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Exploring the Role of Artificial Intelligence in Enhancing English Teachers' Pedagogical Competence: A Case Study in an Indonesian Islamic School

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Abstract

This study examines the impact of Artificial Intelligence (AI) on improving the pedagogical skills of English teachers within a madrasah setting. While AI technologies are progressively incorporated into educational practices, it is crucial to comprehend their influence on instructors' instructional abilities, especially in less examined contexts like Islamic secondary school. This research utilized a qualitative case study methodology engaging five English educators at MTs As'adiyah Puteri Pusat Sengkang, Indonesia. Data were gathered by semi-structured interviews, classroom observations, and document analysis, and processed through thematic analysis facilitated by NVivo. The results indicate that AI assumes a diverse function in educational methodologies. First, it enhances efficiency by supporting lesson planning and material development. Second, it functions as an instructional assistant by facilitating content delivery and providing immediate feedback. Third, it contributes to learning enhancement by increasing student engagement and promoting learner autonomy. However, several challenges were identified, including students' overreliance on AI, ethical concerns, and limited teacher control over its use. This study finds that AI functions as a pedagogical collaborator rather than a substitute for teachers. It underscores the necessity for professional growth and ethical standards to facilitate effective AI integration. The findings enhance the ongoing discourse on AI in education by offering context-specific insights from madrasah environments.

1. Introduction

The swift progression of AI has radically altered numerous sectors of human existence, including education. In the context of the extensive digital transition of the 21st century, AI has surfaced as a formidable technical advancement, poised to revolutionize educational methodologies via automation, personalization, and data-informed decision-making. AI technologies facilitate the analysis of extensive educational data, permitting the detection of learning patterns and the formulation of real-time instructional recommendations (Huang et al., 2020).. This movement signifies a paradigm shift from conventional, teacher-centered methodologies to more flexible and learner-centered educational frameworks.

The growing integration of AI into education is closely aligned with global trends emphasizing innovation, flexibility, and the development of 21st-century skills. AI is increasingly seen as a key enabler of intelligent learning environments that can respond dynamically to learners' needs (Holmes et al., 2022). Moreover, AI technologies such as machine learning and natural language processing have introduced new possibilities for enhancing both teaching efficiency and learning effectiveness (Dwivedi et al., 2021; Makridakis, 2017). These developments suggest that AI is not merely a technological advancement but a transformative force that reshapes the roles of teachers and learners in contemporary education.

In the domain of English language teaching (ELT), artificial intelligence has created novel prospects for enhancing instructional quality and learner engagement. AI-driven solutions, like chatbots, automated writing assistants, and adaptive learning systems, facilitate individualized educational experiences tailored to individual learners' competence levels and preferences. Research has shown that AI applications contribute significantly to personalized learning, automated feedback, and increased student engagement (Crompton & Burke, 2023; Zawacki-Richter et al., 2019). In addition, AI facilitates language learning by supporting authentic interaction, enhancing writing quality, and providing real-time feedback on pronunciation and grammar (Godwin-Jones, 2023; Kohnke et al., 2023). Empirical evidence from the Indonesian context further demonstrates that AI-based training can enhance teachers' competence in developing interactive learning media, delivering feedback, and fostering student motivation through platforms such as Duolingo and AI-assisted writing tools (Mujahidah et al., 2024)

Furthermore, recent developments in generative AI, such as ChatGPT, have introduced new pedagogical possibilities in ELT. These tools can assist in content generation, interactive dialogue, and collaborative learning, thereby promoting critical thinking and learner autonomy (Kasneci et al., 2023; Zhai, 2023). Kohnke et al. (2023) assert that AI technologies can serve as conversational companions, facilitating language practice and enhancing learners' comprehension. This suggests that AI has the capacity to revolutionize both student learning and instructor design and facilitation of educational experiences.

