

ETHICAL CHALLENGES OF USING ARTIFICIAL INTELLIGENCE IN GLOBAL EDUCATION BASED ON SPIRITUALITY AND RELIGIOUS MODERATION

Sekar Puan Maharani¹, Febia Ghina Tsuraya², Nurul Azzahra³, Maftuhah⁴, Afif Faizin⁵

^{1,2,3,4,5} UIN Syarif Hidayatullah Jakarta

¹spmaharaani@gmail.com, ²febiaghina@gmail.com, ³azzahra.nurul27@gmail.com,
⁴maftuhah@uinjkt.ac.id, ⁵afif.faizin@uinjkt.ac.id

Abstrak

Transformasi digital di era globalisasi telah mempercepat integrasi Kecerdasan Buatan (AI) ke dalam pendidikan sebagai alat untuk inovasi pembelajaran yang adaptif, efisien, dan berbasis data. AI memungkinkan pembelajaran personal, evaluasi yang lebih cepat, dan akses yang lebih luas ke pendidikan, namun integrasinya menimbulkan tantangan etika seperti bias algoritmik, risiko privasi data, ketergantungan teknologi, dan potensi dehumanisasi hubungan pembelajaran. Studi ini bertujuan untuk menganalisis tantangan etika penggunaan AI dalam pendidikan global dan merumuskan kerangka kerja etika yang berlandaskan spiritualitas dan moderasi agama. Penelitian ini menggunakan pendekatan penelitian pustaka kualitatif melalui analisis konten literatur ilmiah dan dokumen kebijakan dari dekade terakhir. Temuan menunjukkan bahwa meskipun AI meningkatkan efisiensi dan inklusivitas, implementasinya membutuhkan penguatan tanggung jawab moral, keadilan, dan penghormatan terhadap martabat manusia. Spiritualitas dan moderasi agama berfungsi sebagai prinsip panduan untuk mengembangkan model pendidikan berbasis AI yang inklusif dan humanistik.

Kata Kunci: Kecerdasan Buatan, Pendidikan Global, Etika Teknologi, Spiritualitas, Moderasi Agama, Transformasi Digital.

Abstract.

The digital transformation of the globalization era has accelerated the integration of Artificial Intelligence (AI) into education as a tool for adaptive, efficient, and data-driven learning innovation. AI enables personalized learning, faster evaluation, and broader access to education, but its integration raises ethical challenges such as algorithmic bias, data privacy risks, technology dependency, and the potential dehumanization of learning relationships. This study aims to analyze the ethical challenges of using AI in global education and formulate an ethical framework grounded in spirituality and religious moderation. This study uses a qualitative desk research approach through content analysis of scientific literature and policy documents from the past decade. The findings indicate that while AI increases efficiency and inclusivity, its implementation requires strengthening moral responsibility, justice, and respect for human dignity. Spirituality and religious moderation serve as guiding principles for developing an inclusive and humanistic AI-based education model.

Key Words: Artificial Intelligence, Global Education, Technology Ethics, Spirituality, Religious Moderation, Digital Transformation.

INTRODUCTION

The rapid advancement of digital technology during the era of the Fourth Industrial Revolution and Society 5.0 has significantly influenced many aspects of life, including the education sector. This digital transformation is characterized by the growing implementation of artificial intelligence (AI) in learning activities, educational administration, and the development of academic assessment systems. AI technology allows the educational process to become more efficient by supporting personalized learning, enabling quick analysis of educational data, and facilitating the creation of adaptive learning systems that can be tailored to meet the individual needs of students¹. This indicates that AI technology holds significant potential to enhance the quality of education on a global scale.

In practice, AI has been used in various digital education platforms such as adaptive learning systems, learning analytics, educational chatbots, and automated assessment systems. This technology enables the processing of large amounts of educational data, thereby helping educators to understand students' learning needs more deeply². In addition, AI also drives technological learning innovations that can enhance access to education more broadly, including in the context of global education that demands flexibility, efficiency, and technology integration.

However, despite these opportunities, the use of AI in education also brings about several ethical concerns that require serious consideration. Some ethical challenges that often arise include algorithmic bias in AI systems, the potential violation of student data privacy, disparities in technology access between regions, and the possibility of dehumanization in the educational relationship between educators and students³. The use of AI without a strong ethical framework has the potential to reinforce social injustice and diminish human values in the educational process.

Furthermore, overreliance on AI technology may result in a decrease in students' critical thinking skills and diminish the role of educators as moral and intellectual mentors. Education that is overly automated risks neglecting the humanistic dimension, which has long been the main foundation in the character formation process of students. Therefore, an approach that can balance technological advancement with human values and ethics in education is necessary.

In this context, a spirituality-based approach and religious moderation are important as ethical foundations for the use of AI technology in education. Spirituality in education functions to instill moral values, a sense of responsibility, and transcendental awareness in the utilization of technology⁴. Meanwhile, religious moderation can serve as a framework of values that promotes inclusive attitudes, tolerance, and appreciation of diversity in the educational digital space⁵. The integration of these values is anticipated

¹ Wayne Holmes, Maya Bialik, and Charles Fadel, *Artificial Intelligence in Education Promises and Implications for Teaching and Learning* (Center for Curriculum Redesign, 2019).

² Olaf Zawacki-Richter et al., "Systematic Review of Research on Artificial Intelligence Applications in Higher Education—Where Are the Educators?," *International Journal of Educational Technology in Higher Education* 16, no. 1 (2019): 39.

³ Ben Williamson and Rebecca Eynon, "Historical Threads, Missing Links, and Future Directions in AI in Education," *Learning, Media and Technology* (Taylor & Francis, 2020).

⁴ Martin Parker, *Shut down the Business School: What's Wrong with Management Education* (Pluto Books, 2018).

⁵ Abdul Aziz, "Constructing Ideological Authority: A Study on the Radical and Moderate Muslim Middle Classes in the Contemporary Politics of Indonesian Islam," 2023.

to produce an AI-driven educational system that emphasizes not only technological innovation but also humanitarian and ethical considerations.

Based on this background, it is essential to further explore the ethical challenges associated with the use of Artificial Intelligence in global education and to examine how spirituality and religious moderation can function as ethical foundations in the application of this technology. This study seeks to analyze various ethical issues emerging from the implementation of AI in education and to propose perspectives of spirituality and religious moderation as a value-based framework for developing technology-driven education that is more humanistic, inclusive, and sustainable.

Theoretically, this research is expected to contribute to the development of technology-based education studies that integrate perspectives of ethics, spirituality, and religious moderation. In practical terms, this study is expected to act as a reference for educational institutions, policymakers, and educators in formulating more responsible AI usage policies and practices that are oriented toward human values.

METHOD

This study uses a qualitative approach with a library research method that is descriptive-analytical in nature. This approach was selected to conceptually examine the ethical challenges associated with the use of Artificial Intelligence (AI) in global education and its relevance to the perspectives of spirituality and religious moderation. The study was conducted through a critical review of scientific literature discussing AI in education and technology ethics, as well as spiritual values and religious moderation in the digital context.

The data sources were obtained from scientific journals and relevant policy documents. The literature was selected based on its relevance to the topic, academic quality, and publication within the last ten years. Data were collected by searching academic databases using keywords related to AI in education and technology ethics.

The data were analyzed using content analysis techniques through several stages, including selecting relevant data, categorizing it based on themes, conducting critical interpretation, and formulating conceptual conclusions. The analysis focuses on the ethical challenges of AI, such as algorithmic bias, data privacy, access inequality, and the reduction of human interaction in education, as well as the formulation of an ethical framework based on spirituality and religious moderation to support the development of a more humanistic and inclusive AI-based education.

RESULT AND DISCUSSION

Artificial Intelligence

Artificial Intelligence (AI) can be defined as a computer program designed to simulate human intelligence, including logical reasoning and various other aspects of cognitive ability. AI can be used as a learning assistant that enables the personalization of learning experiences by adapting and enriching the learning process⁶.

Artificial Intelligence (AI) represents a branch of computer science that has a major influence on the transformation of education, as it can imitate human intelligence in analyzing information, learning processes, and making decision activities. In the

⁶ Aisyah Anna Damayanti, Ani Nur Riska, and Anna Devi Turnip, "Menilik Potensi Artificial Intelligence Bagi Masa Depan Pendidikan Global," *JURNAL PETISI (Pendidikan Teknologi Informasi)* 5, no. 2 (2024): 81–91.

educational context, AI enhances the efficiency of learning management through the automation of academic administration, assignment grading, and the analysis of students learning progress. Its ability to process data quickly and accurately enables educators to identify patterns of students learning difficulties, allowing the instructional process to be designed more effectively and aligned with learners' actual needs.

