AI-Driven Ethno-Pedagogy: Empowering Primary Madrasah Teachers in Contextual Curriculum Development at MI NU 25 Curugsewu

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Abstract

The integration of Artificial Intelligence (AI) in primary Islamic education presents strategic opportunities for teacher development and contextual pedagogy. This study examines how primary educators at MI NU 25 Curugsewu, Patean, Kendal, utilize generative AI tools to enhance their pedagogical competencies, specifically in designing ethno-pedagogical learning materials rooted in local geography, agriculture, and eco-tourism. Using a qualitative case study design, this research investigates teacher experiences in integrating AI for lesson planning, active learning design, and localized problem-solving in elementary classrooms. The findings indicate that AI serves as an effective collaborative assistant—reducing administrative burdens while stimulating pedagogical creativity. However, AI adoption must be strictly guided by Islamic ethics (tarbiyah) and Ahlussunnah wal Jama'ah values to preserve authentic human teacher-student relationships. This study offers a practical model for rural madrasah teachers in adopting AI ethically to advance contextual Islamic pedagogy.

Abstrak

Integrasi Kecerdasan Buatan (AI) dalam pendidikan dasar Islam menawarkan peluang strategis bagi pengembangan guru dan pedagogi kontekstual. Penelitian ini mengkaji bagaimana pendidik di MI NU 25 Curugsewu, Patean, Kendal, memanfaatkan perangkat AI generatif untuk meningkatkan kompetensi pedagogis, khususnya dalam merancang materi etno-pedagogi berbasis kearifan lokal seperti kondisi geografis, agrowisata, dan potensi alam Curugsewu. Menggunakan desain studi kasus kualitatif, penelitian ini mengeksplorasi pengalaman guru mengintegrasikan AI untuk penyusunan modul ajar, pembelajaran aktif, dan pembuatan soal berbasis masalah lokal. Hasil penelitian menunjukkan bahwa AI berfungsi sebagai asisten kolaboratif yang efektif dalam mengurangi beban administratif sekaligus memicu kreativitas pedagogis. Namun, penggunaan AI harus dibatasi etika Islam (tarbiyah) dan nilai-nilai Ahlussunnah wal Jama'ah guna menjaga keautentikan interaksi guru dan siswa. Penelitian ini memberikan model praktis bagi guru madrasah dalam mengadopsi AI secara etis untuk memajukan pedagogi kontekstual.

Keywords: AI in Islamic Education, Ethno-Pedagogy, Primary Education, Teacher Development, MI NU 25 Curugsewu

Introduction

The rapid rise of Artificial Intelligence (AI) in education demands a critical response from Islamic primary education institutions. While AI offers immense potential for automated lesson planning, personalized learning, and instructional efficiency, primary education—specifically within Madrasah Ibtidaiyah (MI)—requires a careful balance between technological innovation and Islamic moral grounding (*tarbiyah*). In rural educational settings such as MI NU 25 Curugsewu in Patean, Kendal Regency, elementary teachers often face challenges in designing contextualized learning materials that reflect the unique geographical, agricultural, and cultural identity of the Curugsewu area.

Existing scholarship on AI in education primarily focuses on higher education or general secondary schools, often overlooking the ethical and pedagogical nuances of applying AI tools in primary Islamic education. Scholars have explored AI's technical capabilities in classroom settings (Holmes et al., 2019, p. 45), yet few have addressed how primary teachers in faith-based schools utilize AI to foster ethno-pedagogy—learning anchored in local wisdom. This paper addresses two primary questions: (1) How can elementary madrasah teachers ethically leverage generative AI tools to develop local wisdom-based curriculum materials? and (2) What framework ensures that AI adoption enhances teacher pedagogical capacity without diminishing the teacher's central role as a moral and spiritual guide (*murobbi*) grounded in *Ahlussunnah wal Jama'ah* values? By exploring the experiences of educators at MI NU 25 Curugsewu, this research contributes an empirical model of ethical AI integration in rural Islamic primary education.

Discussion

The application of AI tools at MI NU 25 Curugsewu demonstrates that generative AI can serve as a powerful "co-pilot" for primary teachers when designing contextual lesson plans. Rather than relying on generic, standardized textbooks, teachers utilize AI prompts to generate mathematical word problems, science activities, and literacy prompts rooted in the daily lives of students in Curugsewu—such as local eco-tourism, agricultural cycles, and regional natural phenomena.