In Indonesia, improving the quality of English language education has become a national priority, particularly in response to globalization and the increasing demand for English proficiency in academic and professional contexts. Government initiatives emphasize enhancing instructional quality, fostering critical thinking, and integrating digital technology into teaching practices (Kemendikbud, 2020). These efforts reflect a broader commitment to educational reform and highlight the importance of equipping teachers with the necessary competencies to integrate technology effectively.

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However, despite these initiatives, the integration of AI in educational practices remains uneven across different contexts. This challenge is particularly evident in Islamic educational institutions such as madrasahs, where technological adoption is often influenced by infrastructural limitations, institutional culture, and teacher readiness. Prior research has highlighted multiple obstacles to technology integration in Indonesian classrooms, including restricted access to digital resources, inadequate training, and low levels of technological proficiency among educators.

(Amin & Sundari, 2020). These findings suggest that the successful implementation of AI is not solely dependent on technological availability but also on teachers' ability to integrate it pedagogically.

Madrasahs represent a unique educational context that combines religious values with general academic instruction. This dual focus creates distinct challenges and opportunities in adopting new technologies such as AI. While madrasahs are increasingly encouraged to embrace digital innovation, the integration of AI must be aligned with their educational values and pedagogical principles. As such, understanding how teachers in madrasah settings perceive and utilize AI is essential for developing contextually relevant educational strategies.

From an educational standpoint, educators are pivotal in facilitating the incorporation of technology into learning processes. Pedagogical competence includes the capacity to create, execute, and assess effective learning experiences (Kemendiknas, 2007). It entails comprehending learners' attributes, choosing suitable instructional methodologies, and establishing significant learning contexts. In the realm of AI integration, educators must transcend mere technical proficiency and cultivate the capacity to employ technology in ways that augment instructional efficacy.

AI offers significant potential to support teachers in developing their pedagogical competence. It can assist in lesson planning by generating teaching materials and learning activities, support instructional implementation through interactive and adaptive tools, and enhance evaluation processes through automated feedback and data analysis (Luckin et al., 2016; Ouyang & Jiao, 2021). These capabilities position AI as a pedagogical assistant that can enhance teachers' efficiency and effectiveness in managing learning processes.

Nonetheless, the incorporation of AI into education also presents significant concerns. The literature has extensively addressed issues like technological overreliance, ethical problems, and data privacy (Selwyn, 2019; Shin, 2021). There is an increasing apprehension that overreliance on AI may diminish pupils' critical thinking abilities and inventiveness. Moreover, the integration of AI in education necessitates meticulous evaluation of ethical standards to guarantee responsible and equitable application (Miao et al., 2021).

Another important issue is the gap between rapid technological development and relatively slow pedagogical adaptation. While AI technologies continue to evolve rapidly, many educational practices remain rooted in traditional approaches that do not fully leverage the potential of these innovations (Popenici & Kerr, 2017; Roll & Wylie, 2016). Consequently, AI is predominantly employed for administrative efficiency rather than for revolutionizing teaching and learning methodologies. This underscores the necessity for a more profound investigation into the integration of AI into pedagogical practices in a more significant manner.

Current studies on artificial intelligence in education have primarily concentrated on higher education and student learning outcomes, while insufficient emphasis has been placed on the pedagogical growth of educators. While research has shown the efficacy of AI in augmenting student engagement and performance, there is a paucity of studies investigating how educators employ AI to enhance their pedagogical skills (Bond et al.,

2019). This reveals a substantial deficiency in the literature, especially regarding the comprehension of AI integration from the viewpoint of educators.

Moreover, studies on technology integration underscore the need of teacher preparedness and professional growth. Educators must have both technological and pedagogical expertise to successfully incorporate digital tools into their instructional methods. (Mollaei & Riasati, 2013). Without adequate training and support, technology integration may remain superficial and fail to produce meaningful learning outcomes. As highlighted by (Firmansyah, 2025), technology should be viewed as a pedagogical partner rather than a replacement for teachers, reinforcing the importance of human-centered education.

Moreover, the context of madrasah education remains underexplored in studies on AI integration. Most existing research has been conducted in general school or higher education settings, with limited focus on Islamic educational institutions. Given the unique characteristics of madrasahs, including their curricular structure and cultural values, there is a need for context-specific research that examines how AI is perceived and utilized in these settings.

