

Artificial Intelligence Readiness and Digital Transformation in Islamic Secondary Education

Muh Ibnu Sholeh

STAI Kh Muhammad Ali Shodiq Tulungagung, Indonesia

indocelllular@gmail.com

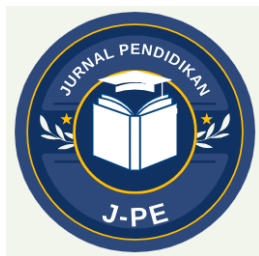
*Correspondence Email: indocelllular@gmail.com.

Abstract: Artificial Intelligence (AI) is increasingly recognized as a catalyst for educational innovation and digital transformation. Despite its growing adoption in educational settings, empirical evidence regarding AI readiness among teachers in Islamic secondary schools remains limited. This study investigates teachers' readiness, utilization patterns, opportunities, and challenges associated with AI integration at MA Darunnajah Trenggalek, Indonesia. An explanatory sequential mixed-method design was employed, involving 42 teachers in a quantitative survey and 10 teachers in semi-structured interviews. Data were analyzed using descriptive statistics, multiple regression analysis, and thematic analysis. The findings indicate that teachers demonstrate a moderate-to-high level of AI readiness, with technological readiness achieving the highest score ($M = 4.11$), followed by pedagogical readiness ($M = 3.89$), ethical readiness ($M = 3.74$), and institutional readiness ($M = 3.56$). ChatGPT (92.8%), Canva AI (81.0%), and Gamma AI (66.7%) emerged as the most frequently utilized AI applications for lesson planning, content development, and assessment preparation. Digital literacy ($\beta = 0.52$), participation in AI-related training ($\beta = 0.38$), and leadership support ($\beta = 0.29$) significantly predicted AI readiness, collectively explaining 62.4% of the variance. Teachers perceived AI as a valuable instructional assistant capable of enhancing efficiency, creativity, and student engagement. Challenges were associated with limited professional development opportunities, ethical concerns regarding academic integrity, infrastructure constraints, and the absence of comprehensive institutional policies. Drawing on the Technology Acceptance Model, Artificial Intelligence in Education, and Digital Transformation Theory, this study proposes an AI Readiness Framework for Islamic Schools that integrates digital literacy, ethical awareness, leadership support, professional development, and institutional governance. The findings highlight that sustainable AI integration requires simultaneous investment in teacher competencies, ethical guidance, and organizational transformation to support innovation in Islamic secondary education.

Keywords: Artificial Intelligence, Islamic Education, Digital Transformation, Teacher Readiness, Educational Innovation.

INTRODUCTION

Artificial Intelligence (AI) has rapidly emerged as one of the most transformative technologies influencing educational systems worldwide. The integration of AI into educational environments has introduced new possibilities for personalized learning, intelligent tutoring systems, automated assessment, adaptive feedback, and data-driven decision-making. Recent advances in generative AI technologies, including ChatGPT, Google Gemini, Microsoft Copilot, and Canva AI, have further accelerated the adoption of AI tools in educational settings by enabling



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

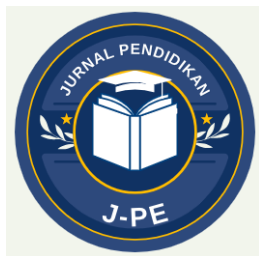
Email: editorjpejurnalpendidikan@gmail.com

teachers to generate instructional materials, design assessments, and support student learning more efficiently (Holmes et al., 2022). As a result, AI is increasingly recognized as a strategic driver of digital transformation in education, supporting both teaching effectiveness and institutional innovation.

The growing influence of AI has prompted educational institutions across the world to reconsider traditional pedagogical approaches and embrace technology-enhanced learning environments. According to Zawacki-Richter et al. (2019), AI applications have the potential to improve learning outcomes through personalized instruction, predictive analytics, and automated educational support systems. Similarly, Luckin et al. (2016) argue that AI can augment rather than replace teachers by enabling educators to focus on higher-order instructional activities while routine administrative tasks are automated. Consequently, AI is no longer viewed solely as a technological innovation but as a catalyst for educational reform and transformation.

In Indonesia, digital transformation has become a national priority within the education sector. The implementation of the Merdeka Curriculum and various digital education initiatives reflects the government's commitment to preparing learners for the demands of the twenty-first century. These reforms emphasize creativity, critical thinking, digital literacy, and technology integration as essential competencies for future generations (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2022). Within this context, AI technologies offer significant opportunities to enhance teaching quality, improve student engagement, and facilitate innovative learning experiences. However, the successful integration of AI depends not only on technological availability but also on the readiness of teachers and educational institutions to adopt and utilize these tools effectively.