In education, Artificial Intelligence (AI) technology has a crucial role in facilitating the development of learning systems designed for the future. Several important roles of AI in education can be recognized. First, personalized learning, where AI allows the learning process to be adjusted according to the needs, abilities, and characteristics of each learner. Second, more interactive teaching, as AI can enhance learning experiences through technologies such as chatbots, speech recognition, gamification, and augmented reality. Third, the acceleration of the assessment process, since AI helps teachers evaluate assignments and students' learning outcomes more quickly and efficiently using technologies such as handwriting recognition and natural language processing (NLP), enabling feedback to be provided more effectively and in a shorter period of time. Fourth, support for educational research and analysis, where AI is capable of processing large and complex datasets to generate more accurate information regarding trends, patterns, and developments in the learning process ⁷.

Moreover, AI supports the development of adaptive learning by adjusting materials, methods, and levels of difficulty according to each student's abilities. This technology also expands access to more personalized and interactive learning resources and facilitates educational decision-making based on objective data. Consequently, the integration of AI in education improves the effectiveness of the teaching and learning process while also supporting innovation, promoting equal access, and advancing educational standards on an ongoing basis.

Globalization is defined as a process driven by activities or initiatives whose impacts extend beyond national (nationhood) and state (statehood) boundaries, with technological advancement and information openness serving as its primary foundations. Educational globalization refers to a process that enables individuals from different countries to learn together. While the globalization of education has not been entirely realized, it has begun to manifest in several dimensions, particularly through the progress of information and communication technologies and the expansion of international partnerships in education. Educational globalization offers several potential benefits, including improved educational quality, enhanced global competitiveness, and greater intercultural understanding ⁸.

Therefore, AI in global education represents a convergence between developments in artificial intelligence and the globalization process, facilitated by technological innovation and the free flow of information across borders. Artificial Intelligence (AI) operates as an intelligent system designed to replicate human cognitive functions in order to support adaptive, personalized, and data-driven learning. Through these capabilities, AI can improve the efficiency, quality, and accuracy of educational processes. Within the context of globalization, the implementation of AI broadens educational access beyond geographical limitations, encourages international

⁷ Muchlis, "PENGUNAAN ARTIFICIAL INTELLIGENCE (AI) DALAM PEMBELAJARAN PENDIDIKAN AGAMA ISLAM: MANFAAT DAN TANTANGAN," *Kreatif* 23, no. 1 (2025): 100–109.

⁸ Damayanti, Riska, and Turnip, "Menilik Potensi Artificial Intelligence Bagi Masa Depan Pendidikan Global."

collaboration, and enhances global competitiveness as well as educational standards. Therefore, AI functions not only as a tool that supports learning activities but also as a catalyst for educational transformation toward a system that is more inclusive, innovative, and globally oriented.

1. The Implementation of AI in Global Education

One of the major challenges in education is the limited access to educational opportunities for all members of society, particularly for those with economic limitations. The emergence of Artificial Intelligence (AI) technology provides broader opportunities for learners to access learning materials, national and international journals, as well as books and other online learning resources. With the assistance of AI, students can locate references, including international journals, without having to travel to the country where the sources originate. This technology enables learners to obtain information, materials, and knowledge more easily, quickly, and even free of charge from various sources. Artificial Intelligence also facilitates the simplification of the education system in Indonesia by minimizing time and expenses, which helps make the learning process more efficient and effective, and supporting underprivileged students so they can continue learning without leaving their homes. Therefore, the optimal implementation of AI in Indonesian education requires competent human resources as well as active government involvement in conducting public outreach and providing adequate supporting infrastructure.

Artificial Intelligence (AI) has been increasingly implemented in Indonesia's education sector, particularly since the COVID-19 pandemic. Its use can be observed in various forms, including digital and virtual learning materials, automated evaluation systems, personalized learning programs, and the use of video conferencing platforms such as Google Meet, Google Classroom, Zoom, and Microsoft Kaizala. Digital learning content enables students to access quality education at more affordable costs, automated assessment systems help teachers deliver timely and accurate feedback, and personalized learning allows students to learn according to their individual abilities and needs⁹.

There are two approaches to implementing Artificial Intelligence (AI) in educational environments. First, the delegation of certain teaching tasks to AI systems that function as intelligent tutors for individual learners. Second, the use of smart technologies that adapt learning content to each individual through intelligent tutoring systems¹⁰. In this context, AI does not replace the role of teachers rather, it strengthens and complements human intelligence to make the learning process more effective and efficient.

According to¹¹, the use of Artificial Intelligence (AI) in the educational sector manifests in several forms. First, Virtual Mentors that can provide comments, suggestions, and assessments of students exercises, and have been utilized in Europe and America to support learning evaluation. Second, Voice Assistants such as Google Assistant, Siri, and Cortana, which help users find information through voice commands. Third, Intelligent Content used to manage and recommend digital books and learning materials quickly and accurately; for example, the Kippin application for downloading

⁹ Damayanti, Riska, and Turnip.

¹⁰ Inge Molenaar, "Towards Hybrid Human-AI Learning Technologies," *European Journal of Education* 57, no. 4 (2022): 632–45.

¹¹ Fauzy Maarif Mutaqin et al., "Efektif Artificial Intelligence (AI) Dalam Belajar Dan Mengajar," *Jurnal Pendidikan: Seroja* 2, no. 1 (2023): 53–60.

digital books. Fourth, Presentation Translators that facilitate cross-language text comprehension. Fifth, Global Programs in the form of international online platform-based courses that recommend learning according to students' interests and talents. Sixth, the concept of a dual teacher classroom, namely collaboration between conventional teachers and AI systems without eliminating the primary role of teachers. Seventh, Personalized Learning, which tailors instruction to individual needs, as implemented by Khan Academy and Duolingo ¹².

Therefore, it can be inferred that the integration of AI in global education represents the utilization of artificial intelligence technology to widen access, improve quality, and promote equitable education across countries. AI is manifested through various innovations such as adaptive learning (personalized learning), intelligent tutoring systems, virtual mentors, voice assistants, cross language presentation translators, and global course platforms that enable learners to access international materials and programs online.

Through these implementations, AI plays a role not only in improving the efficiency and effectiveness of educational processes but also in promoting international collaboration, reduces geographical and language barriers, and creates more inclusive and competitive educational opportunities in the era of globalization. Thus, AI becomes a strategic instrument in transforming global education into a more open, adaptive, and technology driven system.

2. Positive Impacts and Innovative Opportunities

In the era of globalization, characterized by the rapid advancement of digital technology, the education sector is required to continuously adapt and innovate in order to address contemporary challenges. One of the innovations that has generated significant transformation is the implementation of Artificial Intelligence (AI). The positive impacts and innovative opportunities offered by AI in global education are reflected not only in the enhancement of learning quality but also in the expansion of educational access, increased system efficiency, and the strengthening of educational competitiveness at the international level.

In the context of global education, AI operates through various innovations. First, Presentation Translators, which are technologies that translate text or presentations from one language into another, enabling audiences from diverse backgrounds to understand the material more easily. Second, Global Courses, namely online learning platforms that allow individuals to access courses from different countries, such as Coursera, edX, Udemy, and Khan Academy. These platforms offer a wide range of courses, professional certificates, and even degree programs from leading institutions worldwide. Third, U-Dictionary, a foreign language translation application that enhances accessibility and language skills. Fourth, Duolingo, a gamification-based language learning application that is freely available and easily accessible to various groups ¹³.

The opportunities for implementing Artificial Intelligence (AI) in education provide various strategic benefits. First, personalized learning, where AI facilitates learning that is tailored to each student's pace, abilities, and learning preferences. Second,

¹² Amalia Agustina et al., "Penerapan Teknologi Kecerdasan Buatan (Artificial Intelligence, Ai) Dalam Bidang Pendidikan Menuju Generasi Indonesia Emas 2045," *Temu Ilmiah Nasional Guru XVI* 16, no. November (2024): 129–38.