Rectifying these gaps is essential for enhancing the comprehension of AI integration in education. Educators are pivotal in educational innovation, and their capacity to incorporate AI into teaching methodologies significantly influences the effectiveness of technology implementation. Comprehending educators' opinions, experiences, and methodologies in utilizing AI might provide significant insights for formulating effective professional development initiatives and educational policies.

Therefore, this study aims to explore the role of Artificial Intelligence in enhancing the pedagogical competence of English teachers at MTs As'adiyah Puteri Pusat Sengkang. This study examines educators' comprehension of AI, their experiences in implementing AI in instruction, and the methods they adopt to enhance its application in the educational process. Specifically, this study enhances the current literature by offering empirical and context-specific insights regarding the integration of AI inside Islamic secondary education, specifically within a madrasah framework.

Furthermore, this work is anticipated to yield both theoretical and practical advances. It theoretically enhances the literature on AI in education by underscoring the role of teachers as proactive agents in technology integration. It provides guidance for educators, policymakers, and organizations in developing training programs and methods to facilitate the effective utilization of AI. This study underscores the significance of collaboration between educators and technology, positioning AI not as a substitute but as an ally in improving educational quality in the digital age.

2. Method

This research utilized a qualitative methodology with an exploratory case study framework to examine the impact of Artificial Intelligence (AI) on improving the pedagogical competency of English educators. A qualitative approach was deemed suitable as it facilitates a comprehensive understanding of participants' perspectives, experiences, and practices within their natural environment (Creswell & Poth, 2018). Given that the integration of AI in madrasah education remains underexplored, an exploratory case study was adopted to generate rich, contextualized insights into this phenomenon (Yin, 2018).

The study was conducted at MTs As'adiyah Puteri Pusat Sengkang, an Islamic junior secondary school located in Wajo Regency, South Sulawesi, Indonesia. The site was selected purposively due to its institutional profile as a reputable madrasah with emerging engagement in technology integration, yet still facing limitations in the implementation of

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AI-based learning. This context provided a relevant setting for examining both the opportunities and challenges associated with AI integration in teaching practices.

The participants consisted of five English teachers selected through purposive sampling. This technique was used to ensure that participants had relevant experience in English language teaching and exposure to digital or AI-supported instructional tools (Patton, 2014). The selection criteria encompassed active teaching status, proficiency with digital learning tools, and readiness to engage in the study. The participant count was established according to the theory of data saturation, whereby data collecting persists until no novel themes arise (Guest et al., 2012).

Data were gathered using three complementing methods: semi-structured interviews, classroom observations, and document analysis. Semi-structured interviews constituted the principal data source, facilitating participants to articulate their viewpoints while permitting the researcher to investigate pertinent issues more thoroughly (Kvale & Brinkmann, 2009). The interviews concentrated on educators' comprehension of AI, their experiences in employing AI in instruction, and the methods they utilized to incorporate AI into teaching practices. Each interview lasted roughly 30 to 60 minutes and was conducted in a flexible, conversational style to elicit comprehensive responses.

Classroom observations were performed to document authentic teaching methodologies and the immediate application of AI tools in educational environments. Observation is especially valuable for comprehending behaviors and interactions that may not be completely expressed in interviews (Creswell & Poth, 2018). The observations focused on instructional strategies, teacher–student interactions, and the ways AI tools were integrated into the learning process. Field notes were taken to document key events, patterns, and contextual factors observed during the lessons.

Furthermore, document analysis was performed to augment the data acquired from interviews and observations. Relevant documents, such as lesson plans, teaching materials, and assessment records, were scrutinized to ascertain signs of AI integration in instructional planning and evaluation. Document analysis provides valuable insights into teachers' pedagogical practices and supports data triangulation (Bowen, 2009).