Teacher readiness has consistently been identified as a critical factor influencing the success of educational technology implementation. According to Teo (2011), teachers' perceptions, attitudes, and competencies significantly affect their willingness to adopt emerging technologies in classroom practice. Similarly, Davis (1989) emphasizes that perceived usefulness and perceived ease of use are key determinants of technology acceptance among users. In the context of AI integration, teachers require not only technical skills but also pedagogical knowledge and ethical awareness to ensure that AI applications are used responsibly and effectively. Without adequate



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

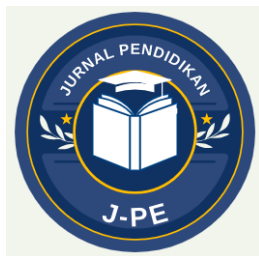
readiness, the potential benefits of AI may not be fully realized, and technology adoption efforts may face substantial resistance.

Although research on AI in education has expanded considerably in recent years, most existing studies have focused on higher education institutions, urban schools, or technologically advanced educational environments (Zawacki-Richter et al., 2019). Comparatively little attention has been paid to Islamic educational institutions, particularly Madrasah Aliyah, which operate within unique cultural, religious, and organizational contexts. Islamic schools play a significant role in Indonesia's educational landscape by integrating religious and general education while promoting moral and character development. Consequently, the adoption of AI technologies in these institutions may involve distinct opportunities and challenges that differ from those observed in secular educational settings.

Furthermore, the integration of AI in Islamic education raises important ethical and pedagogical considerations. While AI can enhance learning efficiency and accessibility, concerns have emerged regarding academic integrity, student dependency on AI-generated content, data privacy, and the alignment of AI-generated information with Islamic values and educational objectives (Kasneci et al., 2023). These concerns highlight the need for a balanced approach that combines technological innovation with ethical responsibility. Therefore, understanding teachers' readiness and perceptions toward AI is essential for developing effective implementation strategies that align with the educational mission of Islamic schools.

Another important issue concerns the digital divide that continues to affect educational institutions in developing countries. While some schools have successfully integrated advanced technologies into teaching and learning processes, others face challenges related to infrastructure, internet connectivity, funding, and professional development opportunities (UNESCO, 2023). These disparities may significantly influence the adoption and effectiveness of AI technologies within different educational contexts. Consequently, empirical studies examining AI readiness at the institutional level are necessary to identify barriers and support evidence-based policy development.

MA Darunnajah Trenggalek represents an appropriate setting for investigating these issues because it has actively participated in digital learning initiatives while simultaneously maintaining



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

its identity as an Islamic educational institution. Despite increasing exposure to digital technologies, limited evidence exists regarding how teachers at the school perceive AI, utilize AI-powered applications, and respond to emerging opportunities and challenges. Understanding these dimensions can provide valuable insights into the broader process of digital transformation within Islamic secondary education in Indonesia.

This study addresses these gaps by examining AI readiness among teachers at MA Darunnajah Trenggalek. Specifically, the study aims to: (1) examine teachers' readiness to integrate AI into learning activities; (2) identify factors influencing AI readiness; (3) explore opportunities and challenges associated with AI implementation; and (4) develop a conceptual framework for AI readiness in Islamic schools. The findings are expected to contribute to the growing literature on AI in education while providing practical recommendations for policymakers, school leaders, and teacher educators seeking to strengthen digital transformation in Islamic educational institutions.

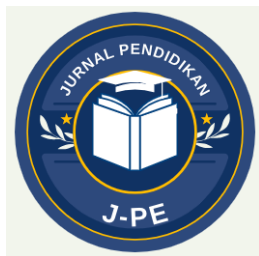
METHOD

Research Design

This study employed an explanatory sequential mixed-method design, integrating quantitative and qualitative approaches to obtain a comprehensive understanding of teachers' readiness for Artificial Intelligence (AI) integration in Islamic secondary education. The mixed-method approach was selected because quantitative data alone may not fully explain the complexities of AI adoption, while qualitative data provide deeper insights into teachers' experiences, perceptions, and challenges (Creswell & Creswell, 2018). The quantitative phase was conducted first to assess the level of AI readiness among teachers, followed by a qualitative phase aimed at explaining and elaborating the quantitative findings.

Research Site and Participants

The study was conducted at MA Darunnajah Trenggalek, an Islamic senior secondary school located in Trenggalek Regency, East Java, Indonesia. The school was selected because it has actively implemented digital learning initiatives and encouraged teachers to utilize technology-enhanced instructional practices.



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

The quantitative phase involved all teachers employed at the institution, resulting in a total sample of 42 teachers through a total sampling technique. Total sampling was considered appropriate because the population size was relatively small and accessible. For the qualitative phase, ten teachers were purposively selected based on their experience in using AI applications and their willingness to participate in in-depth interviews. The selected participants represented different subject areas, teaching experiences, and levels of AI utilization.

Participant Category Number	
Teachers (Survey)	42
Teachers (Interview)	10
Total Participants	52

Table 1. Research Participants

Research Instrument

Data were collected using a structured questionnaire and semi-structured interview guide.