¹³ Damayanti, Riska, and Turnip, "Menilik Potensi Artificial Intelligence Bagi Masa Depan Pendidikan Global."

increased efficiency and effectiveness, as AI can automate administrative tasks and assessments, allowing teachers to focus more on instruction and the development of students' potential. Third, enhanced accessibility, helping to overcome geographical and physical limitations so that more students can access quality education. Fourth, the development of 21st century competencies such as creativity, problem-solving, collaboration, and digital literacy, which are essential for realizing Indonesia's Golden Generation 2045. To support this vision, it is necessary to optimize infrastructure, data systems, funding, and the national ecosystem, along with technical guidelines for building an AI innovation ecosystem based on triple, quadruple, and penta-helix models that connect government, industry, higher education institutions, research organizations, and society ¹⁴.

In the context of Islamic education, the use of Artificial Intelligence can enhance learning effectiveness through several approaches. First, data-driven personalized learning based on the analysis of students' abilities and interests, allowing materials to be tailored to individual needs. Second, the search and selection of learning materials relevant to the curriculum and students' levels of understanding, thereby assisting teachers in preparing high quality instructional content. Third, gamification-based learning, which incorporates game elements such as rewards, achievements, leaderboards, and challenges into the learning process to increase motivation and engagement, including in the study of the Qur'an, Hadith, and Islamic history. Fourth, AI-based learning evaluation capable of analyzing learning outcomes and providing prompt and accurate feedback to improve teaching strategies ¹⁵.

More broadly, the application of AI in education provides substantial benefits in developing adaptive and innovative learning environments. AI is able to modify learning materials and instructional methods in real time according to students' performance, offer virtual tutors that are accessible at any time, and provide immediate feedback. The use of technologies such as virtual reality (VR) and augmented reality (AR) also enhances learning by making it more interactive and engaging. Furthermore, AI assists in overcoming learning barriers for students with special needs through assistive technologies and analyzes learning data to help educators make more informed decisions (Sabri, 2020). Therefore, the implementation of AI has the potential to establish an education system that is more inclusive, efficient, effective, and aligned with the demands of the 21st century ¹⁶.

Ethical Challenges in the Use of AI in Global Education

In its implementation within the field of global education, Artificial Intelligence (AI) not only offers various strategic benefits such as increased efficiency, personalized learning, and expanded access to education but also presents a number of ethical and structural challenges. The integration of intelligent technologies into educational systems

¹⁴ Agustina et al., "Penerapan Teknologi Kecerdasan Buatan (Artificial Intelligence, Ai) Dalam Bidang Pendidikan Menuju Generasi Indonesia Emas 2045."

¹⁵ Muchlis Muchlis, "Penggunaan Artificial Intelligence (Ai) Dalam Pembelajaran Pendidikan Agama Islam: Manfaat Dan Tantangan," *Kreatif: Jurnal Pemikiran Pendidikan Agama Islam* 23, no. 1 (2025): 100–109.

¹⁶ R Nurhayati et al., "Dinamika Pembelajaran Pendidikan Agama Islam Berbasis Artificial Intelligence (AI)," in *Prosiding Seminar Nasional Fakultas Tarbiyah Dan Ilmu Keguruan IAIM Sinjai*, vol. 3, 2024, 1–7.

carries complex implications, particularly concerning equity, privacy, pedagogical relationships, and the quality of students' cognitive development. Therefore, the use of AI in education should not be viewed merely as an innovative solution; rather, it must be critically examined to ensure that its implementation remains aligned with the principles of justice, humanity, and social responsibility within the context of global education.

In this regard, several major ethical challenges in the implementation of Artificial Intelligence (AI) in global education require serious attention. These challenges include the potential for algorithmic bias and global inequality, issues related to data privacy and security, the risk of overdependence that may lead to a decline in students' critical thinking skills, and the possibility of dehumanization in educational relationships. These four aspects demonstrate that although AI holds transformative potential, its application requires a robust regulatory framework, ethical oversight, and a human-centered pedagogical approach.

1. Algorithmic Bias and Global Inequality

One of the primary ethical challenges in the implementation of Artificial Intelligence (AI) in global education is algorithmic bias, which has the potential to reinforce and expand educational inequalities worldwide. Algorithmic bias occurs when AI systems, developed using non-representative data, produce decisions or recommendations that are unfair to certain groups. This issue can exacerbate global educational disparities, particularly for students from minority backgrounds, vulnerable communities, or countries with limited access to resources.

AI systems in education are generally trained on large datasets that often reflect the conditions, languages, and norms of developed countries or majority groups. When these algorithms are used to generate assessments, course recommendations, or predictions of student performance, they tend to produce more accurate results for groups that closely resemble the training data. Conversely, students from low-income countries or from linguistic and cultural backgrounds that are underrepresented in the data may receive less accurate or less fair outcomes, such as suboptimal learning recommendations or biased evaluations. As a result, rather than expanding access to education, AI may inadvertently deepen global inequalities in education¹⁷.

Scientific studies also indicate that many AI systems in education exhibit biases against marginalized groups. For instance, some AI tools are more accurate in evaluating students from dominant cultural backgrounds but less precise when assessing students from lower socioeconomic backgrounds or minority groups, thereby reinforcing pre-existing structures of inequality. Furthermore, unequal access to technology and the lack of diversity within AI development teams increase the risk that such biases remain unidentified and unaddressed. Therefore, a more equitable approach is required in the design and evaluation of AI systems, including the use of more diverse datasets, transparent algorithmic oversight, and continuous ethical audits to ensure that the benefits of this technology are distributed fairly across all stakeholders in global education¹⁸.

2. Privacy and Data Security

¹⁷ Tariq Mehmood, "Ethical AI in Education: Addressing Bias, Privacy, and Equity in AI-Driven Learning Systems," *AI EDIFY Journal* 2, no. 1 (2025): 38–45.

¹⁸ Anku Bhatnagar and Vikas Somani, "The Ethics of AI in Education: Addressing Algorithmic Bias and Its Impact on Diverse Learners," *Journal of Informatics Education and Research* 5, no. 4 (2025): 2688–2703.

Another major ethical challenge in the use of Artificial Intelligence (AI) in global education concerns student privacy and data security. AI systems in education often require the large-scale collection, processing, and storage of students' personal data, including academic records, learning behaviors, and online interactions. This reliance on extensive datasets poses serious risks to individual privacy if such information is misused, accessed without authorization, or exposed due to weaknesses in security systems. Several studies emphasize that AI systems in education continue to face significant challenges in ensuring the optimal protection of personal data and the security of students' information¹⁹. This situation may threaten students' privacy rights if not accompanied by adequate oversight and protective mechanisms.

Moreover, without a comprehensive regulatory framework and robust data protection policies, the use of AI in education may expose sensitive information to third parties such as platform providers, application developers, or commercial entities without the explicit consent of students or their guardians. Privacy concerns become even more pronounced when AI systems are used for real-time monitoring of students' behavior, as such practices may create a sense of excessive surveillance and potentially undermine the trust-based relationship between students and educators. Therefore, scholars underscore the importance of strong privacy policies, transparency in data governance, and the implementation of the privacy by design principle to ensure that data protection is embedded as an integral component in the development and implementation of AI in education²⁰.

3. Dependency and the Decline of Critical Thinking

One of the ethical challenges in the implementation of Artificial Intelligence (AI) in global education is the potential emergence of excessive dependence on technology, which may lead to a decline in students' critical thinking skills and independent learning abilities. The ease of obtaining instant answers, generating automatic summaries, and completing AI assisted assignments poses the risk of reducing deep learning processes if not balanced with appropriate pedagogical supervision. In such circumstances, students may become more outcome-oriented rather than engaging in the processes of analysis, reflection, and evaluation that should form the core of meaningful learning²¹.

Several studies also emphasize that uncontrolled use of AI may affect the development of students' critical thinking, problem-solving abilities, and creativity. When learners rely excessively on intelligent systems to answer questions or complete tasks, their capacity to evaluate information, identify bias, and construct arguments independently may weaken²². Furthermore, research reviews on AI in education indicate that although this technology offers numerous benefits, its integration must be accompanied by clear pedagogical strategies to ensure that it does not diminish students' active roles in the learning process²³.

¹⁹ Rithvik Gujjula and Kamaljeet Sanghera, "Ethical Considerations and Data Privacy in AI Education," *Journal of Student-Scientists' Research* 5 (2023).

²⁰ Mehmood, "Ethical AI in Education: Addressing Bias, Privacy, and Equity in AI-Driven Learning Systems."

²¹ Neil Selwyn, *Should Robots Replace Teachers?: AI and the Future of Education* (John Wiley & Sons, 2019).

