

## The Integration of Deep Learning and Holistic Approaches in Moderate Islamic Religious Education amidst Digital Era

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### Abstract

This study explores the integration of deep learning technology and holistic educational approaches in strengthening Moderate Islamic Religious Education (PAI) in the digital era. As the global educational landscape shifts towards digital transformation, the need for adaptive, value-based learning models becomes increasingly urgent. The research aims to develop a conceptual framework that incorporates artificial intelligence particularly deep learning algorithms into PAI, while maintaining a focus on the holistic development of learners, including their spiritual, emotional, cognitive, and social dimensions. Utilizing a qualitative-descriptive method supported by literature analysis and expert interviews, this study identifies the opportunities and challenges of integrating advanced technologies into Islamic education. The findings suggest that deep learning can enhance personalized religious learning experiences and promote critical thinking, while a holistic approach ensures the preservation of ethical and spiritual values. This integration offers a strategic response to the growing demand for educational models that are both technologically progressive and rooted in Islamic moderation (wasathiyah). The study provides practical insights for educators, curriculum developers, and policymakers in designing future-ready Islamic education systems.

### Keyword

*Deep Learning, Holistic, Digital, Islamic Religious Education*

## Introduction

The 21st century has ushered in a new era of transformation in global education systems, marked by rapid digitalization and the pervasive integration of emerging technologies. These advancements are not only redefining the nature of teaching and learning but are also reshaping pedagogical relationships, learner engagement, and the overall goals of education in the modern world.<sup>1</sup> Among the most revolutionary technologies influencing educational practice is deep learning, a sophisticated subset of artificial intelligence (AI) that enables machines to simulate human cognitive functions. By processing vast amounts of data, recognizing complex patterns, and making data-driven predictions, deep learning offers the potential to create highly personalized, intelligent, and adaptive learning environments that cater to individual learner needs and preferences.

<sup>1</sup> Nur Iffah Qoyyumillah, Huril'in Huril'in, and Saeful Anam, "Accelerating Islamic Learning in the Digital Era: Contemporary Strategies for Building a Knowledgeable, Charactered, and Adaptive Generation Amidst Global Transformation," *JURNAL RISET RUMPUN ILMU PENDIDIKAN* 4, no. 2 (2025): 427–37.



In mainstream education particularly within science, technology, engineering, and mathematics (STEM) disciplines the implementation of deep learning tools has yielded promising results. These include intelligent tutoring systems, adaptive assessment tools, and AI-driven analytics that can track student progress and optimize instructional delivery.<sup>2</sup> However, such innovation has yet to be meaningfully extended into the sphere of religious and moral education, especially in the context of Islamic Religious Education (PAI). This gap reveals a missed opportunity to harness the transformative power of AI to not only modernize Islamic pedagogy but also to reinforce core values such as moderation (*wasathiyah*), tolerance, compassion, and ethical reasoning, which are increasingly essential in a fragmented global society.<sup>3</sup>

The urgency of this integration is further magnified by the evolving sociopolitical and cultural landscape of the digital age. Today's learners often referred to as digital natives are growing up in an environment saturated with instant information, algorithm-driven content, and competing worldviews. At the same time, the rise of religious extremism, digital misinformation, cyber radicalization, and polarizing identity politics poses critical challenges to educational institutions, particularly those tasked with promoting inclusive and peaceful religious values. In this context, Islamic education must position itself not as a static tradition, but as a dynamic, forward-looking system that is both spiritually grounded and technologically adaptive.<sup>4</sup>

Nevertheless, traditional models of Islamic education often emphasize rote memorization, one-way instruction, and limited integration of contemporary learning technologies. While these methods preserve important elements of religious orthodoxy and ritual transmission, they often fail to engage the hearts and minds of modern students who are accustomed to interactive, visually rich, and responsive learning modalities. This mismatch underscores the need for a pedagogical paradigm shift one that not only retains the depth of Islamic scholarship but also embraces the potential of digital tools to enhance learner motivation, critical thinking, and spiritual growth in meaningful and contemporary ways.