The questionnaire was developed based on previous studies on technology acceptance and AI readiness (Davis, 1989; Teo, 2011). The instrument consisted of four dimensions:

1. Technological Readiness
2. Pedagogical Readiness
3. Ethical Readiness
4. Institutional Readiness

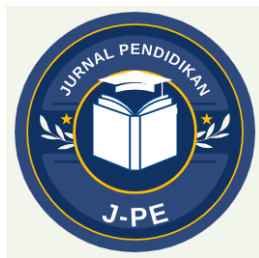
A total of 24 items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Dimension	Indicators
Technological Readiness	Ability to operate AI tools, digital literacy, confidence in using AI
Pedagogical Readiness	AI integration into lesson planning, assessment, and learning activities
Ethical Readiness	Awareness of plagiarism, privacy, and responsible AI use
Institutional Readiness	Leadership support, infrastructure, training opportunities, school policy

Table 2. Dimensions and Indicators of AI Readiness

The interview protocol explored teachers' experiences in using AI applications, perceived benefits, implementation barriers, ethical concerns, and future expectations regarding AI integration in teaching and learning.

Validity and Reliability



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

Content validity was established through expert review involving three educational technology specialists and two senior teachers. Revisions were made based on their feedback regarding item clarity, relevance, and contextual suitability.

A pilot study involving 20 teachers from another Islamic secondary school was conducted to assess reliability. Cronbach's alpha coefficients exceeded the recommended threshold of 0.70, indicating satisfactory internal consistency (Hair et al., 2022).

Dimension	Cronbach's Alpha
Technological Readiness	0.89
Pedagogical Readiness	0.87
Ethical Readiness	0.84
Institutional Readiness	0.86
Overall Instrument	0.89

Table 3. Reliability Results

Data Collection Procedure

Data collection was conducted from January to March 2026. During the quantitative phase, questionnaires were distributed directly to teachers during professional development sessions and collected after completion. Participation was voluntary, and informed consent was obtained from all respondents.

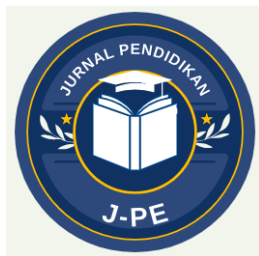
Following the quantitative analysis, qualitative interviews were conducted to gain deeper insights into the findings. Each interview lasted between 30 and 45 minutes and was audio-recorded with participants' permission. Relevant school documents, including digital learning policies, training records, and curriculum implementation reports, were also reviewed to support data triangulation.

Data Analysis

Quantitative data were analyzed using SPSS version 27. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to determine the level of AI readiness. Multiple regression analysis was performed to identify factors influencing teachers' readiness to integrate AI into instructional practices. The regression model was formulated as follows:

$$\text{AIR} = \beta_0 + \beta_1\text{DL} + \beta_2\text{TR} + \beta_3\text{LS} + \beta_4\text{TE} + \varepsilon$$

Where:



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

AIR = AI Readiness

DL = Digital Literacy

TR = AI Training Participation

LS = Leadership Support

TE = Teaching Experience

ε = Error Term

Qualitative data were analyzed using thematic analysis following the six-step procedure proposed by Braun and Clarke (2021): familiarization with data, coding, theme generation, theme review, theme definition, and report writing. Interview transcripts were coded manually and cross-checked to ensure consistency and credibility.

Trustworthiness

To ensure the rigor of qualitative findings, credibility was enhanced through member checking, whereby participants reviewed interview summaries for accuracy. Triangulation was achieved by comparing data from questionnaires, interviews, and school documents. Dependability was strengthened through detailed documentation of research procedures, while confirmability was maintained through reflective notes and audit trails.

Ethical Considerations

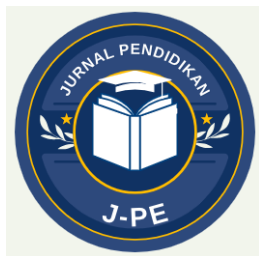
This study adhered to ethical research principles. Participants were informed about the objectives of the study, confidentiality measures, and their right to withdraw at any stage without consequences. All personal information was anonymized, and the collected data were used solely for academic purposes. Permission to conduct the study was obtained from the principal of MA Darunnajah Trenggalek prior to data collection.

RESULTS AND DISCUSSION

Results

Demographic Characteristics of Respondents

A total of 42 teachers participated in the quantitative phase of the study. The respondents represented diverse age groups, genders, and teaching experiences, providing a comprehensive overview of AI readiness within the institution.



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

Characteristics	Frequency	Percentage (%)
Male	22	52.4
Female	20	47.6
< 30 Years	12	28.6
31–40 Years	15	35.7
> 40 Years	15	35.7
Teaching Experience < 5 Years	10	23.8
Teaching Experience 5–10 Years	17	40.5
Teaching Experience > 10 Years	15	35.7

Table 4. Demographic Characteristics of Respondents

The data indicate that the majority of teachers possessed moderate to extensive teaching experience. This diversity enabled the study to capture various perspectives regarding AI adoption and educational technology integration.