²² Holmes, Bialik, and Fadel, *Artificial Intelligence in Education Promises and Implications for Teaching and Learning*.

²³ Xuesong Zhai et al., "A Review of Artificial Intelligence (AI) in Education from 2010 to 2020," *Complexity* 2021, no. 1 (2021): 8812542.

Therefore, within the context of global education, AI should be positioned as an augmenting tool that enhances human cognitive capacities rather than replacing them. Strengthening digital literacy, fostering ethical technology use, and designing learning experiences that encourage critical analysis and reflective thinking are essential to ensure that the utilization of AI continues to support the optimal development of 21st-century competencies.

4. The Dehumanization of Educational Relationships

Another ethical challenge in the use of Artificial Intelligence (AI) in global education is the potential dehumanization of educational relationships, namely the reduction of meaningful human interaction between teachers and students due to the dominance of technology in the learning process. Education, by its very nature, is not merely the transfer of knowledge, but also a process of character formation, value internalization, empathy development, and social relationship building. When AI systems assume a substantial portion of instructional functions such as content delivery, assessment, and feedback provision there is a risk of diminishing the personal touch and emotional closeness that have traditionally been central to pedagogical relationships ²⁴.

Several studies emphasize that although AI can enhance efficiency and personalize learning experiences, it cannot fully replace the affective and social dimensions cultivated through direct interaction between teachers and students ²⁵. Educational relationships that are excessively mediated by automated systems may reduce opportunities for dialogue, empathy, and character development that naturally emerge through interpersonal communication. Moreover, heavy reliance on intelligent systems may shift the role of teachers from educators to mere technical facilitators, thereby diminishing the professional and moral significance of teachers as social and ethical guides.

In the context of global education, the issue of dehumanization becomes increasingly significant, as AI integration occurs on a massive and cross cultural scale. Therefore, the implementation of AI must be ethically designed by maintaining a human-centered approach to education. Technology should function as a supportive tool that enriches pedagogical interaction, rather than replacing the human relationships that form the fundamental foundation of education.

Spirituality as an Ethical Foundation

The term “spiritual” comes from the English language, rooted in the word “spirit.” In the Oxford Advanced Learner's Dictionary, the word "spirit" is described as having various meanings, including soul, spirit, ghost, enthusiasm, moral strength, and the deepest purpose or meaning of life. Meanwhile, in Arabic, the concept of spiritual is more related to the spiritual aspect and the meaningful dimension of everything, namely the inner side that is not physically visible but has essential value ²⁶. Spirit and its derivatives, such as spiritual and spirituality, refer to what is essential, eternal, and related to the soul,

²⁴ Selwyn, *Should Robots Replace Teachers?: AI and the Future of Education*.

²⁵ Holmes, Bialik, and Fadel, *Artificial Intelligence in Education Promises and Implications for Teaching and Learning*.

²⁶ Ary Ginanjar Agustian, *Rahasia Sukses Membangun Kecerdasan Emosi Dan Spiritual, ESQ (Emotional Spiritual Quotient): Erdasarkan 6 Rukun Iman Dan 5 Rukun Islam* (Arga, 2001).

not to anything temporary or artificial. In Islam, spirituality is always directly linked to divinity and the relationship with God Almighty, based on monotheism²⁷.

Spirituality can be understood as the deepest essence within human beings that shapes how individuals assess themselves, interact with others, and understand the reality around them. This dimension is not only related to inner beliefs but also serves as the foundation of values and ethics in determining attitudes and decisions. More than that, spirituality is a source of motivation that encourages consistent and sustainability-oriented actions. Thus, spirituality plays an important role in uniting various aspects of life so that every effort made has continuity and a positive long-term impact²⁸.

Spirituality is not something separate from humans, but rather the deepest core of human nature. There are two main dimensions within humans, namely the material (physical) dimension and the spiritual (spiritual) dimension. Human behavior arises from the dynamic interaction between these physical and spiritual impulses. Spiritual impulses serve to direct the material side of humanity toward spiritual awareness and divine values. This can be achieved by understanding and appreciating the divine nature, living life according to His guidance, and emulating His Messenger. The ultimate goal is to attain God's pleasure, achieve closeness to Him as a beloved servant, and become a pure person who brings goodness and happiness to others²⁹.

Through spiritual activities such as prayer and other forms of spiritual practice, both individuals and communities have the opportunity to build a deeper closeness with God. This closeness not only strengthens faith but also shapes a calmer and more reflective inner attitude. Furthermore, spirituality leads a person to view every human being as a creature of God who has noble value and dignity. With this awareness, there is an urge to sincerely respect others and to serve them with authentic love and care³⁰.

Recognizing that spirituality shapes human consciousness and conduct, these values should be reflected in all aspects of life, especially in the way people engage with evolving times. A critical context today is how spirituality grounds moral values in technology use, ensuring it aligns with ethics, accountability, and positive impact.

1. Moral values in the use of technology

The rapid advancement of technology in recent decades has brought about major changes in almost all aspects of human life. One of the most notable breakthroughs is the development of Artificial Intelligence (AI), which presents opportunities for transformation in the way humans work, learn, and build relationships with their surroundings. Conceptually, AI refers to a set of systems and algorithms designed to replicate and perform human intelligence functions. Its presence has now spread to various strategic sectors such as healthcare, finance, and education, with significant contributions to improving effectiveness and productivity³¹. However, the pace of innovation is not without critical debate. The development of AI has also given rise to profound reflections on its implications for the spiritual and ethical dimensions of

²⁷ Seyyed Hossein Nasr, "Ensiklopedi Tematis Spiritualitas Islam," *Bandung: Mizan*, 2002, 401–2.

²⁸ Oloria Malau et al., "Spiritualitas Sebagai Landasan Misiologi," *JIMU: Jurnal Ilmiah Multidisipliner* 2, no. 02 (2024): 220–28.

²⁹ Kurniyatul Faizah, "Spiritualitas Dan Landasan Spiritual (Modern and Islamic Values); Definisi Dan Relasinya Dengan Kepemimpinan Pendidikan," *Ar-Risalah Media Keislaman Pendidikan Dan Hukum Islam* 19, no. 1 (2021): 68–86.

³⁰ Malau et al., "Spiritualitas Sebagai Landasan Misiologi."

³¹ Gede Surya Mahendra et al., *Tren Teknologi AI: Pengantar, Teori, Dan Contoh Penerapan Artificial Intelligence Di Berbagai Bidang* (PT. Sonpedia Publishing Indonesia, 2024).

humanity, particularly in relation to how technology affects values, meaning, and moral responsibility in modern life ³².

The use of technology, especially artificial intelligence (AI), is not only related to learning efficiency but also raises ethical issues such as data privacy, algorithm bias, and user responsibility. The integration of moral principles such as justice, responsibility, and respect for human dignity is an important foundation for ensuring that the use of technology remains oriented towards human values. Key issues include accountability, protection of reason, and the moral development of students, so technology must be aligned with ethical principles to support holistic human development ³³.

In the midst of an era of technological disruption marked by rapid developments in digital innovation, advances in artificial intelligence, and significant changes in communication patterns and social structures, new and inevitable dynamics have emerged. This situation requires all parties to not only react to the changes that occur but also actively contribute to directing these developments. Thus, the role taken is not merely one of adaptation, but of helping to build a digital civilization that upholds ethical values and humanitarian principles ³⁴.

The integration of technology, spiritual values, and humanistic perspectives is not merely a choice, but a necessity both in terms of thought and practical application. In the context of modern education, technology has become an integral part of the learning process. However, its use must always be guided by spiritual principles and an orientation that places humans at the center of attention. Without such guidance, technological development has the potential to cause dehumanization and a weakening of moral sensitivity in educational and social life ³⁵.

Thus, affirming moral values and spirituality in the use of technology becomes an integral foundation of a humanistic technological paradigm. The integration of spiritual values such as moral responsibility, justice, empathy, and respect for human dignity can guide the use of technology not only for efficiency or productivity, but also for the common good rooted in inner awareness and transcendental ethics. Spiritual moral awareness must be strengthened in the development and use of digital technology, especially in the context of education, so that technology can enrich human experience without sacrificing the integrity of fundamental moral values ³⁶.

2. Integration of transcendental values in education policy transcendental

Education in the 21st century is characterized by a paradigm shift that emphasizes strengthening critical and innovative thinking skills, collaboration skills, and communication skills in a cross-cultural context. This dynamic goes hand in hand with the increasingly widespread and complex trend of globalization. However, in its development, attention to spirituality and the transcendental dimension of humanity has

³² Noh Ibrahim Boiliu, "Meluhurkan Kemanusiaan Dalam Ekosistem Digital," 2023.