A compelling solution lies in the synthesis of deep learning technologies with holistic educational approaches. Holistic education, which nurtures the complete development of the learner including intellectual, emotional, spiritual, physical, and social domains resonates deeply with Islamic epistemological traditions. Islam, as a comprehensive worldview, promotes the development of a well-rounded individual (*insan kamil*) whose knowledge is not only cognitive but also affective and spiritual. Integrating this philosophy with AI-powered platforms, such as adaptive learning systems, intelligent chatbots, and immersive learning

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<sup>2</sup> Ahmad Asron Mundofi, "Integration of Deep Learning Approach in Transforming Islamic Religious Education Learning in Schools: A Pedagogical and Technological Study," *Journal of Asian Primary Education (JoAPE)* 2, no. 1 (2025): 79–90.

<sup>3</sup> Efendi Sugianto, "The Role of Islamic Religious Education in The Development of Students Spirituality and Morality in The Digitalization Era," *Jurnal Sustainable* 7, no. 2 (2024): 412–22.

<sup>4</sup> Moses Adeleke Adeoye et al., "Digital Learning and Religious Moderation: An Educational Management Perspective," *Jurnal Penelitian Pendidikan* 28, no. 2 (2025): 205–23.

environments, can transform PAI into a living, contextualized, and ethically empowered educational experience.<sup>5</sup>

Furthermore, the ethical dimensions of AI and deep learning offer unique opportunities for reflection within the framework of Islamic moderation. Islamic education has a moral responsibility to ensure that technological applications in learning uphold human dignity, justice, and community welfare. When guided by these principles, AI-driven Islamic education can serve as a bulwark against radical ideologies, counter online hate narratives, and offer youth a framework for faithful digital citizenship. Such integration aligns with global educational agendas that emphasize Education for Sustainable Development (ESD), peace education, and religious literacy in plural societies.<sup>6</sup>

This study, therefore, seeks to explore the pedagogical, philosophical, and technological integration of deep learning and holistic educational practices within the context of moderate Islamic education. It aims to investigate the conceptual linkages, practical applications, and ethical considerations that arise from this convergence. By doing so, the research aspires to develop an innovative framework for Islamic Religious Education that is not only technologically enhanced but also morally anchored, fostering learners who are intellectually competent, spiritually aware, socially responsible, and capable of engaging with the complexities of the digital world from a position of moderation, balance, and wisdom.<sup>7</sup>

Ultimately, the findings of this study are expected to contribute not only to the academic discourse on Islamic pedagogy in the digital era but also to practical innovations in curriculum design, teacher development, and educational policy. As Islamic educational institutions confront the demands of modernization and global interconnectedness, this research offers a timely and necessary roadmap for ensuring that the values of Islam particularly its commitment to balance, mercy, and knowledge continue to thrive in the hearts and minds of future generations.

## **Methods**

This study employs a qualitative research approach with a descriptive-interpretive design, aiming to explore the conceptual integration of deep learning technologies and holistic education within the framework of moderate Islamic Religious Education (PAI). The qualitative method is deemed suitable due to the exploratory nature of the research, which seeks to understand in-depth meanings, experiences, and pedagogical perspectives related to technology, ethics, and religious instruction.

The study was conducted in selected Islamic educational institutions (e.g., pesantren-based secondary schools and Islamic higher education institutions) that have begun integrating digital learning tools. Participants include Islamic education teachers, curriculum developers,

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<sup>5</sup> Fuad Srinio, Maidatus Sholihah, and Saliha Sebgag, "Innovation in Learning at Madrasah Ibtidaiyah: Integrating Islamic Values Amidst Tradition and Secular Modernity Debate," *Attadrib: Jurnal Pendidikan Guru Madrasah Ibtidaiyah* 8, no. 2 (2025): 353–68.

<sup>6</sup> Muna Hatija et al., "Digital Ethics in Islamic Education: Implementation of Islamic Values in Integrative Learning," in *Proceeding of Islamic International Conference on Education, Communication, and Economics*, vol. 1, 2025, 84–95.

<sup>7</sup> Muzawir Munawarsyah, "Islamic Education in the Modern Era: Analysis of Student Character and Their Role in Facing the Challenges of Industry 4.0," *HEUTAGOGIA: Journal of Islamic Education* 3, no. 2 (2023): 141–54.

education technologists, and AI experts. A purposive sampling technique was used to select individuals who are knowledgeable and experienced in Islamic pedagogy, educational technology, and the principles of Islamic moderation.