Consistent with qualitative research methods, the researcher functioned as the principal instrument for data collection and analysis (Sugiyono, 2018). To facilitate systematic data collection, supporting instruments were created, comprising an interview guide, an observation checklist, and a document analysis framework. The instruments were developed in accordance with the study objectives and theoretical frameworks pertaining to pedagogical competency and AI integration.

The data analysis adhered to the interactive paradigm established by Miles, Huberman, and Saldaña (2014), encompassing three simultaneous processes: data reduction, data display, and conclusion drafting. Data reduction entailed the selection and simplification of data to emphasize pertinent themes. The data was organized into categories and thematic patterns for enhanced comprehension. Ultimately, conclusions were formulated and persistently validated by data comparison to ensure consistency and accuracy.

NVivo software was employed to enhance the analytical process by systematic coding and categorization of qualitative data. The analysis comprised three phases: open coding, axial coding, and selective coding (Saldaña, 2015). Open coding was employed to find preliminary concepts, axial coding to ascertain links among categories, and selective coding to formulate primary themes pertaining to instructors' pedagogical competency and AI integration. This systematic method facilitated a thorough and meticulous examination of the data.

To guarantee the reliability of the results, various methods were utilized, encompassing credibility, dependability, and confirmability (Lincoln & Guba, 1985). Credibility was established by data triangulation by contrasting information acquired from interviews, observations, and documents. Member checking was performed to authenticate the findings by engaging participants in the examination of the interpretations. Dependability was guaranteed through a transparent and meticulously documented research procedure, facilitating external evaluation and audit. Confirmability was achieved by reducing researcher bias and ensuring that the results were rooted in the data.

Ethical considerations were meticulously addressed during the research process. Participants were apprised of the study's objective and granted informed consent before data collection commenced. Confidentiality and anonymity were preserved through the utilization of pseudonyms and the implementation of secure data storage measures. Participants were granted the freedom to withdraw from the study at any point without repercussions.

Overall, this methodological approach enabled a comprehensive exploration of how AI is understood and utilized by English teachers in a madrasah context, providing rich insights into its role in enhancing pedagogical competence.

3. Result

This section delineates the conclusions of the study about the impact of Artificial Intelligence (AI) on the pedagogical ability of English instructors at MTs As'adiyah Puteri Pusat Sengkang. The findings are systematically arranged thematically according to the NVivo coding methodology, encompassing open coding, axial coding, and selective coding. Four principal themes emerged from the data: (1) AI as a tool for efficiency, (2) AI as instructional support, (3) AI as learning enhancement, and (4) teachers' concerns toward AI. These themes reflect teachers' understanding, experiences, and strategies in integrating AI into their pedagogical practices.

AI as a Tool for Efficiency

One of the most dominant themes identified in the data is the perception of AI as a tool that enhances efficiency in teaching practices. Teachers consistently described AI as a means to simplify and accelerate routine instructional tasks, particularly in lesson preparation and material development. This finding indicates that AI is primarily understood in functional terms, emphasizing its practical benefits in reducing workload.

Several participants highlighted that AI significantly reduces the time required to prepare teaching materials. For example, one teacher stated:

> *"Before using AI, I spent a lot of time preparing lesson plans and materials. Now I can generate materials quickly, which really helps me, especially when I have many classes" (T2).*

This statement reflects the role of AI in streamlining instructional preparation, allowing teachers to allocate more time to other professional responsibilities. Similarly, another teacher emphasized the ease of use of AI tools:

> *"AI is very easy to use. I just type what I need, and it gives me results immediately. It makes teaching preparation much simpler" (T4).*

The accessibility and user-friendly nature of AI tools appear to lower the barrier to technology adoption among teachers. Rather than requiring advanced technical expertise, AI is perceived as intuitive and readily applicable in everyday teaching tasks.

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In addition to saving time, AI was also associated with reducing cognitive workload. Teachers reported that AI helps them generate exercises and learning materials without starting from scratch. As one participant noted:

> *"Using AI reduces my workload significantly. I don't have to think too much about creating exercises. AI can generate them, and I just adjust them to my students" (T1).*

This finding indicates that AI assists educators in managing monotonous and time-consuming duties, allowing them to concentrate on more intricate facets of instruction. Nevertheless, it is crucial to acknowledge that educators retain authority over the end product, signifying that AI serves as an auxiliary tool rather than a substitute for pedagogical skills.