³³ Durorin Nuha Achfama Muhammad Haizul Falah, "Ethical Artificial Intelligence in Education : Aligning Technological Innovation with Islamic Principles The Rapid Advancement of Artificial Intelligence (AI) Has Significantly Transformed Educational Systems by Enabling Personalized Learning , Intellig," no. November 2025 (2026).

³⁴ Johan Karyadi, "Sinergi Teknologi, Spiritualitas, Dan Humanitas Dalam Membangun Budaya Organisasi Pendidikan Islam Yang Adaptif," *Manajemen Pendidikan Islam Transformatif: Era Society 4.0 Dan Industri 5* (2025): 76.

³⁵ Karyadi.

³⁶ Hafidzatul Muslimah and Maya Risa, "Kesadaran Moral Spiritual Terkait Pengembangan Media Pembelajaran Berbasis ICT," *Jurnal Basicedu* 8, no. 6 (2024): 4707–13.

tended to decline. This situation has led to confusion about values and ethical issues in the field of education. This phenomenon further emphasizes the importance of integrating moral and spiritual values as the main foundation of modern education, which often focuses solely on intellectual achievement and technical aspects³⁷.

The integration of transcendental values into the education system is an urgent necessity, especially given the complexity of the challenges faced by students in the contemporary era. This effort is important to support the development of individuals who are not only intellectually developed but also mature in spiritual aspects and strong in moral foundations³⁸.

Education policies that incorporate spiritual dimensions or transcendental values can strengthen character building and ethical awareness among students. This integration can be achieved through value-based curricula, strengthening school culture, and reflective learning that emphasizes the relationship between knowledge and moral responsibility. Studies on the implementation of AI in education in Indonesia also emphasize the importance of ethical frameworks and policies that consider moral and social aspects so that technology not only improves learning effectiveness but also maintains the goal of education as a process of developing well-rounded individuals³⁹.

Several studies show that the implementation of education that integrates transcendental values contributes to reducing the crisis of value orientation and the tendency toward dehumanization in current educational practices. This approach is considered capable of restoring the human dimension in the learning process, which often focuses solely on technical and academic aspects⁴⁰.

This integrated approach is in line with the concept of holistic education developed by UNESCO and the OECD, which emphasizes the importance of harmony between the cognitive, affective, and spiritual dimensions in the learning process⁴¹. This perspective is based on the idea that education should not only focus on improving intellectual capacity, but also provide space for the development of spiritual aspects and the formation of moral character in students. Thus, the educational process is expected to produce individuals who are well-rounded and mature in various aspects of life⁴².

Religious Moderation in the Digital Space

In Indonesia's increasingly open democratic climate, the diversity of views and interests among religious citizens needs to be carefully managed so that every aspiration can be channeled proportionally in accordance with the principles of democratic freedom.

³⁷ Bambang Triyono and Elis Mediawati, "Transformasi Nilai-Nilai Islam Melalui Pendidikan Pesantren: Implementasi Dalam Pembentukan Karakter Santri," *Journal of International Multidisciplinary Research* Vol 1, no. 1 (2023).

³⁸ Dedi Ardiansyah and Basuki Basuki, "Implementasi Nilai-Nilai Kesalehan Sosial Di Pondok Pesantren Dalam Menghadapi Era Society 5.0," *Jurnal Inovasi Pendidikan* 1, no. 2 (2023): 64–81.

³⁹ Riris Setyaningrum Raharjo and Samsul Huda Rohmadi, "Artificial Intelligence in Indonesian Education: A Critical Review of Ethical Considerations, Implementation Challenges, and Educational Management Perspectives," *At-Tarbawi: Jurnal Kajian Kependidikan Islam* 10, no. 1 (2025): 50–68.

⁴⁰ Musleh et al., "Integrasi Nilai Transendental Dalam Pembelajaran Abad Ke-21: Studi Komparatif Kualitatif Antara Kurikulum Pesantren Dan Kurikulum Cambridge," *Jdp (Jurnal Dinamika Pendidikan)* 12, no. 1 (2025): 236–46, <https://doi.org/10.64540/1rdhxx86>.

⁴¹ Tria Ina Utari, "The Evolution of Multicultural Education Indonesia 2000-2022: Bibliometric Analysis, Google Scholar," *Jurnal Manajemen Pendidikan Islam* 8, no. 1 (2023): 20–30.

⁴² Fiona Timmins et al., "Providing Spiritual Care to In-Hospital Patients during COVID-19: A Preliminary European Fact-Finding Study," *Journal of Religion and Health* 61, no. 3 (2022): 2212–32.

The state constitution guarantees the right of every individual to embrace and practice their respective religious teachings. On that basis, the Ministry of Religious Affairs of the Republic of Indonesia was established with the task and responsibility of strengthening the understanding and practice of religious teachings, improving the quality of religious life, maintaining harmony among religious communities, and ensuring fair and quality religious services for the entire community⁴³.

In 2019, the Ministry of Religious Affairs of the Republic of Indonesia launched the “Year of Religious Moderation” agenda as a strategic direction for the implementation of its programs and policies. The concept of religious moderation then became the main spirit that colored various institutional initiatives. Through every activity and policy implemented, the ministry sought to play a balancing role amid the diversity of society and the dynamics of an era of disruption that affected religious and national life⁴⁴.

The idea of moderation in religious life was born as a response to the diversity that characterizes Indonesia. In the Big Indonesian Dictionary (KBBI), the term moderation is defined as an effort to reduce violence and avoid excessive or extreme attitudes. Thus, religious moderation can be understood as an effort to foster balanced, non-violent religious practices that do not exceed boundaries. Various events, such as discrimination, racism, and bullying that use religious differences as an excuse, have reinforced the importance of discussing moderation in religion. The issue of moderation has then developed into a public discourse that continues to be conveyed to Indonesia's diverse society as a response to these various issues and as an effort to maintain social harmony⁴⁵.

Religious moderation can be understood as an effort to reorganize the understanding and practice of religious teachings so that they remain true to their basic substance, which is to uphold human values and preserve the nobility of civilization. In the digital age, strengthening a moderate attitude in religion has become increasingly crucial, given the rapid flow of information in cyberspace that has the potential to trigger polarization, exacerbate conflict, and sharpen identity sentiments. Social media spaces often turn into battlegrounds for discourse and interests, where various views clash to influence public perception. In such conditions, religious moderation serves as an ethical foundation so that interactions in the digital realm continue to take place wisely, politely, and responsibly⁴⁶.

Amidst the rapid development of information technology, which is also influenced by the flow of global capitalism and the fast-paced culture of the digital age, there is a need for moderate and soothing religious narratives. This need is not only felt by certain individuals or institutions, but has become a common interest of the global community. In the fast-paced digital space, the way humans live their lives has also undergone major changes. Whereas previously humans were more active in interacting directly in physical spaces, now many activities have shifted to the digital world. This

⁴³ Ulfah Ulfah, Yuli Supriani, and Opan Arifudin, “Kepemimpinan Pendidikan Di Era Disrupsi,” *JHIP-Jurnal Ilmiah Ilmu Pendidikan* 5, no. 1 (2022): 153–61.

⁴⁴ Wildani Hefni, “Moderasi Beragama Dalam Ruang Digital: Studi Pengarusutamaan Moderasi Beragama Di Perguruan Tinggi Keagamaan Islam Negeri,” *Jurnal Bimas Islam* 13, no. 1 (2020): 1–22.

⁴⁵ Mohamad Badrun Zaman et al., “Harmonisasi Pendidikan Islam Dan Negara: Pengarustamaan Nilai-Nilai Pancasila Dalam Orientasi Pendidikan Pesantren Di Indonesia,” *Jurnal Tarbawi* 10, no. 2 (2022): 139–64.

⁴⁶ Robet Thadi, “Kampanye Moderasi Beragama Di Ruang Digital Indonesia,” *Manhaj: Jurnal Penelitian Dan Pengabdian Masyarakat* 11, no. 2 (2022): 170–86.

change has made humans more inclined to be recipients of information that continuously flows through electronic media, without always having enough space to filter and reflect on it deeply⁴⁷.

