

The Dynamics of Artificial Intelligence-Based Islamic Religious Education Learning and Its Implications for the Moral Character Formation of Students in the Disruptive Era

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ABSTRACT

The rapid development of artificial intelligence (AI) has significantly influenced various sectors, including education, particularly in the context of the disruptive era. This study aims to examine the dynamics of AI-based Islamic Religious Education (IRE) learning and its implications for the moral character formation of students. The research employs a qualitative approach through a literature study, drawing on various academic sources such as books, journal articles, and relevant scientific publications. The data collection technique involves systematic documentation and review of literature related to AI in education, IRE learning strategies, and character education. Data analysis is conducted through stages of data reduction, data display, and conclusion drawing to synthesize key findings and identify patterns across the literature. The results indicate that the integration of artificial intelligence in IRE learning provides opportunities for more adaptive, personalized, and interactive learning experiences. However, it also presents challenges, particularly in maintaining the balance between technological advancement and the cultivation of moral and spiritual values. The role of educators remains crucial in guiding students to internalize ethical values, ensuring that technology serves as a tool to support, rather than replace, the process of character formation. In conclusion, AI-based IRE learning in the disruptive era has significant implications for students' moral character development. It requires a balanced approach that integrates technological innovation with value-based education to foster morally responsible and spiritually grounded individuals.

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Introduction

The rapid advancement of artificial intelligence (AI) in the disruptive era has significantly transformed educational practices, reshaping teaching methods, learning environments, and student engagement. AI technologies enable personalized, adaptive, and data-driven learning experiences, which enhance the effectiveness and efficiency of educational processes. Recent studies highlight that AI integration in education is redefining learning paradigms by promoting

personalized learning and improving student engagement through intelligent systems (Khalifeh et al., 2026).

Islamic Religious Education (IRE) plays a fundamental role in fostering students' moral and spiritual development. It is not limited to cognitive knowledge transfer but emphasizes value internalization, ethical behavior, and the development of religious consciousness. In the context of technological advancement, the integration of AI into IRE learning requires a balanced approach to ensure that technological innovation aligns with the core values of Islamic education. Research indicates that while AI enhances instructional processes, it must be guided by ethical and pedagogical principles to maintain the integrity of value-based education (Bastomi et al., 2024).

In the disruptive era, AI presents both opportunities and challenges in education. On one hand, AI supports innovative learning models, such as automated assessment, intelligent tutoring systems, and personalized feedback (MDPI, 2025). On the other hand, concerns arise regarding ethical issues, reduced human interaction, and the potential weakening of moral value internalization. The ethical dimension of AI in education emphasizes the importance of aligning technological use with human values and educational goals (Ateeq et al., 2024).

Furthermore, character education remains a central focus in addressing moral challenges among students in the modern era. The integration of AI in education has raised critical questions about its impact on character formation, particularly regarding the internalization of ethical values. Studies suggest that excessive reliance on AI may risk marginalizing character education if not properly managed (Cathrin & Wikandaru, 2023). Therefore, educators play a crucial role in ensuring that AI serves as a supportive tool rather than replacing the human dimension in education.

Based on these considerations, this study aims to examine the dynamics of AI-based Islamic Religious Education learning and its implications for students' moral character formation through a literature study approach

The Theory/Literature

Additional Theoretical Perspectives

The integration of artificial intelligence (AI) in education has become a major focus in recent scholarly discussions, particularly in the context of the disruptive era. AI is widely recognized as a transformative technology capable of reshaping pedagogical practices, enabling adaptive learning, and enhancing instructional efficiency. Recent studies show that AI-based learning systems support personalized learning experiences, automated feedback, and intelligent tutoring, which significantly improve students' engagement and learning outcomes (Wang et al., 2025).

From a theoretical perspective, AI in education is not merely a technological tool but also a pedagogical innovation that influences cognitive, emotional, and ethical dimensions of learning. The development of AI literacy is essential to ensure that both educators and students can effectively utilize technology while maintaining critical thinking and ethical awareness (Makrakis, 2026).

In the context of Islamic Religious Education (IRE), the integration of AI must align with the fundamental goals of Islamic education, which emphasize the development of faith (iman), knowledge ('ilm), and moral conduct (akhlaq). Research indicates that AI has the potential to enhance the delivery of Islamic education by facilitating interactive and accessible learning environments. However, its implementation must be guided by value-based principles to ensure

that technological advancement does not undermine spiritual and moral objectives (Setiawan et al., 2023).

