impact on the social life, both from pedagogical aspects and in the formation of personal character. Nilai-nilai cinta hasil disisipkan through reflective teaching strategies, the presentation of material that is morally spiritual, and teacher-swa relationships that are logical and full of empathy. The classroom atmosphere that is both intuitive and humane also enhances learning motives, emotional well-being, and emotional development in interpreting Ilmu Islam as a forum for learning and spiritualitas.

The Cinta curriculum also encourages a change in the pattern of teaching from the structure to a transformative one. Teachers are servants of humanity, not just the delivery of material. São Paulo is not only a matter of academic ability, but also of humanity. The approach of bridging the gap between knowledge and morality, between knowledge and love, is in line with the goals of national and national education.

However, the success of the program is highly dependent on the expertise of teachers, the support of the madrasah institution, and the existence of a teaching policy that is pro-human. Therefore, strategic planning and social support are needed to implement the Cinta Curriculum more broadly and effectively.

CONCLUSION

(Holmes & Bialik, 2019) From the studies carried out, it can be concluded that the use of the Cinta Curriculum in the teaching and learning of the Islam religion has a considerable impact on the quality of learning and the formation of personal principles. Nilai-nilai cinta are intended to be included through a teaching method that invites students to pikir, the presentation of teaching materials that include moral and religious elements, and a strong relationship between teachers and teachers that is full of discipline and caring. An open and friendly classroom atmosphere helps to increase the spirit of learning, emotional participation, and the development of feelings of self-esteem in understanding the Islam religion as a source of nilai and spiritualitas.

The curriculum also encourages changes in the way of teaching from one that is intended to govern and empower, where teachers play the role of servants of the individual, not just as people who deliver the subject matter. São Paulo is not only taught about school lessons,

but also about human rights. The way he connects between knowledge and behavior, as well as between knowledge and knowledge, is in line with the goals of the Isional and nilai religious teachings. However, the success of the implementation of the Cikulum Curriculum is highly dependent on the willingness of teachers, support from schools, and teaching rules that support a more humane approach. Therefore, a mature plan and comprehensive support are needed to implement the Cinta Curriculum more widely and continuously.

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