1. Strengthening digital literacy based on moderation digital

Digital literacy combined with religious moderation plays a significant role in shaping students' critical and tolerant attitudes. Digital literacy helps students sort through information, understand social contexts, and avoid extreme content in the digital space. Empirical research on madrasah students found that a high level of religious digital literacy correlates with stronger religious moderation attitudes, including critical thinking skills and positive participation in the digital space⁴⁸. In addition, experimental studies show that digital system-based learning models can improve digital literacy while significantly strengthening students' religious moderation compared to conventional methods⁴⁹.

Strengthening moderate attitudes in religion in the digital age can be done by utilizing social media, such as Instagram and Facebook. These two platforms have a huge number of users in Indonesia, reaching tens of millions of people. Instagram, for example, is one of the most popular social media platforms, especially among 18-24 year olds, who are predominantly young people. This situation opens up great opportunities to spread messages of religious moderation to millennials. Currently, many young preachers deliver religious material in simple and easy-to-understand language and are more active in utilizing social media as a means of preaching than traditional methods. Through a more communicative approach that is relevant to the digital lifestyle, messages about the importance of a balanced attitude towards religion can reach a wider audience⁵⁰.

In line with the high use of social media as one of the most accessed sources of information, this digital platform has great potential to be used as a means of socializing various programs run by the Ministry of Religious Affairs of the Republic of Indonesia. Its wide reach allows messages and policies to be received by the public more quickly and effectively. However, easy access to social media needs to be balanced with adequate literacy skills. The ability to understand, sort, and analyze information is crucial so that users are not easily influenced by misleading content. Digital literacy serves as a preventive measure to minimize the various negative impacts that can arise from the use of social media in the current era⁵¹.

A number of studies show that social media and the internet in the digital age open up great opportunities as a means of spreading moderate values. One concrete form of this is by sharing content that encourages kindness and is educational in nature. These

⁴⁷ Khoirul Mudawinun Nisa et al., "Rumah MODEM: Inovasi Aplikasi Sebagai Upaya Membangun Moderasi Beragama Di MAN 2 Tulungagung," *Southeast Asian Journal of Islamic Education Management* 3, no. 1 (2022): 1–12.

⁴⁸ Erna Sari Augusta, "Pemanfaatan Literasi Digital Keagamaan Dalam Menumbuhkan Sikap Moderasi Beragama Siswa," *Jurnal Lingkar Mutu Pendidikan* 21, no. 1 (2024): 1–9.

⁴⁹ Ni Nyoman Lisna Handayani and I Putu Suardipa, "Peningkatan Literasi Digital Dan Moderasi Beragama Melalui Learning Management System Berbasis Trikaya Parisudha Pada Siswa SD Gugus Banyuning," *LAMPUHYANG* 13, no. 2 (2022): 144–55.

⁵⁰ Engkos Kosasih, "Literasi Media Sosial Dalam Pemasarakatan Sikap Moderasi Beragama," *Jurnal Bimas Islam Vol* 12, no. 2 (2019): 264.

⁵¹ A Mayasari, Y Supriani, and ..., "Implementasi Sistem Informasi Manajemen Akademik Berbasis Teknologi Informasi Dalam Meningkatkan Mutu Pelayanan Pembelajaran Di SMK," ... *Ilmiah Ilmu Pendidikan*, 2021, <http://jiip.stkipyapisdompu.ac.id/jiip/index.php/JIIP/article/view/277>.

messages can be packaged in various formats, such as short articles, illustrative images, or short videos with educational elements. This simple step is at least an effort to present more positive content amid the abundance of information on social media that is not necessarily well-controlled. By increasing constructive and soothing material, the digital space can be filled with narratives that are more beneficial to society ⁵².

Digital media should prioritize the creation and distribution of content that promotes mutual respect, messages of peace, and freedom from violence, in order to strengthen religious life in Indonesia. The value of moderation in religion needs to be instilled and disseminated in cyberspace. This step is important in response to the proliferation of manipulative, provocative, and radical information. A moderate attitude towards religion should be a key characteristic in religious practices within Indonesia's diverse society. These values need to be continuously developed and widely disseminated so that they color the patterns of interaction on various digital platforms. With consistent reinforcement, religious moderation can shape a narrative that fosters an atmosphere of peace and harmony in a multicultural social life ⁵³.

Messages about religious moderation in the digital space should combine touching appeals with clear and accurate information. Social media users can design slogans, quotes, or posts that explain balanced religious values. The information conveyed should be supported by data and facts so that it not only attracts attention but also shapes understanding and influences the audience's perspective. The form of delivery is not limited to writing. The message can be packaged through short videos, infographics, or images that describe the meaning descriptively, making it easier to understand and reach a diverse range of social media users ⁵⁴.

In the digital age, preaching activities have become easier to carry out thanks to the support of various online platforms. Religious messages can now be packaged into interesting content and shared through websites and social media such as YouTube and TikTok. The use of video lectures has increased, the writing of articles with an inclusive religious approach has grown, and the values of moderation have been applied in family life. Da'wah methods also need to adapt to the times. A presence in the digital space is a strategic step to ensure that religious messages remain relevant, easily accessible, and able to reach a wide audience ⁵⁵.

2. Inclusive and humanistic AI education models

Following the Fourth Industrial Revolution, the emergence of the Fifth Industrial Revolution has brought new concepts that combine technological sophistication with human values. This combination has triggered significant changes in various fields, including the education sector. The development of digital technology, especially artificial intelligence (AI), has had a major impact on human life. This situation has prompted the need for updates to learning models to keep pace with the challenges and needs of the times. At this stage, digital technology no longer merely serves as a

⁵² Adi Wibowo, "Penggunaan Media Sosial Sebagai Trend Media Dakwah Pendidikan Islam Di Era Digital," *Jurnal Islam Nusantara* 3, no. 2 (2019): 339–56.

⁵³ Fuadul Umam and R. Riski Dwi Koestanto, "Konsep Dan Implementasi Moderasi Beragama Dalam Ruang Digital," *Afkaruna: International Journal of Islamic Studies (AIJIS)* 1, no. 2 (2024): 240–51, <https://doi.org/10.38073/aijis.v1i2.1555>.

⁵⁴ Umam and Koestanto.

⁵⁵ Deni Puji Utomo and Rachmat Adiwijaya, "Representasi Moderasi Beragama Dalam Dakwah Habib Husein Ja'far Al-Hadar Pada Konten Podcast Noice 'Berbeda Tapi Bersama,'" *Pusaka* 10, no. 1 (2022): 212–23.

supporting tool in the educational process, but also shapes the mindset, learning methods of students, and teaching strategies of educators⁵⁶.

In the world of education, artificial intelligence (AI) is no longer positioned merely as a supporting tool but has become an element that drives change in the learning system. Its presence enables the creation of a more flexible learning process that is tailored to the needs of each student. Through this technology, learning materials can be arranged based on the abilities and learning characteristics of students, so that today's educational goals can be achieved more optimally⁵⁷.

Findings from several studies show that humanistic AI-based education models place technology as a tool to support human-centered learning. AI can enhance learning personalization, administrative efficiency, and student participation, but it still requires teachers to play a key role as facilitators. Qualitative studies on the use of AI in schools confirm that AI contributes to learning efficiency and curriculum personalization, but it must be balanced with pedagogical approaches that emphasize human values and social interaction⁵⁸.

AI-based adaptive learning models have been proven to help improve learning outcomes because the material provided is tailored to the students' level of understanding. However, the development of this technology needs to be balanced with the strengthening of social and communication skills so that students not only excel academically, but are also able to compete and interact healthily in the modern era. In religious education, this innovation has also begun to be implemented by utilizing AI as part of a strategy to enrich the learning process and experience in Islamic educational institutions⁵⁹.

Although it offers many opportunities, the use of artificial intelligence in education also presents significant challenges, especially in Islamic education environments that are rich in spiritual dimensions and character building. If the use of technology is not accompanied by the reinforcement of human values and Islamic teachings, the learning process risks losing its personal touch and leading to practices that are less humane⁶⁰. Therefore, a conceptual framework is needed that not only focuses on technological sophistication but also is based on pedagogical principles, ethics, and Islamic spiritual values. The combination of AI and Islamic teachings is an important step in ensuring that learning remains oriented towards holistic human development, producing a generation that is knowledgeable, has noble character, and is able to compete at a global level without losing its Islamic identity⁶¹. Thus, an inclusive and humanistic

⁵⁶ Lovandri Dwanda Putra and Suci Zhinta Ananda Pratama, "Pemanfaatan Media Dan Teknologi Digital Dalam Mengatasi Masalah Pembelajaran," *Journal Transformation of Mandalika* 4, no. 8 (2023): 323–29.