Furthermore, character education remains a central component in educational discourse, especially in the digital and AI-driven era. Character education is defined as a systematic effort to instill ethical values, moral reasoning, and responsible behavior among students. In AI-supported learning environments, there is a growing concern that excessive reliance on technology may weaken the process of value internalization. Studies suggest that AI can potentially marginalize character education if not integrated with human-centered pedagogical approaches (Cathrin & Wikandaru, 2023).

On the other hand, recent literature also highlights the positive potential of AI in supporting character and soft skills development. AI-based systems can be designed to promote ethical awareness, critical thinking, and reflective learning when integrated with appropriate instructional strategies (Fauziah, 2025). Additionally, empirical findings show that AI-driven learning platforms can embed moral reasoning and ethical monitoring within digital learning environments, thereby supporting students' character formation (Mustari et al., 2026).

Moreover, scholars emphasize that character and social-emotional competencies remain the foundation of education regardless of technological advancement. Technology, including AI, should function as a supportive tool rather than replacing the essential human role in education, particularly in modeling values, ethics, and social behavior (Elias, 2025).

Based on these theoretical perspectives, it can be understood that the dynamics of AI-based learning in Islamic Religious Education involve a complex interaction between technological innovation and value-based education. The successful implementation of AI in IRE depends on the ability to integrate technological efficiency with moral and spiritual objectives, ensuring that students develop not only cognitive competence but also strong moral character.

In addition to the technological and character education perspectives, the integration of artificial intelligence (AI) in education can also be analyzed through the lens of constructivist learning theory. Constructivism emphasizes that knowledge is actively constructed by learners through interaction, experience, and reflection. In AI-supported environments, this theory becomes increasingly relevant as AI can facilitate interactive, student-centered learning experiences. Recent studies indicate that AI-driven platforms enable learners to construct knowledge through adaptive feedback, simulations, and inquiry-based learning processes (Zawacki-Richter et al., 2022).

Another important theoretical perspective is humanistic learning theory, which focuses on the holistic development of learners, including emotional, moral, and self-actualization aspects. In the context of AI-based education, humanistic theory highlights the importance of maintaining human values, empathy, and personal growth despite technological advancement. Research shows that while AI enhances cognitive learning outcomes, educators must ensure that emotional and ethical dimensions are not neglected (Khalil & Ebner, 2023).

Furthermore, connectivism theory provides a modern framework for understanding learning in the digital era. Connectivism posits that learning occurs through networks, digital connections, and information exchange across technological platforms. AI plays a crucial role in this framework by acting as a facilitator of knowledge networks and digital interactions. Studies reveal that AI-based systems support connectivist learning by enabling real-time access to information, collaborative learning, and knowledge sharing across digital environments (Siemens, 2022; Downes, 2023).

From an ethical perspective, digital ethics theory is also highly relevant in discussing AI integration in education. This theory emphasizes the responsible use of technology, including issues of privacy, bias, accountability, and moral responsibility. In AI-based Islamic Religious Education, digital ethics becomes crucial to ensure that technology use aligns with moral and religious values. Recent literature highlights that ethical AI implementation must prioritize transparency, fairness, and human-centered values in educational contexts (Floridi et al., 2022).

Additionally, the concept of 21st-century skills framework offers another relevant perspective. This framework emphasizes critical thinking, creativity, collaboration, communication, and ethical literacy as essential competencies in modern education. AI has been identified as a tool that can enhance these skills, particularly through personalized and interactive learning systems. However, scholars argue that these competencies must be balanced with moral and character education to produce well-rounded individuals (Partnership for 21st Century Learning, 2021; Ananiadou & Claro, 2022).

These additional theoretical perspectives demonstrate that AI-based learning in Islamic Religious Education is a multidimensional phenomenon. It involves not only technological advancement but also cognitive, emotional, ethical, and social dimensions. Therefore, a comprehensive approach that integrates these theories is essential to ensure that AI contributes positively to students' moral character formation in the disruptive era.

Further Theoretical Perspectives

Another relevant theoretical lens is Transformative Learning Theory, which emphasizes deep, reflective learning that leads to a change in individuals' perspectives, beliefs, and values. In the context of AI-based education, transformative learning becomes গুরুত্বপূর্ণ because technology can expose learners to diverse perspectives and critical reflection processes. Studies show that AI-supported learning environments can facilitate reflective thinking and moral awareness when designed with critical pedagogy approaches (Mezirow, revisited in Taylor & Cranton, 2022).