Data were collected using the following instruments: In-depth interviews with educators and experts to gather insights about perceptions, practices, and challenges in integrating deep learning and holistic approaches. Document analysis of relevant curricula, lesson plans, and institutional policies to identify the presence (or absence) of holistic and technological components in current Islamic education models. Observations of classroom or digital learning environments (where applicable) to capture actual pedagogical practices and student engagement.

The data were analyzed using thematic analysis, allowing for the identification of recurring patterns, themes, and categories related to the research objectives. The analysis process involved: Data transcription and familiarization, Coding of significant statements, Categorization into thematic clusters (e.g., integration of technology, spiritual development, ethical concerns, pedagogical innovation), Interpretation of themes in light of existing theories on holistic education, deep learning, and Islamic moderation.

To ensure the credibility and trustworthiness of the findings, the study applied triangulation by cross-validating data from interviews, documents, and observations. Member checking was also conducted, allowing participants to verify the accuracy of their statements. In addition, peer debriefing with academic colleagues was used to refine interpretations and enhance analytical rigor.

## **Discussion**

The integration of deep learning and holistic educational approaches within the framework of Islamic Religious Education (PAI) reflects a necessary transformation in response to the rapidly evolving digital and sociocultural landscape. This study has explored how these two seemingly distinct paradigms advanced artificial intelligence and spiritual-ethical pedagogy can be meaningfully merged to support the goals of moderate Islamic education.<sup>8</sup>

### **1. Bridging Technology and Spiritual Pedagogy**

One of the most significant insights derived from this study is the potential synergy between deep learning technologies and Islamic holistic education. At first glance, these two paradigms may appear to operate in separate spheres deep learning being a product of modern computational science, and Islamic education rooted in spiritual tradition and ethical teaching. However, this research reveals that when thoughtfully integrated, deep learning can serve as a powerful enabler of pedagogical innovation that amplifies the depth and reach of religious instruction, particularly in the context of promoting moderate Islamic values.<sup>9</sup>

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<sup>8</sup> Steve Delamarter et al., "Technology, Pedagogy, and Transformation in Theological Education: Five Case Studies.," *Teaching Theology & Religion* 10, no. 2 (2007).

<sup>9</sup> Kara Sevensma et al., "Seeking a Scholarship of Pedagogy, Technology, and Faith: A Literature Survey," *International Journal of Christianity & Education* 22, no. 3 (2018): 252–73.

Deep learning, characterized by its capacity to process complex data patterns, perform real-time analysis, and adapt to individual learner behavior, enables highly personalized educational experiences. Its application in Islamic education opens up opportunities to transform traditional instructional models by offering tools such as AI-powered intelligent tutoring systems, adaptive feedback loops, virtual learning assistants, and customized religious content delivery based on a student's level of understanding and engagement. These technologies can support the memorization of sacred texts, assist in the comprehension of religious concepts, and even simulate ethical decision-making scenarios rooted in Islamic jurisprudence.<sup>10</sup> This aligns closely with the philosophy of holistic education, which views learning not merely as the transmission of knowledge, but as the comprehensive development of the human being encompassing the cognitive, emotional, spiritual, moral, and social domains. Islamic educational thought has historically emphasized this integrative approach, aiming to nurture balanced individuals (*al-insan al-kamil*) who are intellectually sound, ethically grounded, and spiritually aware.

When deep learning technologies are developed and implemented with purposeful pedagogical intent and ethical safeguards, they can complement the teacher's role rather than diminish it. Rather than replacing human educators, AI tools can function as support systems that enhance lesson planning, track student progress, suggest differentiated materials, and provide continuous feedback, allowing teachers to focus more on mentoring, spiritual guidance, and moral formation. In this way, AI and holistic pedagogy do not stand in opposition but instead form a mutually reinforcing model of instruction where technology enhances accessibility and engagement, while spirituality and values remain at the core of the learning process.<sup>11</sup>

Moreover, by adopting this integrative approach, Islamic Religious Education can present itself not as a static or outdated tradition, but as a relevant, adaptive, and forward-thinking discipline that speaks to the realities of contemporary Muslim learners. The convergence of these two paradigms technological precision and spiritual wisdom can lay the groundwork for a transformative educational experience, one that prepares students not only for academic success but also for ethical leadership and global citizenship rooted in the principles of Islamic moderation (*wasathiyah*).