⁵⁷ Putri Sofiatul Maola et al., "Penerapan Artificial Intelligence Dalam Pendidikan Di Era Revolusi Industri 4.0," *Educatio* 19, no. 1 (2024): 61–72.

⁵⁸ Muh Habibulloh, "Ethics of Artificial Intelligence Usage in Education: A Qualitative Study on Teachers' and Students' Perceptions," *International Journal of Interdisciplinary Research* 1, no. 1 (2025): 1–11.

⁵⁹ Amilusholihah Amilusholihah and Narendra Jumadil Haikal Ramadhan, "Exploring the Implementation of Artificial Intelligence in Islamic Education: A Systematic Literature Review," *Ngaji: Jurnal Pendidikan Islam* 5, no. 1 (2025): 3–17.

⁶⁰ Cucun Sunaengsih et al., "AI-Based Teaching Materials for Deep Learning: An Analysis of Usage by Elementary School Teachers," *International Journal of Educational Management and Innovation* 6, no. 2 (2025): 184–201.

⁶¹ Kamal Hamdun et al., "Model Konseptual Pembelajaran Adaptif Berbasis Kecerdasan Buatan Sebagai Inovasi Kontekstualisasi Kurikulum Pendidikan Menuju Indonesia Emas 2045," *Raudhah Proud To Be Professionals: Jurnal Tarbiyah Islamiyah* 10, no. 2 (2025).

AI-based education model is not merely a response to the times but a necessity to provide an adaptive, ethical learning system that upholds human values and spirituality.

CONCLUSION

Artificial Intelligence (AI) in global education plays an important role in improving the quality, efficiency, and access to learning through personalized, adaptive, and data-driven systems, while also encouraging cross-border collaboration and innovation. However, its implementation also presents crucial ethical challenges, such as algorithmic bias and global inequality, privacy and data security issues, the risk of reduced critical thinking skills due to technological dependence, and the potential for dehumanization in educational relationships. Therefore, the implementation of AI needs to be accompanied by strong regulations, ethical oversight, and a human-centered approach in order to remain grounded in the values of justice, humanity, and social responsibility in the context of global education.

The integration of artificial intelligence, spiritual values, transcendental value-based education policies, and the strengthening of religious moderation in the digital space is a strategic unity in building ethical global education. Technology is not neutral; it requires value guidance so that it does not stray from the main objective of education as a process of forming the whole person. With an inclusive and humanistic approach, AI-based education is expected to produce a generation that is intellectually and digitally superior, as well as spiritually mature, moderate in attitude, and committed to the values of humanity and nationality amid the dynamics of globalization.

REFERENCE

- Agusta, Erna Sari. "Pemanfaatan Literasi Digital Keagamaan Dalam Menumbuhkan Sikap Moderasi Beragama Siswa." *Jurnal Lingkar Mutu Pendidikan* 21, no. 1 (2024): 1–9.
- Agustian, Ary Ginanjar. *Rahasia Sukses Membangun Kecerdasan Emosi Dan Spiritual, ESQ (Emotional Spiritual Quotient): Erdasarkan 6 Rukun Iman Dan 5 Rukun Islam*. Arga, 2001.
- Agustina, Amalia, Yaya Suharya, Universitas Terbuka, Tangerang Selatan, and Universitas Terbuka. "Penerapan Teknologi Kecerdasan Buatan (Artificial Intelligence, Ai) Dalam Bidang Pendidikan Menuju Generasi Indonesia Emas 2045." *Temu Ilmiah Nasional Guru XVI* 16, no. November (2024): 129–38.
- Amilusholihah, Amilusholihah, and Narendra Jumadil Haikal Ramadhan. "Exploring the Implementation of Artificial Intelligence in Islamic Education: A Systematic Literature Review." *Ngaji: Jurnal Pendidikan Islam* 5, no. 1 (2025): 3–17.
- Ardiansyah, Dedi, and Basuki Basuki. "Implementasi Nilai-Nilai Kesalehan Sosial Di Pondok Pesantren Dalam Menghadapi Era Society 5.0." *Jurnal Inovasi Pendidikan* 1, no. 2 (2023): 64–81.
- Aziz, Abdul. "Constructing Ideological Authority: A Study on the Radical and Moderate Muslim Middle Classes in the Contemporary Politics of Indonesian Islam," 2023.
- Bhatnagar, Anku, and Vikas Somani. "The Ethics of AI in Education: Addressing Algorithmic Bias and Its Impact on Diverse Learners." *Journal of Informatics Education and Research* 5, no. 4 (2025): 2688–2703.
- Boiliu, Noh Ibrahim. "Meluhurkan Kemanusiaan Dalam Ekosistem Digital," 2023.
- Damayanti, Aisyah Anna, Ani Nur Riska, and Anna Devi Turnip. "Menilik Potensi

- Artificial Intelligence Bagi Masa Depan Pendidikan Global.” *JURNAL PETISI (Pendidikan Teknologi Informasi)* 5, no. 2 (2024): 81–91.
- Faizah, Kurniyatul. “Spiritualitas Dan Landasan Spiritual (Modern and Islamic Values); Definisi Dan Relasinya Dengan Kepemimpinan Pendidikan.” *Ar-Risalah Media Keislaman Pendidikan Dan Hukum Islam* 19, no. 1 (2021): 68–86.
- Gujjula, Rithvik, and Kamaljeet Sanghera. “Ethical Considerations and Data Privacy in AI Education.” *Journal of Student-Scientists’ Research* 5 (2023).
- Habibulloh, Muh. “Ethics of Artificial Intelligence Usage in Education: A Qualitative Study on Teachers’ and Students’ Perceptions.” *International Journal of Interdisciplinary Research* 1, no. 1 (2025): 1–11.
- Hamdun, Kamal, Wahyu Nisawati Mafrukha, Mohammad Firmansyah, and Akmalun Najmi. “Model Konseptual Pembelajaran Adaptif Berbasis Kecerdasan Buatan Sebagai Inovasi Kontekstualisasi Kurikulum Pendidikan Menuju Indonesia Emas 2045.” *Raudhah Proud To Be Professionals: Jurnal Tarbiyah Islamiyah* 10, no. 2 (2025).
- Handayani, Ni Nyoman Lisna, and I Putu Suardipa. “Peningkatan Literasi Digital Dan Moderasi Beragama Melalui Learning Management System Berbasis Trikaya Parisudha Pada Siswa SD Gugus Banyuning.” *LAMPUHYANG* 13, no. 2 (2022): 144–55.
- Hefni, Wildani. “Moderasi Beragama Dalam Ruang Digital: Studi Pengarusutamaan Moderasi Beragama Di Perguruan Tinggi Keagamaan Islam Negeri.” *Jurnal Bimas Islam* 13, no. 1 (2020): 1–22.
- Holmes, Wayne, Maya Bialik, and Charles Fadel. *Artificial Intelligence in Education Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign, 2019.
- Karyadi, Johan. “Sinergi Teknologi, Spiritualitas, Dan Humanitas Dalam Membangun Budaya Organisasi Pendidikan Islam Yang Adaptif.” *Manajemen Pendidikan Islam Transformatif: Era Society 4.0 Dan Industri* 5 (2025): 76.
- Kosasih, Engkos. “Literasi Media Sosial Dalam Pemasarakatan Sikap Moderasi Beragama.” *Jurnal Bimas Islam Vol* 12, no. 2 (2019): 264.
- Mahendra, Gede Surya, Daniel Adolf Ohyver, Najirah Umar, Loso Judijanto, Ayuliamita Abadi, Budi Harto, I Gede Adi Sudi Anggara, Ardiansyah Ardiansyah, Saktisyahputra Saktisyahputra, and I Ketut Setiawan. *Tren Teknologi AI: Pengantar, Teori, Dan Contoh Penerapan Artificial Intelligence Di Berbagai Bidang*. PT. Sonpedia Publishing Indonesia, 2024.
- Malau, Oloria, Yuni Sihombing, Putri Setia Zebua, Melani Hotmaida Napitupulu, and Leli Siopani Tambunan. “Spiritualitas Sebagai Landasan Misiologi.” *JIMU: Jurnal Ilmiah Multidisipliner* 2, no. 02 (2024): 220–28.
- Maola, Putri Sofiatul, Indira Syifa Karai Handak, Yusuf Tri Herlambang, and P Studi Pendidikan Guru Sekolah Dasar. “Penerapan Artificial Intelligence Dalam Pendidikan Di Era Revolusi Industri 4.0.” *Educatio* 19, no. 1 (2024): 61–72.
- Mayasari, A, Y Supriani, and ... “Implementasi Sistem Informasi Manajemen Akademik Berbasis Teknologi Informasi Dalam Meningkatkan Mutu Pelayanan Pembelajaran Di SMK.” ... *Ilmiah Ilmu Pendidikan*, 2021. <http://jiip.stkipyapisdompnu.ac.id/jiip/index.php/JIIP/article/view/277>.
- Mediawati, Bambang Triyono I Elis. “Transformasi Nilai-Nilai Islam Melalui Pendidikan Pesantren: Implementasi Dalam Pembentukan Karakter Santri.” *Journal of*