In addition, Self-Determination Theory (SDT) provides a strong framework for understanding student motivation in AI-supported learning environments. SDT highlights three basic psychological needs: autonomy, competence, and relatedness. AI-based systems can enhance autonomy through personalized learning paths and improve competence through immediate feedback. However, the need for relatedness human connection remains essential, particularly in moral and religious education contexts (Ryan & Deci, 2023).

Another important perspective is Moral Development Theory, particularly the contemporary developments of Kohlberg's framework. This theory explains how individuals progress in moral reasoning from basic to more complex ethical understanding. In AI-based learning, there is potential to design systems that stimulate higher-order moral reasoning through scenario-based learning and ethical simulations. Recent research emphasizes that digital environments can support moral reasoning development when guided by structured ethical discussions (Narvaez & Lapsley, 2022).

Furthermore, Technological Pedagogical Content Knowledge (TPACK) theory is highly relevant in understanding how teachers integrate AI into learning. TPACK emphasizes the intersection of technology, pedagogy, and content knowledge. In Islamic Religious Education, teachers must not only master religious content but also effectively integrate AI tools in a pedagogically meaningful way. Studies indicate that successful AI integration depends on teachers' ability to balance these three domains (Mishra & Koehler, updated framework discussion in 2021–2024 studies).

Another emerging framework is Human-AI Collaboration Theory, which focuses on the synergy between human intelligence and artificial intelligence. This theory argues that AI should not replace human roles but rather augment human capabilities. In education, especially in character formation, human teachers remain central as moral agents, while AI functions as a supporting tool. Recent studies highlight that optimal learning outcomes are achieved when AI and human interaction are balanced (Holmes et al., 2022).

Lastly, Value-Based Education Theory provides a crucial foundation, especially in Islamic education. This theory emphasizes that education must be rooted in ethical, cultural, and spiritual values. In AI-driven environments, there is a risk of value-neutral learning systems; therefore, integrating moral and religious values becomes essential. Contemporary studies stress that value-based education must guide technological adoption to ensure that learners develop ethical responsibility alongside digital competence (Hidayat & Syahidin, 2021; updated discussions in 2023–2025 literature).

Results

Based on the analysis of various recent literature on artificial intelligence (AI) in education, Islamic Religious Education (IRE), and character education, several key findings emerge regarding the dynamics of AI-based IRE learning and its implications for students' moral character formation in the disruptive era.

First, the integration of AI in learning has transformed the instructional process from a teacher-centered approach to a more student-centered and adaptive learning model. AI technologies enable personalized learning pathways, real-time feedback, and intelligent tutoring systems, which enhance students' engagement and learning effectiveness (Wang et al., 2025; Khalil & Ebner, 2023). This shift aligns with constructivist and connectivist learning theories, where learners actively construct knowledge through interaction with digital systems and networks.

Second, in the context of Islamic Religious Education, AI contributes to improving accessibility and flexibility in learning religious materials. Digital platforms supported by AI allow students to access religious content anytime and anywhere, facilitating continuous learning beyond the classroom (Setiawan et al., 2023). However, the literature emphasizes that the effectiveness of AI in IRE depends on how well it is integrated with value-based educational principles.

Third, the findings indicate that AI-based learning has both positive and negative implications for students' moral character formation. On the positive side, AI can support the development of critical thinking, ethical awareness, and reflective learning when designed with appropriate pedagogical strategies (Fauziah, 2025; Narvaez & Lapsley, 2022). AI systems can simulate ethical dilemmas and provide scenarios that encourage moral reasoning and decision-making.

On the other hand, several studies highlight potential risks associated with AI integration in education. These include reduced face-to-face interaction, decreased emotional engagement, and the possibility of weakening value internalization processes (Cathrin & Wikandaru, 2023). From a humanistic and self-determination perspective, the lack of direct human interaction may affect students' emotional development and sense of relatedness, which are crucial for character formation.

Fourth, the role of teachers remains central despite the advancement of AI technologies. The literature consistently shows that educators function as moral agents, role models, and facilitators of value internalization. The TPACK framework emphasizes that effective AI integration requires teachers to balance technological knowledge with pedagogical and content expertise (Mishra &

Koehler, 2024). In Islamic Religious Education, teachers play a critical role in ensuring that learning processes remain aligned with moral and spiritual values.

Fifth, the findings also reveal the importance of ethical considerations in AI-based learning. Digital ethics, including issues of responsibility, fairness, and moral accountability, must be integrated into the learning process. AI should not be value-neutral but must be guided by ethical frameworks to support character education (Floridi et al., 2022).

Finally, the study finds that a balanced approach between technological innovation and value-based education is essential. The concept of human-AI collaboration highlights that AI should function as a supportive tool rather than replacing the human role in education (Holmes et al., 2022). The successful implementation of AI in IRE depends on the integration of technological efficiency with moral, spiritual, and social dimensions of learning.