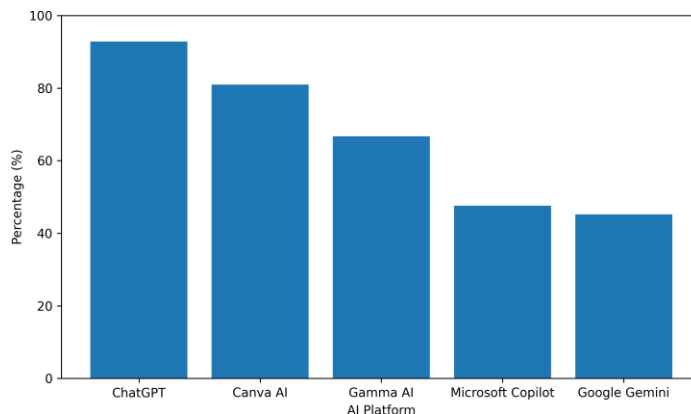
AI Platforms Utilized by Teachers

Teachers reported using multiple AI-powered applications to support instructional planning, assessment design, content generation, and classroom management.

AI Platform	Frequency	Percentage (%)
ChatGPT	39	92.8
Canva AI	34	81.0
Gamma AI	28	66.7
Microsoft Copilot	20	47.6
Google Gemini	19	45.2

Table 5. AI Applications Used by Teachers

ChatGPT emerged as the most frequently used AI application, followed by Canva AI and Gamma AI. Most teachers indicated that these platforms helped reduce preparation time and improve the quality of instructional materials.



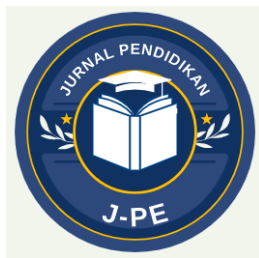


Figure 1. Distribution of AI Platform Usage

The figure illustrates the dominance of ChatGPT as the primary AI tool adopted by teachers at MA Darunnajah Trenggalek.

Teachers' AI Readiness

The level of AI readiness was measured across four dimensions: technological readiness, pedagogical readiness, ethical readiness, and institutional readiness.

Dimension	Mean	SD	Category
Technological Readiness	4.11	0.51	High
Pedagogical Readiness	3.89	0.57	Moderate-High
Ethical Readiness	3.74	0.61	Moderate
Institutional Readiness	3.56	0.68	Moderate
Overall AI Readiness	3.83	0.59	Moderate-High

Table 6. AI Readiness Dimensions

Technological readiness achieved the highest score ($M = 4.11$), indicating that teachers generally possessed sufficient technical competence to operate AI applications. Institutional readiness recorded the lowest score ($M = 3.56$), suggesting limited organizational support for AI implementation.

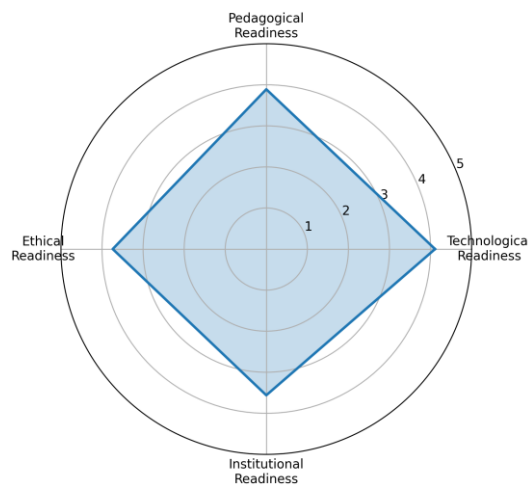


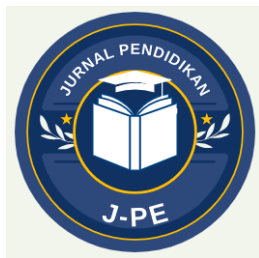
Figure 2. AI Readiness Profile

The radar chart reveals an imbalance among readiness dimensions, particularly highlighting weaker institutional readiness compared to technological readiness.

Factors Influencing AI Readiness

Multiple regression analysis was conducted to identify significant predictors of AI readiness.

Predictor	β	t-value	p-value
-----------	---------	---------	---------



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

Digital Literacy	0.52	5.84	.000
AI Training Participation	0.38	3.67	.002
Leadership Support	0.29	2.75	.011
Teaching Experience	0.08	0.76	.451

Table 7. Multiple Regression Analysis

The model explained 62.4% of the variance in AI readiness ($R^2 = .624$).

The findings indicate that digital literacy was the strongest predictor of AI readiness, followed by participation in AI-related training and leadership support. Teaching experience did not significantly predict readiness levels.

These results suggest that teachers' ability to use digital technologies and access professional development opportunities are more influential than years of teaching experience.

4.5 Opportunities Associated with AI Integration

Respondents identified several benefits of AI adoption in teaching and learning activities.