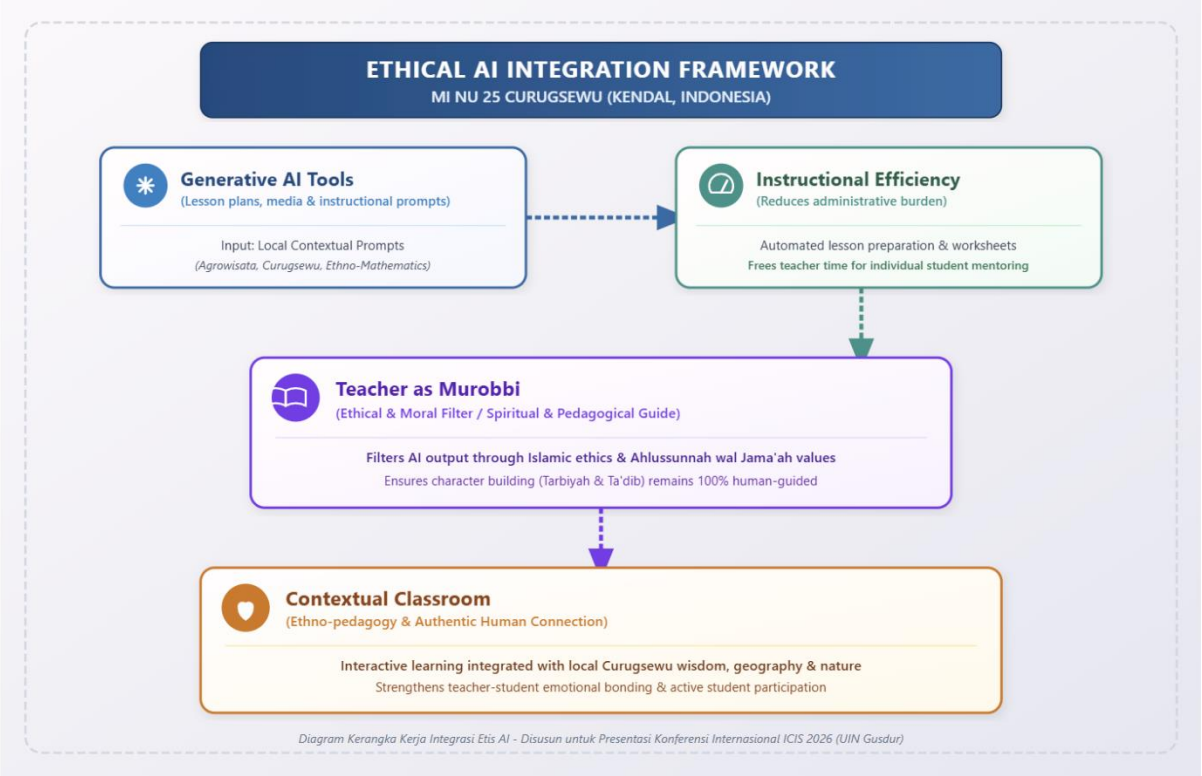
1. AI as a Collaborative Assistant in Ethno-Pedagogical Design

Teachers at MI NU 25 Curugsewu utilize generative AI platforms to streamline administrative tasks, such as creating differentiated learning worksheets and generating ethno-mathematical scenarios. By reducing the time required for lesson preparation, educators can focus more energy on direct, empathetic student interaction and character building. For instance, in 4th-grade mathematics and science lessons, AI tools are prompted to frame abstract concepts around familiar local landmarks and natural environments, making abstract concepts accessible to young learners.

2. Ethical Boundaries and Islamic Pedagogical Principles

Despite its operational benefits, the integration of AI in elementary madrasahs must adhere to strict ethical parameters rooted in Islamic pedagogy. In Islamic education, teaching extends beyond knowledge transfer (*ta'lim*) to holistic spiritual and moral formation (*tarbiyah* and *ta'dib*).[1] AI tools cannot replicate the spiritual presence, emotional empathy, and personal role-modeling of a teacher. At MI NU 25 Curugsewu, the ethical framework dictates that AI remains strictly a backend assistant for instructional design. Direct student exposure to AI is

carefully mediated to prevent digital dependency and to safeguard academic integrity among primary school children.



Conclusion

The ethical integration of Artificial Intelligence at MI NU 25 Curugsewu demonstrates that modern digital tools can be harmonized with traditional Islamic values and local wisdom. AI serves as an effective collaborative engine for teacher professional development, enabling elementary educators to design rich, ethno-pedagogical learning materials efficiently. However, technology must always remain subordinate to the moral and spiritual leadership of the teacher. Future research should examine long-term learning outcomes and student character formation across broader networks of rural primary madrasahs.

References

Az-Zuhaili, Wahbah. (1985). *al-Fiqh al-Islāmī wa Adillatuhu*, vol. II, 2nd edition, Beirut: Dār al-Fikr.

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

Nur Ichwan, Moch. (2001). Differing Responses to an Ahmadi Translation and Exegesis: The Holy Qur'ân in Egypt and Indonesia, *Archipel*, vol. 62, no. 1, pp. 143–161.

Zuhdi, Muhammad. (2018). Modernization of Islamic Education in Indonesia: Past Experiences and Future Challenges, *Journal of Indonesian Islam*, vol. 12, no. 1, pp. 1–22.