Overall, this theme demonstrates that teachers primarily perceive AI as a practical solution for improving efficiency. While this reflects a positive attitude toward AI adoption, it also suggests that teachers' understanding of AI remains largely instrumental, focusing on productivity rather than deeper pedagogical transformation.

AI as Instructional Support

Beyond efficiency, AI was also perceived as a tool that supports instructional processes. Teachers described AI as an assistant that helps them design, deliver, and explain learning content more effectively. This theme highlights a shift from viewing AI merely as a tool to recognizing its role in enhancing teaching practices.

One of the key aspects of instructional support identified in the data is material development. Teachers reported using AI to generate teaching materials, such as reading texts, exercises, and examples. For instance:

> *"I often use AI to create teaching materials, like reading texts or exercises. It helps me find ideas quickly, and then I modify them to suit my students" (T1).*

This indicates that AI serves as a source of instructional ideas and content, supporting teachers in designing more varied and adaptable learning materials. However, teachers emphasized the importance of modifying AI-generated content to ensure its relevance and appropriateness for their students.

Another important function of AI in instructional support is feedback provision. Teachers highlighted that AI enables them to provide immediate feedback, particularly in language learning contexts. As one teacher explained:

> *"AI is very helpful in giving feedback, especially for grammar. It can check students' sentences and provide corrections instantly" (T4).*

The ability to provide instant feedback is particularly valuable in language learning, where timely correction plays a crucial role in skill development. AI tools allow teachers to enhance formative assessment practices by offering immediate responses to student work.

Furthermore, AI was conceptualized as a teaching assistant that supports classroom instruction. Teachers reported using AI to explain complex topics and provide additional examples. For example:

> *"Sometimes I feel like AI is my assistant. It helps me explain difficult topics, especially grammar, by giving clear examples" (T3).*

This perception indicates a gradual shift toward a more collaborative relationship between teachers and technology. AI is not only used for administrative tasks but also contributes to instructional delivery. However, this role remains largely teacher-centered, as AI is used to support rather than transform teaching practices.

Overall, this theme suggests that AI enhances instructional support by facilitating material development, feedback provision, and content explanation. While this reflects a more advanced use of AI compared to efficiency-focused applications, it still operates within a traditional pedagogical framework.

AI as Learning Enhancement

Another significant theme emerging from the data is the role of AI in enhancing student learning. Teachers observed that the use of AI contributes to increased student engagement, interaction, and autonomy. This finding highlights the potential of AI to influence not only teaching practices but also learning experiences.

Teachers consistently reported that AI makes learning more interesting and engaging. For example:

> *"When I use AI tools, students seem more interested. They pay more attention and participate actively" (T3).*

This indicates that AI positively influences students' motivation and engagement, which are essential components of effective learning. The interactive characteristics of AI tools seem to provide a more dynamic educational atmosphere than conventional approaches.

Furthermore, AI was discovered to facilitate interactive learning. Educators observed that AI facilitates student engagement in the learning process by allowing them to pose inquiries and receive prompt answers. As one participant explained:

> *"AI creates interactive learning situations. Students can ask questions and get answers directly, so learning is not only from the teacher" (T2).*

This indicates a shift toward more student-centered learning, where students are actively involved in constructing knowledge. AI tools facilitate this process by providing additional sources of information and interaction beyond the teacher.

Another important aspect of learning enhancement is language practice. Teachers reported that AI provides opportunities for students to practice language skills independently. For instance:

> *"Students can use AI to practice speaking or writing. It gives them more opportunities to learn outside the classroom" (T5).*

This finding highlights the role of AI in promoting learner autonomy. By enabling students to practice independently, AI extends learning beyond classroom boundaries and supports continuous skill development.