Benefit	Percentage (%)
Faster Lesson Planning	88
Improved Learning Materials	84
Increased Teaching Efficiency	81
Enhanced Student Engagement	74
Personalized Learning Support	69

Table 8. Perceived Benefits of AI

Most teachers reported that AI significantly reduced the time required for lesson preparation and enabled the creation of more engaging learning materials.

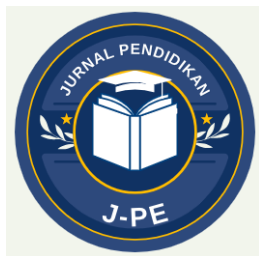
Challenges in AI Integration

Despite positive perceptions, several barriers were identified.

Challenge	Percentage (%)
Limited AI Training	82
Ethical Concerns	76
Infrastructure Limitations	69
Internet Connectivity	61
Lack of Institutional Policy	58

Table 9. Challenges in AI Adoption

The most significant challenge was the lack of structured AI training programs, followed by concerns regarding academic integrity and ethical use of AI-generated content.



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

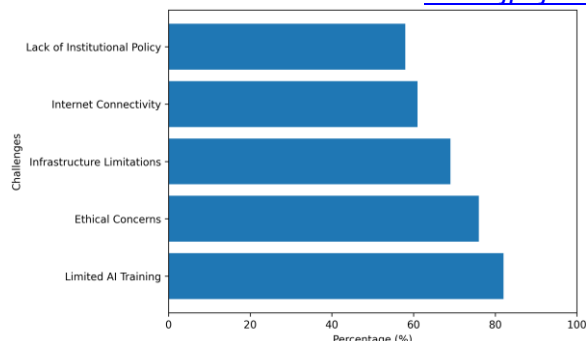


Figure 3. Challenges in AI Implementation

The figure demonstrates that professional development remains the most urgent need for successful AI integration.

Qualitative Findings

Thematic analysis of interview data generated three major themes: AI as an instructional assistant, ethical concerns regarding AI use, and the need for institutional support.

Theme 1: AI as an Instructional Assistant

Most participants described AI as a valuable tool for preparing learning materials and assessments.

One teacher stated:

“ChatGPT helps me develop lesson plans and assessment questions much faster than before. It saves time and provides useful ideas for classroom activities.” (Participant 4)

Another participant explained:

“Canva AI makes it easier to design visually attractive learning materials, which increases student interest in learning.” (Participant 7)

Theme 2: Ethical Concerns and Academic Integrity

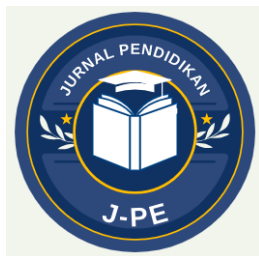
Several teachers expressed concerns about students becoming overly dependent on AI-generated content.

One participant remarked:

“Some students copy AI-generated answers without understanding the content. This may reduce critical thinking and originality.” (Participant 2)

Others highlighted concerns related to misinformation and data privacy.

Theme 3: Institutional Support and Professional Development



Teachers consistently emphasized the need for formal guidance and continuous training.

A participant commented:

“The school encourages digital learning, but we still need clear policies and structured training on how to use AI responsibly.” (Participant 9)

This theme aligns with the quantitative findings showing relatively low institutional readiness.

Proposed AI Readiness Framework for Islamic Schools

Based on the quantitative and qualitative findings, this study proposes an AI Readiness Framework for Islamic Schools.

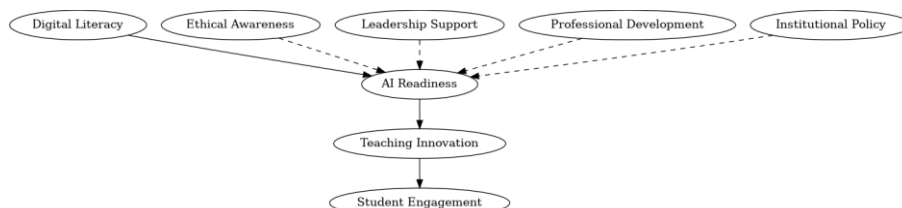


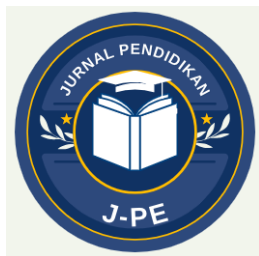
Figure 4. AI Readiness Framework

The framework suggests that AI readiness serves as a mediating factor linking teachers' digital competencies to instructional innovation and student engagement. Institutional support and ethical awareness function as enabling conditions for sustainable AI integration within Islamic educational contexts.

Discussion

The findings demonstrate that teachers at MA Darunnajah Trenggalek exhibit a relatively high level of readiness to integrate Artificial Intelligence (AI) into instructional practices. The extensive use of ChatGPT, Canva AI, and other generative AI applications indicates that teachers increasingly recognize AI as a valuable educational resource capable of enhancing instructional efficiency and supporting professional responsibilities. The observed pattern reflects a broader transformation occurring across educational systems, where AI technologies are becoming embedded within everyday teaching activities.