- International Multidisciplinary Research Vol 1, no. 1 (2023).*
- Mehmood, Tariq. "Ethical AI in Education: Addressing Bias, Privacy, and Equity in AI-Driven Learning Systems." *AI EDIFY Journal* 2, no. 1 (2025): 38–45.
- Molenaar, Inge. "Towards Hybrid Human-AI Learning Technologies." *European Journal of Education* 57, no. 4 (2022): 632–45.
- Muchlis. "PENGUNAAN ARTIFICIAL INTELLIGENCE (AI) DALAM PEMBELAJARAN PENDIDIKAN AGAMA ISLAM: MANFAAT DAN TANTANGAN." *Kreatif* 23, no. 1 (2025): 100–109.
- Muchlis, Muchlis. "Penggunaan Artificial Intelligence (Ai) Dalam Pembelajaran Pendidikan Agama Islam: Manfaat Dan Tantangan." *Kreatif: Jurnal Pemikiran Pendidikan Agama Islam* 23, no. 1 (2025): 100–109.
- Muhammad Haizul Falah, Durorin Nuha Achfama. "Ethical Artificial Intelligence in Education : Aligning Technological Innovation with Islamic Principles The Rapid Advancement of Artificial Intelligence (AI) Has Significantly Transformed Educational Systems by Enabling Personalized Learning , Intellig," no. November 2025 (2026).
- Musleh, Abdul wafi, Fahim Abu Ramadhan, Septiadi, and Ahsan Hakim. "Integrasi Nilai Transendental Dalam Pembelajaran Abad Ke-21: Studi Komparatif Kualitatif Antara Kurikulum Pesantren Dan Kurikulum Cambridge." *Jdp (Jurnal Dinamika Pendidikan)* 12, no. 1 (2025): 236–46. <https://doi.org/10.64540/1rdhzx86>.
- Muslimah, Hafidzatul, and Maya Risa. "Kesadaran Moral Spiritual Terkait Pengembangan Media Pembelajaran Berbasis ICT." *Jurnal Basicedu* 8, no. 6 (2024): 4707–13.
- Mutaqin, Fauzy Maarif, Idah Jubaedah, Herry Koestianto, and Dede Indra Setiabudi. "Efektif Artificial Intelligence (AI) Dalam Belajar Dan Mengajar." *Jurnal Pendidikan: Seroja* 2, no. 1 (2023): 53–60.
- Nasr, Seyyed Hossein. "Ensiklopedi Tematis Spiritualitas Islam." *Bandung: Mizan*, 2002, 401–2.
- Nisa, Khoirul Mudawinun, Salsabila Shofa Harsan, Nisrina Nur Elysia, and Zakkiya Ashhabul Yumna. "Rumah MODEM: Inovasi Aplikasi Sebagai Upaya Membangun Moderasi Beragama Di MAN 2 Tulungagung." *Southeast Asian Journal of Islamic Education Management* 3, no. 1 (2022): 1–12.
- Nurhayati, R, Taufiq Nur, Nur Adillah, and Magfira Urva. "Dinamika Pembelajaran Pendidikan Agama Islam Berbasis Artificial Intelligence (AI)." In *Prosiding Seminar Nasional Fakultas Tarbiyah Dan Ilmu Keguruan IAIM Sinjai*, 3:1–7, 2024.
- Parker, Martin. *Shut down the Business School: What's Wrong with Management Education*. Pluto Books, 2018.
- Putra, Lovandri Dwanda, and Suci Zhinta Ananda Pratama. "Pemanfaatan Media Dan Teknologi Digital Dalam Mengatasi Masalah Pembelajaran." *Journal Transformation of Mandalika* 4, no. 8 (2023): 323–29.
- Raharjo, Riris Setyaningrum, and Samsul Huda Rohmadi. "Artificial Intelligence in Indonesian Education: A Critical Review of Ethical Considerations, Implementation Challenges, and Educational Management Perspectives." *At-Tarbawi: Jurnal Kajian Kependidikan Islam* 10, no. 1 (2025): 50–68.
- Selwyn, Neil. *Should Robots Replace Teachers?: AI and the Future of Education*. John Wiley & Sons, 2019.
- Sunaengsih, Cucun, Aan Komariah, Dedy Achmad Kurniady, and Syifa Hanifa Salsabil.

- “AI-Based Teaching Materials for Deep Learning: An Analysis of Usage by Elementary School Teachers.” *International Journal of Educational Management and Innovation* 6, no. 2 (2025): 184–201.
- Thadi, Robet. “Kampanye Moderasi Beragama Di Ruang Digital Indonesia.” *Manhaj: Jurnal Penelitian Dan Pengabdian Masyarakat* 11, no. 2 (2022): 170–86.
- Timmins, Fiona, Michael Connolly, Stefania Palmisano, Daniel Burgos, Lorenzo Mariano Juárez, Alessandro Gusman, Vicente Soriano, Marcin Jewdokimow, Wojciech Sadłoń, and Aída López Serrano. “Providing Spiritual Care to In-Hospital Patients during COVID-19: A Preliminary European Fact-Finding Study.” *Journal of Religion and Health* 61, no. 3 (2022): 2212–32.
- Ulfah, Ulfah, Yuli Supriani, and Opan Arifudin. “Kepemimpinan Pendidikan Di Era Disrupsi.” *JIP-Jurnal Ilmiah Ilmu Pendidikan* 5, no. 1 (2022): 153–61.
- Umam, Fuadul, and R. Riski Dwi Koestanto. “Konsep Dan Implementasi Moderasi Beragama Dalam Ruang Digital.” *Afkaruna: International Journal of Islamic Studies (AIJIS)* 1, no. 2 (2024): 240–51. <https://doi.org/10.38073/aijis.v1i2.1555>.
- Utari, Tria Ina. “The Evolution of Multicultural Education Indonesia 2000-2022: Bibliometric Analysis, Google Scholar.” *Jurnal Manajemen Pendidikan Islam* 8, no. 1 (2023): 20–30.
- Utomo, Deni Puji, and Rachmat Adiwijaya. “Representasi Moderasi Beragama Dalam Dakwah Habib Husein Ja’far Al-Hadar Pada Konten Podcast Noice ‘Berbeda Tapi Bersama.’” *Pusaka* 10, no. 1 (2022): 212–23.
- Wibowo, Adi. “Penggunaan Media Sosial Sebagai Trend Media Dakwah Pendidikan Islam Di Era Digital.” *Jurnal Islam Nusantara* 3, no. 2 (2019): 339–56.
- Williamson, Ben, and Rebecca Eynon. “Historical Threads, Missing Links, and Future Directions in AI in Education.” *Learning, Media and Technology*. Taylor & Francis, 2020.
- Zaman, Mohamad Badrun, Muhammd Syukri Nawir, Athoillah Islamy, and Afina Aninnas. “Harmonisasi Pendidikan Islam Dan Negara: Pengarustamaan Nilai-Nilai Pancasila Dalam Orientasi Pendidikan Pesantren Di Indonesia.” *Jurnal Tarbawi* 10, no. 2 (2022): 139–64.
- Zawacki-Richter, Olaf, Victoria I Marín, Melissa Bond, and Franziska Gouverneur. “Systematic Review of Research on Artificial Intelligence Applications in Higher Education—Where Are the Educators?” *International Journal of Educational Technology in Higher Education* 16, no. 1 (2019): 39.
- Zhai, Xuesong, Xiaoyan Chu, Ching Sing Chai, Morris Siu Yung Jong, Andreja Istenic, Michael Spector, Jia-Bao Liu, Jing Yuan, and Yan Li. “A Review of Artificial Intelligence (AI) in Education from 2010 to 2020.” *Complexity* 2021, no. 1 (2021): 8812542.