Furthermore, AI was associated with fostering learner independence. Teachers observed that students become more self-directed in their learning when using AI tools. This aligns with the concept of autonomous learning, where students take responsibility for their own learning process.

This subject illustrates that AI can augment learning by enhancing engagement, fostering interaction, and facilitating autonomy. The realization of these benefits is contingent upon the integration of AI into pedagogical methods.

Teachers' Concerns Toward AI

Despite the positive perceptions of AI, teachers also expressed several concerns regarding its use in education. These concerns reflect the challenges and limitations associated with AI integration, highlighting the need for careful implementation.

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One of the main concerns is students' overreliance on AI. Teachers worried that students may depend too much on AI tools, which could hinder the development of critical thinking skills. As one teacher stated:

> *"I am concerned that students rely too much on AI. They might use it to complete tasks without really understanding the material" (T3).*

This concern suggests that while AI provides support for learning, it may also reduce students' cognitive engagement if not used appropriately.

Another issue is the potential misuse of AI. Teachers reported that students may use AI tools to complete assignments dishonestly. For example:

> *"Students might misuse AI to do their assignments. It becomes difficult to know if the work is really theirs" (T5).*

This highlights the ethical challenges related to academic integrity, which are increasingly relevant in the context of AI-assisted learning.

Additionally, teachers expressed concerns about the lack of control over students' use of AI. Since many AI tools are accessed outside the classroom, teachers find it difficult to monitor how students use them. As one participant explained:

> *"It is difficult to control how students use AI, especially outside the classroom" (T5).*

This indicates a gap between classroom instruction and independent learning, where teachers have limited influence over students' use of technology.

This subject indicates that although AI provides considerable advantages, it also has issues about dependency, misuse, and control. These issues underscore the necessity of formulating rules and strategies for the responsible application of AI in education.

4. Discussion

This study reveals that Artificial Intelligence (AI) plays a multifaceted role in enhancing English teachers' pedagogical competence, encompassing efficiency, instructional support, learning enhancement, and emerging pedagogical challenges. These findings provide important insights into how AI is positioned within teachers' pedagogical practices, particularly in the context of madrasah education, which remains underrepresented in the literature.

AI as a Tool for Efficiency: From Administrative Relief to Pedagogical Opportunity

This study's most significant finding is that teachers predominantly view AI as a means to enhance efficiency, especially in class planning and material preparation. This corresponds with recent studies suggesting that educators primarily utilize AI to alleviate workload and automate repetitive duties (Huang et al., 2020; Luckin et al., 2016). Empirical evidence also suggests that AI is frequently used to support instructional preparation, including generating teaching materials, assessments, and lesson plans.

This efficiency-oriented use of AI reflects what can be described as the "functional adoption stage", where technology is utilized to enhance productivity rather than transform pedagogy. Similar patterns have been identified in broader educational technology research, where teachers initially adopt digital tools for administrative convenience before integrating them into deeper pedagogical processes (Bond et al., 2019).

However, while efficiency gains are beneficial, they also raise important questions about the depth of AI integration. As noted by, the current discourse on AI in education often underemphasizes the role of teachers' professional development, resulting in a gap between technological capability and pedagogical application. In this study, teachers'

reliance on AI for material generation suggests that AI is still primarily positioned as a support tool, rather than as a catalyst for pedagogical innovation.

Nonetheless, the time-saving capability of AI should not be undervalued. By alleviating administrative burdens, AI possibly allows educators to concentrate more on advanced pedagogical tasks, such as crafting impactful learning experiences and delivering personalized feedback. This perspective supports the argument that AI can enhance teacher agency when used strategically, rather than diminishing it (Holmes et al., 2022).

AI as Instructional Support: Emerging Teacher–AI Collaboration

The findings also indicate that teachers increasingly perceive AI as an instructional assistant that supports teaching practices. This reflects a shift from purely functional use toward more pedagogically oriented integration. Teachers reported using AI to generate instructional materials, provide feedback, and explain complex concepts, suggesting the emergence of a collaborative relationship between teachers and AI.