Viewed through the lens of the Technology Acceptance Model (TAM), the high level of AI utilization among teachers can be attributed to strong perceptions of usefulness and practicality.



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

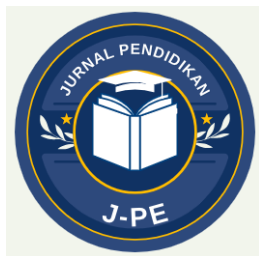
Email: editoripejurnalpendidikan@gmail.com

The participants consistently reported that AI technologies reduce preparation time, facilitate content development, and support assessment design. Such perceptions contribute to positive attitudes toward AI adoption and strengthen teachers' willingness to incorporate AI into classroom practice. Contemporary research has shown that perceived usefulness remains one of the strongest determinants of educators' behavioral intention to adopt emerging technologies, particularly generative AI systems capable of producing context-specific educational content (Al-Emran et al., 2023).

The results also reveal that digital literacy represents the strongest predictor of AI readiness. Teachers possessing stronger digital competencies demonstrated greater confidence in exploring AI functionalities and integrating AI outputs into instructional activities. This finding extends existing technology adoption literature by emphasizing that readiness for AI involves more than access to technological resources. The ability to critically evaluate AI-generated information, formulate effective prompts, and adapt outputs to pedagogical objectives appears equally important. Research conducted by Lim et al. (2024) similarly identified digital competence as a critical prerequisite for meaningful AI integration in educational environments. Educational technologies increasingly require users to exercise judgment, creativity, and critical evaluation rather than merely operate digital tools.

An interesting pattern emerges from the absence of a significant relationship between teaching experience and AI readiness. Professional seniority appears less influential than technological competence and exposure to innovation. This observation challenges assumptions that younger teachers are inherently more prepared to adopt advanced technologies. The findings suggest that AI readiness is shaped primarily by continuous learning opportunities and professional engagement rather than age or length of service. Comparable conclusions have been reported in recent international studies indicating that educators from diverse demographic backgrounds can successfully adopt AI when supported by appropriate training and institutional encouragement (Smutny & Schreiberova, 2023).

The findings contribute to the growing body of scholarship on Artificial Intelligence in Education (AIED). Teachers in the present study primarily utilized AI for lesson preparation, instructional design, visual content development, and assessment construction. Such applications



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

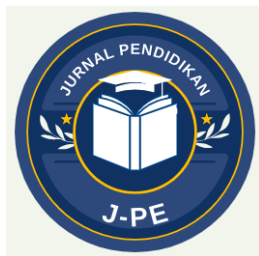
Email: editorjpejurnalpendidikan@gmail.com

reflect the current stage of AI adoption within many educational institutions, where AI serves as an enhancement tool supporting existing pedagogical practices. The integration of AI into routine instructional activities demonstrates that educators increasingly view AI as a practical assistant capable of improving productivity and instructional quality.

A closer examination of qualitative findings reveals that teachers do not perceive AI as a replacement for professional expertise. Participants emphasized the importance of human judgment in evaluating AI-generated content and adapting materials to students' needs. This perspective aligns with contemporary discussions within AIED literature, which increasingly advocate for human-AI collaboration rather than technological substitution. According to Kasperski and Przybyłek (2024), the most effective educational applications of AI emerge when human pedagogical expertise and machine intelligence operate in complementary ways. Educational quality depends not only on access to information but also on the ability to facilitate meaningful learning experiences, foster social interaction, and support student development.

The educational context of Islamic secondary schools introduces additional dimensions to AI adoption. Learning within Islamic educational institutions encompasses academic achievement, character development, ethical formation, and spiritual growth. Teachers repeatedly highlighted the importance of ensuring that AI-generated content aligns with educational values and institutional objectives. Such concerns illustrate that technological adoption in faith-based educational environments involves considerations extending beyond efficiency and performance. Educational technologies must also support the cultivation of values and responsible citizenship.

The findings regarding ethical readiness provide further insight into this issue. Although teachers expressed enthusiasm toward AI adoption, concerns related to plagiarism, misinformation, excessive dependence on AI-generated content, and declining critical thinking skills were frequently reported. These concerns resonate with recent debates surrounding generative AI in education. The capacity of AI systems to produce sophisticated responses raises important questions regarding authorship, originality, and intellectual responsibility. Research by Baidoo-Anu and Ansah (2023) highlights similar concerns, emphasizing the need for educational institutions to establish clear ethical frameworks governing AI use.



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

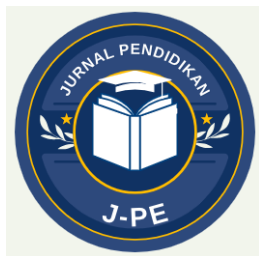
The presence of ethical concerns should not be interpreted as resistance toward innovation. Instead, the findings suggest that teachers recognize both the opportunities and risks associated with AI technologies. Such awareness represents an important dimension of AI readiness because responsible implementation requires the capacity to evaluate technological consequences critically. The ability to balance innovation with ethical responsibility may become increasingly important as AI systems continue to evolve and gain influence within educational settings.