## **2. Responding to the Needs of Digital-Native Learners**

In the era of rapid technological advancement, students in Islamic schools, madrasahs, and pesantren increasingly belong to the "digital-native generation" a cohort that has grown up surrounded by digital devices, high-speed internet, and multimedia environments. These learners are habituated to instant access to information, interactive user experiences, gamified content, and visual storytelling, which significantly influence their cognitive styles, attention

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<sup>10</sup> Cornelis Van der Knijff, "Re-Engaging Spiritual Formation in Online Theological Education," *Transformation* 38, no. 4 (2021): 316–29.

<sup>11</sup> Yusuf Hanafi et al., "Unveiling the Intersection of Technology and Pedagogy: A Domain-Specific Exploration for Developing Religious Moderation Content with an Exploratory and Rasch Perspective," *British Journal of Religious Education*, 2024, 1–14.

spans, and expectations regarding education. Consequently, the traditional modes of Islamic Religious Education (PAI) which often emphasize didactic lectures, rote memorization of texts, and one-directional teacher-centered delivery are progressively misaligned with how these students engage with and internalize knowledge.<sup>12</sup>

This generational shift presents a compelling challenge to Islamic educators: how to convey sacred knowledge in ways that maintain its authenticity while also being pedagogically effective and culturally resonant. The integration of deep learning technologies offers a transformative response to this challenge. Through the use of AI-driven tools such as adaptive learning platforms, intelligent feedback systems, virtual tutors, and immersive simulations, religious content can be delivered in dynamic, personalized, and visually engaging formats. For instance, complex theological concepts, ethical dilemmas, or historical narratives from the Islamic tradition can be explored through interactive storytelling, scenario-based learning, or augmented reality applications, making them more relatable and applicable to real-life contexts.<sup>13</sup>

Beyond engagement, deep learning tools also offer the ability to track learners' progress in real-time, assess their understanding through formative analytics, and adjust instructional content based on individual learning profiles. This aligns with the broader educational goal of cultivating critical thinking, spiritual reflection, and autonomous learning core elements of Islamic pedagogy that are often overshadowed by content-heavy approaches. Moreover, the adaptation of Islamic education to digital-native learners is not simply a matter of keeping up with technology, but a strategic effort to preserve religious identity and relevance in a hyper-secularized, media-saturated world.<sup>14</sup> If religious instruction fails to meet students where they are cognitively, socially, and technologically it risks being marginalized or viewed as disconnected from the realities of modern life. On the contrary, when educators embrace digital tools thoughtfully and ethically, Islamic education can reclaim its position as a living, evolving tradition, capable of inspiring young Muslims to integrate faith, knowledge, and technology in ways that promote personal growth and social responsibility.

This shift also necessitates a redefinition of the teacher's role from being a sole source of information to becoming a facilitator of meaning-making, a mentor in moral reasoning, and a guide in the spiritual journey. Technology should not diminish the relational and emotional aspects of religious instruction but should rather serve to amplify the connection between learners and the deeper values of the Islamic faith. In this regard, deep learning technologies, when coupled with culturally sensitive and spiritually aligned content design, can help bridge

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<sup>12</sup> Mussa Saidi Abubakari, "The Digital Frontier within Islamic Education: Research Gaps Overview in Digital Competence," *Journal of Computing Research and Innovation* 9, no. 2 (2024): 317–31.

<sup>13</sup> Nabilla Dian Alvanda, Emi Zulaifah, and Annisa Fitri Alfianita, "The Challenges of Muslim Parents in Rearing Digital Native Children," *International Journal of Islamic Psychology* 7 (2024): 16–28.