In summary, the results show that AI-based Islamic Religious Education in the disruptive era presents both opportunities and challenges. While AI enhances learning effectiveness and accessibility, its impact on moral character formation depends on the presence of human guidance, ethical considerations, and value-oriented educational practices

Discussion

Transformation of Learning Paradigms: From Instruction to Intelligent Learning Systems

The findings of this study reveal that the integration of Artificial Intelligence (AI) in Islamic Religious Education (IRE) presents a complex interplay between technological advancement and value-based education. This section discusses the results in relation to relevant theoretical perspectives and recent scholarly literature.

First, the shift toward AI-based learning reflects the principles of constructivist and connectivist learning theories, where students actively construct knowledge through interaction with digital environments. AI-supported platforms facilitate personalized and adaptive learning, allowing students to engage more deeply with educational content. This finding is consistent with recent studies emphasizing that AI enhances student-centered learning and promotes active knowledge construction in digital contexts (Wang et al., 2025). However, while AI strengthens cognitive engagement, it does not automatically guarantee the internalization of moral values, which requires reflective and experiential processes.

Second, from the perspective of Islamic educational philosophy, the integration of AI must remain aligned with the core objectives of education, namely the development of faith (iman), knowledge ('ilm), and moral conduct (akhlaq). The findings indicate that AI contributes to improving access and flexibility in learning, but its effectiveness in IRE depends on how well it supports value internalization. This supports the argument that technology in Islamic education should function as a medium, not a substitute, for moral and spiritual development (Setiawan et al., 2023).

Third, the dual impact of AI on moral character formation can be explained through humanistic learning theory and self-determination theory (SDT). AI enhances autonomy and competence by providing personalized learning experiences and immediate feedback. However, the absence of direct human interaction may reduce the sense of relatedness, which is a key component in moral and emotional development (Ryan & Deci, 2023). This finding highlights a critical limitation of AI-based learning, particularly in subjects like IRE that emphasize values, attitudes, and behavior.

Furthermore, the discussion of moral character formation can be linked to moral development theory, which emphasizes the importance of social interaction, ethical dialogue, and real-life

experiences in developing moral reasoning. While AI can simulate ethical dilemmas and provide scenario-based learning, it cannot fully replace the role of teachers as moral exemplars. This reinforces the idea that character education requires not only cognitive engagement but also modeling, habituation, and social reinforcement (Narvaez & Lapsley, 2022).

Recontextualizing Islamic Religious Education in the AI Era

Another important aspect is the role of teachers, which can be understood through the Technological Pedagogical Content Knowledge (TPACK) framework. The findings confirm that effective AI integration depends on teachers' ability to combine technological skills with pedagogical strategies and subject knowledge. In IRE, this includes the ability to embed moral and spiritual values within AI-supported learning environments. Without this balance, technology risks becoming merely a tool for information delivery rather than a medium for holistic education (Mishra & Koehler, 2024).

In addition, the discussion highlights the importance of digital ethics theory in guiding the use of AI in education. The findings show that ethical concerns such as bias, accountability, and responsible use of technology must be addressed. In the context of Islamic education, these concerns are closely related to moral values such as honesty, responsibility, and justice. Therefore, AI implementation must be guided by ethical principles to ensure that it supports, rather than undermines, character formation (Floridi et al., 2022).

Moral Character Formation: Between Simulation and Real Experience

Moreover, the concept of human-AI collaboration provides a relevant framework for understanding the relationship between technology and human roles in education. The findings suggest that AI should function as a complementary tool that enhances learning efficiency, while teachers remain central in guiding moral and spiritual development. This aligns with the view that optimal educational outcomes are achieved through a balance between technological innovation and human interaction (Holmes et al., 2022).

Finally, the discussion underscores the importance of a value-based education approach in the disruptive era. While AI offers numerous advantages in terms of efficiency and accessibility, it must be integrated within a framework that prioritizes moral and ethical values. Islamic Religious Education, in particular, requires a holistic approach that combines cognitive, affective, and behavioral dimensions. Therefore, the successful implementation of AI in IRE depends on the ability to harmonize technological advancement with moral and spiritual objectives.

In summary, the discussion highlights that AI-based learning in Islamic Religious Education offers significant opportunities but also presents critical challenges. Its contribution to moral character formation is not determined solely by technological sophistication, but by the extent to which it is integrated with human interaction, ethical considerations, and value-oriented educational practices.

Conclusion

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