Institutional readiness emerged as the weakest dimension of AI readiness. Although teachers demonstrated positive attitudes and technological competence, many participants perceived organizational support as insufficient. Limited training opportunities, unclear policies, and the absence of structured implementation guidelines were frequently identified as barriers to sustainable AI integration. These findings underscore the importance of examining AI adoption from an organizational rather than exclusively individual perspective.

Digital Transformation Theory provides a useful framework for interpreting this pattern. Digital transformation is commonly understood as a multidimensional process involving technological innovation, organizational restructuring, cultural adaptation, and leadership development (Kraus et al., 2021). Technology adoption alone does not constitute transformation. Meaningful transformation requires alignment between technological capabilities and institutional capacity. Educational organizations that fail to adapt governance structures, professional development systems, and leadership practices often struggle to realize the full benefits of technological innovation.

Evidence from this study suggests that AI adoption at MA Darunnajah Trenggalek is progressing more rapidly at the individual level than at the institutional level. Teachers actively explore and utilize AI technologies, yet organizational structures have not fully evolved to support these developments. Similar patterns have been observed in educational systems undergoing early phases of digital transformation, where innovation is frequently driven by individual educators rather than institutional strategy (Bond et al., 2023).

Leadership support constitutes another important factor influencing AI readiness. Teachers who perceived stronger support from school leadership reported higher levels of confidence and engagement with AI technologies. Leadership influences technology adoption through resource



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

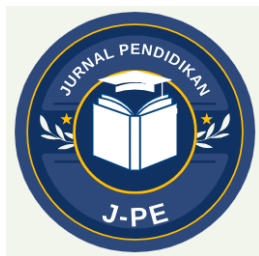
allocation, policy development, vision building, and the creation of innovation-supportive environments. Educational leaders play a central role in establishing conditions that encourage experimentation and professional learning. The findings therefore reinforce arguments that digital transformation requires not only technological investment but also strategic leadership capable of guiding organizational change.

The significance of professional development also becomes apparent from the results. Participation in AI-related training emerged as a substantial predictor of readiness. Teachers require opportunities to develop both technical and pedagogical competencies associated with AI integration. Training initiatives focused exclusively on technological operation may prove insufficient because effective AI implementation requires educators to understand ethical implications, instructional applications, and critical evaluation strategies. Professional learning programs should therefore adopt a holistic approach that integrates technical, pedagogical, and ethical dimensions.

The findings collectively suggest that AI readiness should be conceptualized as a multidimensional construct comprising technological competence, pedagogical capacity, ethical awareness, and institutional support. Existing technology adoption frameworks often emphasize behavioral intentions and technological perceptions. The present study indicates that successful AI integration within Islamic secondary education depends equally on organizational readiness and ethical preparedness. Such dimensions become particularly important in contexts where educational objectives extend beyond knowledge transmission to include character development and value formation.

The proposed AI Readiness Framework for Islamic Schools contributes to this discussion by integrating individual and organizational dimensions of readiness. The framework positions digital literacy as a foundational competency while recognizing the importance of leadership support, ethical awareness, professional development, and institutional governance. Educational innovation emerges not from technology alone but from the interaction among these interconnected dimensions.

The findings ultimately indicate that AI possesses significant potential to enhance educational quality within Islamic secondary schools. Realizing this potential requires coordinated



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

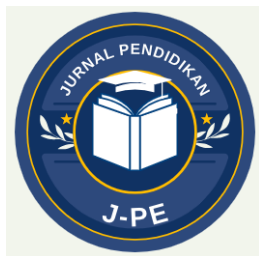
Email: editorjpejurnalpendidikan@gmail.com

efforts that strengthen teacher competence, establish ethical guidelines, support professional learning, and promote institutional transformation. Sustainable AI integration depends on the ability of educational institutions to develop environments where technological innovation and educational values coexist in mutually reinforcing ways.

CONCLUSION

The study examined Artificial Intelligence (AI) readiness among teachers at MA Darunnajah Trenggalek and revealed that educators generally demonstrate positive attitudes toward AI adoption and possess a moderate-to-high level of readiness for AI integration. The findings indicate that technological readiness constitutes the strongest dimension of readiness, reflecting teachers' growing familiarity with generative AI tools such as ChatGPT, Canva AI, and Gamma AI. Digital literacy emerged as the most influential predictor of AI readiness, followed by participation in AI-related professional development activities and leadership support. The results also demonstrate that teachers perceive AI as an effective instructional assistant capable of improving lesson planning, assessment design, instructional material development, and classroom efficiency. At the same time, the study identified significant barriers related to limited training opportunities, ethical concerns surrounding academic integrity and responsible AI use, infrastructure limitations, and insufficient institutional policies. These findings suggest that successful AI integration depends not only on teachers' technical competencies but also on the availability of supportive organizational conditions.