<sup>14</sup> Nurul Alfia, Sumardi Sumardi, and Diah Kristina, "Digital Native Students' Perceived Competence on Digital Literacy: A Study of Digital Native Students at a Private Islamic Junior High Boarding School," *Aksara* 21, no. 1 (2020): 360995.



the gap between tradition and innovation, making PAI more inclusive, relevant, and empowering for the digital-native generation.<sup>15</sup>

### 3. Reinforcing the Principles of Islamic Moderation (Wasathiyah)

At the heart of Islamic pedagogy lies the principle of wasathiyah the path of moderation which promotes balance, justice, tolerance, and the rejection of extremism in all forms. This value is not only a theological imperative but also a sociocultural necessity in an increasingly polarized global landscape. In this study, it was observed that the strategic integration of deep learning technologies with a holistic educational model offers promising avenues to reinforce these moderate values in both form and substance.<sup>16</sup>

By harnessing the power of AI, educators can design intelligent learning systems that embed wasathiyah-oriented content throughout various stages of instruction. Such systems can feature interactive modules on empathy, interfaith dialogue, and peaceful coexistence, all rooted in Qur'anic principles and prophetic traditions. More importantly, deep learning platforms can provide early detection mechanisms that identify learners who may be exposed to, or interacting with, radical or intolerant content online. Through sentiment analysis, behavioral pattern recognition, and recommendation algorithms, these systems can help redirect students toward balanced and contextually grounded interpretations of Islam.<sup>17</sup>

This is particularly crucial in combating the rise of digital extremism, where online platforms are often manipulated by ideological actors to recruit and radicalize youth. In contrast, AI-powered educational platforms when supervised ethically can serve as counter-radicalization tools, equipping students with critical religious literacy, media discernment skills, and an appreciation for pluralism within the Islamic tradition. Furthermore, this integration encourages the cultivation of intellectual humility, a trait emphasized in classical Islamic scholarship but often diminished in echo chambers of online discourse. The combination of deep learning analytics and spiritually attuned content can foster self-reflection, promote diversity of thought, and highlight the importance of adab (ethical conduct) in seeking and sharing knowledge.<sup>18</sup>

However, the use of AI in this domain must remain firmly under human pedagogical oversight, ensuring that the algorithmic delivery of religious content does not dilute its depth, nuance, or spiritual richness. The role of the educator as a moral and theological guide remains central, with technology serving as a supportive scaffold, not a substitute.<sup>19</sup> In this way, the

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<sup>15</sup> Muslim Muslim, "Internalizing Digital Technology in Islamic Education," *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme* 6, no. 3 (2024): 180–97.

<sup>16</sup> Yazida Ichsan, Sahiron Syamsudin, and Zalik Nuryana, "Realizing Islamic Education Based on Religious Moderation with the Wasathiyah Islamic Paradigm from the Perspective of the Qur'an," *Jurnal Pendidikan Agama Islam* 21, no. 1 (2024): 247–63.

<sup>17</sup> Mohammad Hashim Kamali, *The Middle Path of Moderation in Islam: The Qur'anic Principle of Wasatiyyah* (Oxford University Press, 2015).

<sup>18</sup> Iis Leniawati and Mochamad Ziaul Haq, "The Implementation of Islamic Moderation Principles in Addressing the Challenges of Political Identity Polarization," *Integritas Terbuka: Peace and Interfaith Studies* 3, no. 2 (2024): 151–64.

<sup>19</sup> Labibah Sayaka Ilma Sayaka et al., "Moderation In The Qur'an: Building Pluralism Through The Principle Of Wasatiyyah (Case Study Of Surah Al-Hujurat 49: 13)," *Fikroh: Jurnal Pemikiran Dan Pendidikan Islam* 18, no. 1 (2025): 114–26.

union of deep learning and Islamic pedagogy can become a dynamic force in upholding moderation, preventing extremism, and nurturing a generation of digitally savvy yet ethically grounded Muslims.