This finding is consistent with the concept of AI as a pedagogical partner, as proposed by Firmansyah (2025), where technology complements rather than replaces the teacher's role. Similarly, recent studies emphasize that AI can enhance instructional quality by supporting content delivery, scaffolding learning, and facilitating adaptive instruction (Crompton & Burke, 2023; Ouyang & Jiao, 2021). This perspective is further supported by Mujahidah et al. (2024), who demonstrated that AI-based training enables teachers to develop interactive learning media, provide immediate feedback, and foster more engaging and adaptive learning environments

This corresponds with the Technological Pedagogical subject Knowledge (TPACK) framework, which emphasizes the necessity of combining technology, pedagogy, and subject knowledge in education. Research on AI-TPACK indicates that educators' proficiency in integrating AI successfully relies on their ability to synchronize technological instruments with pedagogical objectives.

However, the findings also suggest that AI integration remains largely teacher-centered. Teachers use AI to support explanation and feedback, but the overall instructional structure is still controlled by the teacher. This indicates that while AI enhances instructional support, it has not yet fully transformed pedagogical practices into more student-centered or inquiry-based models.

Furthermore, the use of AI for feedback provision reflects its potential to enhance formative assessment. Immediate feedback is widely recognized as a key factor in effective learning, particularly in language education (Han & Hyland, 2019). AI tools enable teachers to provide timely and consistent feedback, thereby improving students' learning outcomes. However, the quality and pedagogical alignment of AI-generated feedback remain important considerations, as AI systems may not always fully capture contextual nuances in student responses.

AI as Learning Enhancement: Toward Student-Centered and Autonomous Learning

Another significant finding of this study is the role of AI in enhancing student learning, particularly in terms of engagement, interaction, and autonomy. Teachers observed that AI increases student participation and creates more interactive learning environments. This supports previous research indicating that AI can foster learner engagement through personalized and interactive learning experiences (Godwin-Jones, 2023; Zawacki-Richter et al., 2019).

The ability of AI to facilitate self-directed learning is particularly noteworthy. Students can use AI tools to practice language skills independently, access learning

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resources, and receive immediate feedback. This aligns with the concept of learner autonomy, which is considered a key goal in language education (Nation, 2022). AI thus extends learning beyond the classroom and supports continuous skill development.

Moreover, recent studies on generative AI highlight its role in promoting critical thinking and exploratory learning. Tools such as ChatGPT enable students to engage in dialogue, generate ideas, and explore complex topics (Kasneci et al., 2023; Zhai, 2023)\. However, these benefits depend on how AI is used within pedagogical frameworks. Without proper guidance, AI may lead to passive learning rather than active engagement.

The results of this study indicate that AI facilitates a transition to more student-centered learning settings. This transition is, nonetheless, incomplete and inconsistent. Although students exhibit greater engagement and autonomy, educators continue to assume a predominant role in organizing learning activities. This suggests that AI has the capacity to enhance student-centered instruction, although its execution necessitates additional refinement.

Teachers' Concerns: Ethical, Pedagogical, and Control Issues

Despite the positive impacts of AI, this study also highlights several concerns related to its use in education. Teachers expressed concerns about students' overreliance on AI, misuse of technology, and lack of control over its use. These concerns are consistent with existing literature, which identifies ethical and pedagogical challenges as key issues in AI integration (Selwyn, 2019; Shin, 2021).

One of the main concerns is the potential for reduced critical thinking. When students rely heavily on AI to complete tasks, they may engage less deeply with the learning material. This issue has been widely discussed in recent research, which emphasizes the need for pedagogical strategies that promote active learning and critical engagement (Kasneci et al., 2023).

Another concern is academic integrity, particularly the misuse of AI for completing assignments. While AI can support learning, it also creates opportunities for plagiarism and superficial learning. This highlights the need for clear guidelines and assessment strategies that align with AI-supported learning environments.

Furthermore, educators indicated challenges in regulating students' utilization of AI, particularly beyond the classroom environment. This illustrates a wider issue in digital education, as learning transcends traditional teaching environments. According to Aravantinos et al. (2026), successful AI integration necessitates technological proficiency, ethical consciousness, institutional backing, and ongoing professional advancement.