The study contributes to the literature by proposing an AI Readiness Framework for Islamic Schools that positions AI readiness as a multidimensional construct encompassing technological, pedagogical, ethical, and institutional dimensions. The framework emphasizes the interconnected roles of digital literacy, ethical awareness, leadership support, professional development, and institutional governance in fostering sustainable educational innovation. From a practical perspective, educational leaders should establish comprehensive AI policies, strengthen digital infrastructure, and provide continuous professional learning opportunities that address both technical and ethical aspects of AI integration. Teacher education programs should incorporate AI literacy and responsible technology use into professional development curricula. Future studies



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

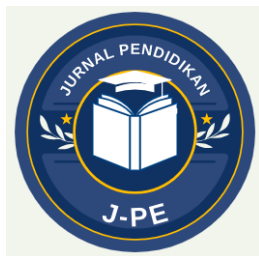
<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

may validate the proposed framework across different madrasah contexts and employ larger samples to examine longitudinal changes in AI readiness and digital transformation. Sustained collaboration among policymakers, school leaders, and educators will be essential for ensuring that AI contributes meaningfully to educational quality, student engagement, and the broader goals of Islamic education in the digital era.

REFERENCES

- Al-Emran, M., Mezhyuev, V., Alzahrani, A. I., & Alajmi, Q. (2023). Understanding educators' acceptance of artificial intelligence technologies: Extending technology acceptance perspectives. *Education and Information Technologies*, 28(12), 15841–15865. <https://doi.org/10.1007/s10639-023-11838-3>
- Baidoo-Anu, D., & Ansah, L. O. (2023). Education in the era of generative artificial intelligence: Understanding the potential benefits and challenges of ChatGPT. *Education Sciences*, 13(7), 709. <https://doi.org/10.3390/educsci13070709>
- Bond, M., Marín, V. I., Dolch, C., Bedenlier, S., & Zawacki-Richter, O. (2023). Digital transformation in education: Trends, challenges, and future directions. *Educational Technology Research and Development*, 71(4), 1567–1590.
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2022). *Multivariate data analysis* (9th ed.). Cengage Learning.
- Holmes, W., Bialik, M., & Fadel, C. (2022). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeiffer, F., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., ... Kasneci, G. (2023).



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

ChatGPT for good? On opportunities and challenges of large language models for education.

Learning and Individual Differences, 103, 102274.

<https://doi.org/10.1016/j.lindif.2023.102274>

Kasperski, A., & Przybyłek, A. (2024). Human–AI collaboration in education: Emerging opportunities and pedagogical implications. *Computers & Education: Artificial Intelligence*, 6, 100215. <https://doi.org/10.1016/j.caeai.2024.100215>

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. (2022). *Kurikulum Merdeka: Panduan implementasi kurikulum pada satuan pendidikan*. Kemendikbudristek.

Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N., & Weinmann, A. (2021). Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management*, 63, 102466. <https://doi.org/10.1016/j.ijinfomgt.2021.102466>

Lim, W. M., Gunasekara, A. N., Pallant, J. L., Pallant, J. I., & Pechenkina, E. (2024). Generative AI and education: Preparing educators for AI-enabled teaching and learning. *International Journal of Educational Technology in Higher Education*, 21(1), 15. <https://doi.org/10.1186/s41239-024-00461-9>

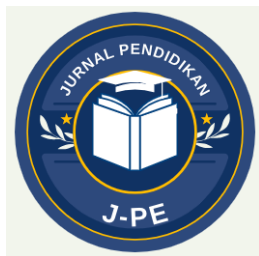
Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.

Sallam, M. (2023). ChatGPT utility in healthcare education, research, and practice: Systematic review on the promising perspectives and valid concerns. *Healthcare*, 11(6), 887. <https://doi.org/10.3390/healthcare11060887>

Smutny, P., & Schreiberova, P. (2023). Teachers' adoption of artificial intelligence technologies in educational environments: A systematic review. *Computers & Education: Artificial Intelligence*, 4, 100124. <https://doi.org/10.1016/j.caeai.2023.100124>

Teo, T. (2011). Factors influencing teachers' intention to use technology: Model development and test. *Computers & Education*, 57(4), 2432–2440. <https://doi.org/10.1016/j.compedu.2011.06.008>

UNESCO. (2023). *Guidance for generative AI in education and research*. UNESCO Publishing.



J-PE: JURNAL PENDIDIKAN

ISSN(Online): XXXX-XXXX

Vol I no 1 (2026): June 2026

<https://jurnal.gerakanedukasi.com/index.php/jpe/index>

Email: editorjpejurnalpendidikan@gmail.com

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education. *International Journal of Educational Technology in Higher Education*, 16(39), 1–27.
<https://doi.org/10.1186/s41239-019-0171-0>