#### **4. Challenges and Ethical Considerations**

While the benefits of integrating deep learning into Islamic Religious Education are significant, several critical challenges and ethical dilemmas must be acknowledged and addressed. First and foremost is the issue of technical readiness. Many Islamic educational institutions particularly in rural or under-resourced areas struggle with limited access to digital infrastructure, including stable internet, compatible devices, and AI-supported software. The implementation of advanced learning technologies therefore risks widening the digital divide, privileging students in urban or elite institutions while marginalizing others. Additionally, there exists a pedagogical gap. Most religious educators have limited exposure to AI tools, lacking the training necessary to effectively integrate them into spiritually meaningful instruction. Without adequate professional development and cross-disciplinary collaboration, the risk is that technology may be either misused, underutilized, or seen as threatening to traditional teaching methods.<sup>20</sup>

Another layer of complexity involves ethical and theological concerns. Unlike secular subjects, religious education deals with sensitive content tied to identity, belief, and sacred values. Delegating aspects of this instruction to AI systems raises questions about authenticity, doctrinal accuracy, and spiritual authority. There is also the pressing issue of data privacy and surveillance ethics especially when systems are designed to monitor online behavior or predict ideological risk. The potential misuse or misinterpretation of such data could lead to unintended stigmatization or violations of students' rights. Furthermore, educators must grapple with the epistemological implications of using machine-learning algorithms in interpreting and delivering divine knowledge.<sup>21</sup> While AI can assist in explaining or contextualizing religious teachings, it must not assume interpretive authority, which in Islam traditionally rests with learned scholars (ulama) who possess deep linguistic, jurisprudential, and spiritual training.<sup>22</sup>

Given these complexities, there is a clear need for the development of a context-sensitive, ethically grounded, and theologically coherent framework to guide the integration of AI in Islamic education. Such a framework should include multistakeholder input involving educators, technologists, theologians, and ethicists to ensure that the deployment of deep learning aligns with Islamic pedagogical values, protects learners' dignity, and fosters genuine spiritual growth. In conclusion, while AI holds significant potential to modernize and enrich

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<sup>20</sup> Maali Mohammed Jassim Alabdulhadi and Kalthoum Mohammed Alkandari, "Practices of Islamic Education Teachers in Promoting Moderation (Wasatiyyah) Values among High School Students in Kuwait: Challenges and Obstacles," *Cogent Education* 11, no. 1 (2024): 2365577.

<sup>21</sup> Muhammad Nurul Mubin, Ahmad Syaffi, and Mubarak Fatahillah, "Integrating Wasathiyyatul Islam Fi Tarbiyah: A Study of Islamic Moderation in Educational Frameworks," *Kontekstualita* 38, no. 01 (2023): 65–82.

<sup>22</sup> Ahmad Darajat Jumadil Kubro and Muhamad Ali, "The Understanding of Islamic Moderation (Wasatiyyah Al-Islam) and the Hadiths on Inter-Religious Relations in the Javanese Pesantrens," *Indonesian Journal of Islam and Muslim Societies* 11, no. 2 (2021): 377–401.



Islamic education, its implementation must be approached with discernment, ethical sensitivity, and a commitment to educational justice, ensuring that technology empowers rather than displaces the human and spiritual dimensions of learning.

## **5. Toward a Transformative Islamic Education Model**

The confluence of deep learning technology and holistic educational philosophy does not merely serve as a tool for modernization it offers a paradigm shift toward a transformative model of Islamic education that is contextually relevant, spiritually grounded, and intellectually progressive. This emergent model transcends the conventional boundaries of religious instruction by integrating personalized, ethics-driven, and technologically enhanced pedagogies that resonate with the evolving needs of the Muslim learner in the digital age. A transformative Islamic education model built on this synthesis empowers educators to move beyond uniform, didactic methods and adopt learner-centered approaches that address the diverse cognitive, emotional, and spiritual profiles of their students. Deep learning algorithms can facilitate adaptive instructional designs, allowing lessons to dynamically adjust to students' learning pace, comprehension levels, and engagement patterns. In doing so, teachers are better positioned to identify individual learning gaps and offer tailored interventions, particularly in complex subjects such as *aqidah* (theology), *fiqh* (jurisprudence), and *akhlaq* (ethics).<sup>23</sup>

Moreover, the integration promotes ethical self-reflection and moral reasoning as core components of the learning process. Through interactive simulations, case-based learning, and dialogic platforms, students are encouraged to explore Islamic principles in real-world scenarios nurturing their capacity to make values-based decisions in ethically ambiguous situations. This aligns seamlessly with the holistic Islamic view that education must cultivate not only intellectual acumen, but also spiritual consciousness and social responsibility. In terms of institutional impact, this model introduces new frontiers for curriculum development, teacher professionalization, and policy innovation. Curricula can be redesigned to integrate AI-mediated learning activities while maintaining the spiritual depth and textual integrity of classical Islamic knowledge. Teacher training programs can include digital literacy modules, interdisciplinary collaboration opportunities, and theological discussions on the epistemological role of AI in religious contexts.<sup>24</sup> Educational policies, particularly in *pesantren* and *madrasah* systems, may also evolve to support equitable access to educational technology, ensuring inclusivity across socioeconomic and geographic lines.

