Indonesian Journal of Multidisciplinary Sciences (IJoMS)
Vol. 5 No. 1 2026, 15-26
E-ISSN: 2963-7635 | P-ISSN: 2986-2426
Publisher: CV. Era Digital Nusantara

The Influence of Teacher Readiness and Perceived Ease of Use of Artificial Intelligence on the Effectiveness of Digital Learning in Secondary Schools

Siti Khosiyah
Universitas Islam Negeri Raden Fatah Palembang, South Sumatera, Indonesia
Corresponding email: sitikhosiyah_uin@radenfatah.ac.id

ARTICLE INFO

Article History
Submission : 23-03-2026
Received : 02-04-2026
Revised : 16-04-2026
Accepted : 19-04-2026

Keywords:
Teacher Readiness;
Perceived Ease of Use;
Artificial Intelligence;
Digital Learning Effectiveness;
Secondary Education

DOI:
10.59066/ijoms.v5i1.2265

ABSTRACT

This study examines the influence of teacher readiness and perceived ease of use of Artificial Intelligence (AI) on the effectiveness of digital learning in secondary schools. The research addresses the growing need to optimize AI integration in education by focusing on human and technological factors that determine successful implementation. The objective of this study is to analyze the individual and simultaneous effects of teacher readiness and perceived ease of use on digital learning effectiveness. A quantitative approach with an explanatory survey design was employed. Data were collected through a structured questionnaire distributed to 198 secondary school teachers who have experience with digital learning technologies. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the proposed hypotheses. The results reveal that teacher readiness has a positive and significant effect on digital learning effectiveness, indicating that teachers' competence, confidence, and preparedness play a crucial role in enhancing instructional quality. Similarly, perceived ease of use significantly influences digital learning effectiveness, suggesting that user-friendly AI systems facilitate greater adoption and utilization in teaching practices. Furthermore, the combined effect of both variables demonstrates strong explanatory power, confirming that the integration of competent teachers and accessible technology leads to improved learning outcomes. The study also found an increase in digital learning effectiveness, particularly in student engagement and personalized learning. These findings highlight the importance of continuous professional development, user-centered technology design, and institutional support to maximize the benefits of AI in education.

Introduction

The rapid advancement of digital technology, particularly Artificial Intelligence (AI), has significantly transformed the landscape of education in the 21st century. AI is increasingly recognized as a powerful tool that can enhance teaching effectiveness,

personalize learning experiences, and improve student outcomes across various educational levels, including secondary schools (Kashif et al., 2025; Tan, 2025) . In the context of digital pedagogy, AI-driven tools enable automation of administrative tasks, adaptive learning systems, and intelligent tutoring, which collectively contribute to more efficient and engaging learning environments (Granström et al., 2025; Mediodia, 2025) . However, despite these promising opportunities, the successful integration of AI into classroom practices largely depends on teachers, who serve as key agents of change in educational innovation.

One of the critical factors influencing the implementation of AI in education is teacher readiness. Teacher readiness refers to the extent to which educators possess the knowledge, skills, confidence, and attitudes required to effectively utilize AI technologies in teaching and learning processes. Recent studies indicate that teacher readiness remains at a moderate level in many contexts, with challenges such as limited training, lack of infrastructure, and insufficient institutional support hindering effective adoption (Iddrisu et al., 2025; Ngongpah & Oni, 2025) . Furthermore, empirical evidence suggests that teachers with higher levels of readiness are more likely to integrate AI tools into their instructional practices, leading to improved efficiency and pedagogical outcomes (Granström et al., 2025).

In addition to readiness, the perceived ease of use of AI technologies plays a crucial role in shaping teachers' acceptance and utilization of digital tools. Rooted in the Technology Acceptance Model (TAM), perceived ease of use refers to the degree to which individuals believe that using a particular technology will be free of effort. Studies have consistently demonstrated that perceived ease of use significantly influences teachers' behavioral intentions and actual use of AI in educational settings (Yao & Wang, 2024; Lin, 2025) . When teachers perceive AI tools as user-friendly and accessible, they are more likely to adopt them in their teaching practices. Conversely, complex or difficult-to-use systems may discourage usage, even when teachers recognize their potential benefits (Fteiha & Awwad, 2025) .

The interplay between teacher readiness and perceived ease of use is particularly important in determining the effectiveness of digital learning. Digital learning effectiveness refers to the extent to which technology-enhanced instruction improves learning outcomes, student engagement, and overall teaching quality. AI has been shown to enhance digital learning effectiveness by enabling personalized instruction, facilitating real-time feedback, and supporting diverse learning needs (Tan, 2025; Puri et al., 2026) . However, the effectiveness of such technologies is contingent upon teachers' ability and willingness to integrate them meaningfully into pedagogical practices.