These considerations indicate that the incorporation of AI necessitates the establishment of educational and ethical frameworks to govern its application. Miao et al. (2021) emphasizes the importance of responsible AI use in education, highlighting issues such as fairness, transparency, and accountability. Educators are essential in addressing these concerns and ensuring that AI enhances rather than detracts from education.

Bridging the Gap: From Functional Use to Pedagogical Transformation

A key insight from this study is the gap between the potential of AI and its actual implementation in teaching practices. While AI offers significant opportunities for enhancing pedagogical competence, its use remains largely functional and teacher-centered. This reflects a broader trend in educational technology, where innovation often outpaces pedagogical adaptation (Popenici & Kerr, 2017; Roll & Wylie, 2016).

Recent studies highlight that successful AI integration necessitates a transition from mere technological application to pedagogical reform. Educators must transcend the mere utilization of AI for efficiency and formulate ways for its integration into substantive

learning experiences. This necessitates both technological expertise and instructional acumen, together with critical awareness.

Moreover, the results underscore the significance of teacher professional development. Educators require ongoing training to enhance AI-related competencies, encompassing comprehension of AI capabilities, the design of AI-assisted learning activities, and the management of ethical considerations. Research indicates that effective AI integration relies on a synthesis of technology expertise, pedagogical proficiency, and institutional backing.

In the context of madrasah education, this transformation must also consider cultural and institutional factors. AI integration should be aligned with the values and goals of Islamic education, ensuring that technology supports holistic learning rather than purely technical outcomes.

Implications for Pedagogical Competence

This study's findings indicate that AI enhances teachers' educational skills in multiple ways. It improves efficiency, facilitates educational methodologies, and fosters student involvement. Nonetheless, it also presents new issues that necessitate meticulous thought.

Pedagogical competency in the age of AI refers to the capacity to meaningfully incorporate technology into educational processes while balancing efficiency, efficacy, and ethical considerations. This necessitates educators to embrace a reflexive and adaptive methodology, persistently assessing their utilization of AI and its influence on student learning.

AI should be regarded not as a substitute for educators but as a pedagogical ally that amplifies their function as facilitators of learning. The literature underscores that the human aspects of teaching—such as empathy, motivation, and interpersonal interaction—are irreplaceable (Holmes et al., 2022).

5. Conclusion

This research examined the impact of Artificial Intelligence (AI) on improving the pedagogical skills of English educators at MTs As'adiyah Puteri Pusat Sengkang. The findings indicate that AI significantly and diversely supports teachers' pedagogical practices, particularly by improving efficiency, facilitating instructional procedures, and enhancing student learning experiences. Teachers primarily utilized AI as a practical tool to reduce workload, generate instructional materials, and provide immediate feedback, indicating that AI is currently positioned as a supportive rather than transformative technology in teaching practices.

In addition, AI contributes to more engaging and interactive learning environments by promoting student participation, supporting language practice, and fostering learner autonomy. However, its integration remains largely teacher-centered, suggesting that the pedagogical potential of AI has not yet been fully realized. The findings also highlight several challenges, including students' overreliance on AI, ethical concerns related to academic integrity, and limited teacher control over students' use of AI outside the classroom.

This study theoretically enhances the existing literature on AI in education by highlighting the role of teachers as proactive participants in technology integration, specifically in the relatively neglected area of madrasah education. The findings indicate the necessity for specialized professional development programs that provide educators with both technological and pedagogical skills for effective AI integration. Furthermore, explicit standards and policies are necessary to guarantee the appropriate and ethical application of AI in educational environments.

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Future study should investigate the integration of AI in various educational settings, including comparative analyses among institutions, and assess the long-term effects of AI on teaching and learning outcomes. This study emphasizes that AI should be regarded not as a substitute for teachers but as a pedagogical ally that facilitates meaningful, ethical, and student-centered learning in the digital age.

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