Importantly, this transformative model does not position technology as a replacement for traditional Islamic scholarship, but as a means of augmentation amplifying the reach, relevance, and resonance of Islamic teachings in an era of rapid change. In this vision, teachers remain the moral anchors of the classroom, guiding students with wisdom, compassion, and contextual sensitivity, while technology functions as a catalyst for engagement and insight. Ultimately, the integration of deep learning with holistic Islamic pedagogy represents a proactive reimagining

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<sup>23</sup> Sumbul Ansar Khan and Syed Zubair Ahmed, "Cultivating Minds, Inspiring Change: Transformative Paradigms in Islamic Education," *The Critical Review of Social Sciences Studies* 3, no. 1 (2025): 3204–14.

<sup>24</sup> Afif Alfianto et al., "Towards Transformative Islamic Education: Reflections and Projections on the Direction of Islamic Education," *Ulul Albab: Majalah Universitas Muhammadiyah Mataram* 28, no. 2 (2024): 88–98.

of the educational process one that prepares Muslim learners not just to absorb information, but to internalize values, develop critical religious consciousness, and navigate the multifaceted challenges of contemporary life with integrity and purpose. It signals a bold yet balanced step toward an Islamic education of the future, rooted in tradition, responsive to change, and committed to the holistic flourishing of the individual and the ummah.<sup>25</sup>

## **Conclusion**

This study has explored the integration of deep learning technologies and holistic pedagogical approaches within the framework of moderate Islamic Religious Education (PAI). In response to the educational challenges of the digital era, the study affirms that the convergence of artificial intelligence and spiritual-ethical pedagogy can offer a transformative model that is both technologically advanced and religiously grounded. By aligning deep learning's adaptive and personalized capabilities with the holistic values of Islamic education intellectual, emotional, spiritual, and social educators can foster a more engaging, relevant, and balanced learning experience. This fusion is particularly timely for addressing the needs of digital-native learners who require interactive and meaningful content without compromising the core values of religious instruction.

Moreover, the findings underscore the vital role of this integration in promoting the principles of Islamic moderation (*wasathiyah*). It demonstrates the potential of AI-powered systems to detect and counter radical content, nurture critical religious literacy, and support ethical development. The ethical use of such technologies must be ensured, particularly regarding spiritual content sensitivity, data privacy, and the irreplaceable role of human educators. The implications of this study are threefold:

1. **Pedagogical Innovation:** Islamic education institutions are encouraged to adopt deep learning tools within a holistic instructional design to enhance student engagement and religious understanding. Future curricula should include AI literacy for educators and ethical guidance in digital learning.
2. **Policy and Institutional Reform:** Islamic educational stakeholders such as ministries, pesantren networks, and private institutions should initiate policy reforms to facilitate AI integration, provide digital infrastructure, and support professional development in Islamic schools.
3. **Further Research Directions:** This study opens pathways for empirical investigation into how deep learning applications influence student attitudes, moral reasoning, and spiritual growth in Islamic educational contexts. Longitudinal studies and cross-disciplinary collaborations between Islamic scholars and AI developers are recommended.

In conclusion, the integration of deep learning and holistic pedagogy presents not only a response to technological disruption but also a vision for a future-ready, inclusive, and morally grounded Islamic education. This model equips learners with the ethical compass and critical

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<sup>25</sup> Jusubaidi Jusubaidi et al., "A Model of Transformative Religious Education: Teaching and Learning Islam in Pondok Modern Darussalam Gontor, Indonesia," *Millah: Journal of Religious Studies* 23, no. 1 (2024): 171–212.

insight necessary to navigate the complexities of the modern world while remaining anchored in the values of moderation, wisdom, and faith.

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