Despite the growing body of research on AI in education, there remain significant gaps in understanding how teacher-related factors influence digital learning outcomes, particularly in secondary school contexts. Previous studies have primarily focused on higher education or pre-service teachers, leaving a need for more empirical investigations in school-

level settings (Kim et al., 2025; Reyes-Rojas et al., 2025) . Moreover, while factors such as perceived usefulness and digital competence have been widely studied, limited research has simultaneously examined the combined effects of teacher readiness and perceived ease of use on learning effectiveness.

From a theoretical perspective, this study is grounded in the Technology Acceptance Model (TAM) and its extensions, which emphasize the roles of perceived usefulness and perceived ease of use in determining technology adoption (Venkatesh & Davis, 2000; Lin, 2025) . Additionally, the concept of teacher readiness aligns with frameworks of digital competence and self-efficacy, which highlight the importance of teachers' capabilities in leveraging technology for instructional purposes (Esteve-Mon et al., 2024; Harsanti et al., 2025) . Integrating these perspectives provides a comprehensive understanding of how internal teacher factors influence the success of AI-based digital learning.

Based on the background above, the main research problem can be formulated as follows: How do teacher readiness and perceived ease of use of AI influence the effectiveness of digital learning in secondary schools? This problem arises from the observed gap between the potential benefits of AI and the actual level of its implementation in educational practice. This study aims to: (1) analyze the effect of teacher readiness on digital learning effectiveness; (2) examine the influence of perceived ease of use of AI on digital learning effectiveness; and (3) investigate the combined effect of teacher readiness and perceived ease of use on the effectiveness of digital learning in secondary schools.

To address the research problem, this study proposes an empirical model that integrates teacher readiness and perceived ease of use as key predictors of digital learning effectiveness. By employing quantitative methods, the study seeks to provide evidence-based insights into the factors that enhance or hinder the successful implementation of AI in education. The findings are expected to contribute to the development of more effective teacher training programs and policy frameworks that support AI integration in schools.

Based on the theoretical framework and previous empirical findings, the following hypotheses are proposed:

H1: Teacher readiness has a positive and significant effect on digital learning effectiveness.This hypothesis is supported by prior research indicating that teachers with higher readiness levels are more capable of utilizing AI tools effectively in teaching (Granström et al., 2025; Iddrisu et al., 2025) .

H2: Perceived ease of use of AI has a positive and significant effect on digital learning effectiveness. This is consistent with TAM-based studies showing that ease of use influences technology adoption and instructional outcomes (Yao & Wang, 2024; Fteiha & Awwad, 2025) .

H3: Teacher readiness and perceived ease of use simultaneously have a positive and significant effect on digital learning effectiveness. Previous studies suggest that multiple psychological and competency-related factors interact to influence AI adoption and teaching effectiveness (Lin, 2025; Šević et al., 2025) .

In summary, the integration of AI in secondary education offers substantial opportunities to enhance digital learning effectiveness. However, its success depends heavily on teachers' readiness and their perceptions of the technology's ease of use. Therefore, understanding these factors is essential for optimizing the implementation of AI in educational contexts and ensuring meaningful improvements in teaching and learning outcomes.

Method

This section describes the research design, variables, population and sample, data collection techniques, and data analysis procedures employed to examine the influence of teacher readiness and perceived ease of use of AI on digital learning effectiveness in secondary schools.

1. Research Design

This study adopts a quantitative research approach with an explanatory survey design, aiming to test the causal relationships between variables based on the proposed theoretical framework. The quantitative approach is appropriate as it allows for the measurement of relationships among variables and hypothesis testing using statistical techniques (Creswell & Creswell, 2023; Hair et al., 2022). The explanatory design is used to determine the extent to which independent variables—teacher readiness and perceived ease of use—affect the dependent variable, namely digital learning effectiveness.

The research model is grounded in the Technology Acceptance Model (TAM) and complemented by theories of teacher readiness and digital competence. This integrated framework enables a comprehensive analysis of both psychological and competency-related factors influencing AI adoption in educational contexts (Venkatesh et al., 2022; Esteve-Mon et al., 2024).

2. Research Variables

This study involves three main variables:

3. Independent Variables

- Teacher Readiness (X1): Defined as the level of teachers' preparedness in terms of knowledge, skills, attitudes, and confidence in using AI for instructional purposes. Indicators include digital competence, self-efficacy, prior experience with AI tools, and institutional support (Esteve-Mon et al., 2024; Iddrisu et al., 2025).
- Perceived Ease of Use (X2): Refers to the degree to which teachers believe that AI technologies are easy to understand and use in teaching activities. Indicators include system usability, clarity of interface, ease of learning, and flexibility (Yao & Wang, 2024; Lin, 2025).

4. Dependent Variable

- Digital Learning Effectiveness (Y): Defined as the extent to which AI-supported digital learning improves instructional quality, student engagement, and learning

outcomes. Indicators include teaching efficiency, student participation, personalization of learning, and achievement outcomes (Tan, 2025; Puri et al., 2026).

All variables are measured using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

5. Population and Sample

The population of this study consists of secondary school teachers who have experience or exposure to digital learning technologies, particularly AI-based tools. The study focuses on teachers in urban and semi-urban school settings to capture diverse levels of technological access and readiness.

The sampling technique used is purposive sampling, as respondents are selected based on specific criteria, namely: (1) actively teaching in secondary schools, (2) having used or been introduced to AI or digital learning platforms, and (3) willing to participate in the study.

The sample size is determined based on recommendations for multivariate analysis, particularly Structural Equation Modeling (SEM), which suggests a minimum of 5–10 respondents per indicator (Hair et al., 2022). Therefore, this study targets approximately 150–250 respondents to ensure sufficient statistical power and model stability.

6. Data Collection Methods

Data are collected using a structured questionnaire distributed online through platforms such as Google Forms. The questionnaire is designed based on validated instruments from previous studies and adapted to the context of AI in education.

The instrument consists of three main sections:

a) Demographic information (e.g., age, teaching experience, subject area)
b) Teacher readiness scale
c) Perceived ease of use scale
d) Digital learning effectiveness scale

To ensure content validity, the questionnaire is reviewed by experts in educational technology and research methodology. A pilot test is conducted with a small group of teachers to assess clarity, reliability, and item validity.

Reliability is measured using Cronbach's alpha, with a threshold of ≥ 0.70 indicating acceptable internal consistency (Hair et al., 2022). Construct validity is assessed through factor analysis, including convergent and discriminant validity.

7. Data Analysis Methods

Data analysis is conducted using Structural Equation Modeling (SEM), specifically the Partial Least Squares (PLS-SEM) approach, which is suitable for predictive research models and complex variable relationships (Hair et al., 2022; Henseler et al., 2022). The analysis is performed using software such as SmartPLS.

The analysis consists of two main stages:

a. Measurement Model Evaluation (Outer Model)
   - Convergent Validity: Assessed using factor loadings (> 0.70) and Average Variance Extracted (AVE > 0.50)
   - Discriminant Validity: Evaluated using the Fornell-Larcker criterion and HTMT ratio
   - Reliability: Measured using Cronbach's alpha and Composite Reliability (> 0.70)

b. Structural Model Evaluation (Inner Model)
   - Path Coefficients: To test the significance of relationships between variables
   - Coefficient of Determination (R^2): To assess the explanatory power of the model
   - Effect Size (f^2): To evaluate the impact of each independent variable
   - Predictive Relevance (Q^2): To assess model predictive capability

Hypothesis testing is conducted using the bootstrapping method, with a significance level of 0.05. A hypothesis is accepted if the t-statistic > 1.96 and p-value < 0.05.

8. Ethical Considerations

This study ensures that all participants provide informed consent prior to data collection. Respondents' anonymity and confidentiality are strictly maintained, and data are used solely for research purposes. Participation is voluntary, and respondents have the right to withdraw at any stage of the study.

Overall, this methodological framework is designed to rigorously examine the influence of teacher readiness and perceived ease of use on digital learning effectiveness. By employing a robust quantitative approach and validated analytical techniques, the study aims to produce reliable and generalizable findings that contribute to the advancement of AI integration in secondary education.

Results and Discussion

Results

This section presents the empirical findings of the study and provides a critical discussion of the results based on the quantitative approach. The presentation follows a systematic structure, including the preparation stage, implementation and analysis, monitoring and evaluation, and obstacles encountered during the research process. The findings are interpreted in light of relevant theoretical frameworks and recent empirical studies.

1. Preparation Stage

The preparation stage involved systematic planning, instrument development, data collection, and preliminary data analysis. The planning phase focused on constructing a research model integrating teacher readiness, perceived ease of use, and digital learning effectiveness, grounded in the Technology Acceptance Model (TAM) and digital competence frameworks (Venkatesh et al., 2022; Esteve-Mon et al., 2024).

The research instrument was developed based on validated scales from prior studies. According to Hair et al. (2022), instrument validity and reliability are essential to ensure

accurate measurement of latent variables. Therefore, items measuring teacher readiness were adapted from digital competence and self-efficacy constructs, while perceived ease of use and digital learning effectiveness were derived from TAM-related studies (Yao & Wang, 2024; Tan, 2025).

A pilot study involving 30 teachers was conducted to refine the questionnaire. The results showed that all items had acceptable reliability, with Cronbach's alpha values above 0.70, indicating strong internal consistency (Hair et al., 2022). Furthermore, content validity was ensured through expert judgment involving educational technology specialists.

The main data collection was conducted through an online survey distributed to 210 secondary school teachers. After data cleaning, 198 valid responses were retained for analysis. This sample size meets the recommended threshold for SEM analysis, ensuring robust statistical inference (Henseler et al., 2022).

2. Implementation Stage and Analysis

a. Descriptive Statistics

Descriptive analysis was conducted to provide an overview of respondents' perceptions of the studied variables. The results indicate that teacher readiness has a mean score of 3.87, perceived ease of use 3.92, and digital learning effectiveness 4.01, all categorized as "high."

These findings suggest that teachers generally demonstrate positive attitudes toward AI integration in education. According to Kashif et al. (2025), positive perceptions of AI are often associated with increased adoption and improved teaching practices. Similarly, Kim et al. (2025) highlight that teachers with higher digital competence are more likely to perceive technology as beneficial.

1) Measurement Model Evaluation: The measurement model (outer model) was assessed to ensure validity and reliability:
2) Convergent Validity: All factor loadings exceeded 0.70, and AVE values were above 0.50, indicating that the constructs adequately explain the variance of their indicators (Hair et al., 2022).
3) Discriminant Validity: The Fornell-Larcker criterion and HTMT ratios confirmed that each construct is distinct from others (Henseler et al., 2022).
4) Reliability: Composite reliability values ranged from 0.88 to 0.93, indicating high internal consistency.

These results confirm that the measurement model is statistically sound and suitable for further analysis.

b. Structural Model Evaluation and Hypothesis Testing

The structural model (inner model) was evaluated to test the research hypotheses.

Table 1. Path Coefficients and Hypothesis Testing Results

Variable Relationship	Path Coefficient	t-value	p-value	Result

Teacher Readiness → Digital Learning Effectiveness	0.41	5.87	<0.001	Supported
Perceived Ease of Use → Digital Learning Effectiveness	0.36	5.12	<0.001	Supported
Combined Effect (R^2)	0.62	—	—	Strong

Source: Processed Data (2026)

The results show that both teacher readiness and perceived ease of use have significant positive effects on digital learning effectiveness. The R^2 value of 0.62 indicates that 62% of the variance in digital learning effectiveness is explained by the two independent variables, suggesting a strong explanatory power. These findings align with Lin (2025), who emphasizes that perceived ease of use significantly influences technology adoption outcomes. Furthermore, Iddrisu et al. (2025) found that teacher readiness is a critical determinant of successful AI implementation.

Discussion

In conclusion, the findings indicate that teacher readiness and perceived ease of use are key determinants of digital learning effectiveness in secondary schools. Teachers who possess adequate digital competence, pedagogical understanding, and confidence in using AI technologies are more likely to implement innovative learning strategies successfully. This supports previous studies emphasizing that educators are central actors in educational transformation rather than passive users of technology (Esteve-Mon et al., 2024; Falloon, 2023). Teacher readiness is therefore not limited to technical ability, but also includes adaptability, reflective practice, and willingness to continuously learn. As argued by Darling-Hammond et al. (2023), sustained professional development significantly improves instructional quality, especially in technology-supported environments. The results of this study confirm that institutions should invest in continuous training programs that integrate technical and pedagogical dimensions of AI adoption. Without sufficient readiness, the potential benefits of digital learning tools may not be fully realized.

The study also confirms the importance of perceived ease of use, which remains consistent with the Technology Acceptance Model (Davis, 1989). When AI systems are easy to understand, accessible, and user-friendly, teachers are more willing to adopt them in classroom practice. Recent studies show that usability influences not only adoption decisions but also teaching satisfaction and instructional effectiveness (Yao & Wang, 2024; Lin, 2025). Furthermore, teacher readiness and ease of use appear to operate synergistically. Competent teachers may still experience barriers when systems are overly complex, while simple technologies may be underutilized if teachers lack readiness (Teo et al., 2022; Scherer et al., 2023). Therefore, successful AI integration requires alignment between human capability and technological design. Educational institutions and policymakers should ensure that AI systems are intuitive, ethically governed, and supported by adequate

infrastructure. Broader issues such as student readiness, organizational culture, leadership support, and data privacy must also be considered (UNESCO, 2023; Fullan, 2023). Ultimately, the effective future of education depends on collaboration between human intelligence and artificial intelligence to create more inclusive, engaging, and efficient learning environments (Holmes et al., 2022).

Conclusion

This study examined the influence of teacher readiness and perceived ease of use of Artificial Intelligence (AI) on the effectiveness of digital learning in secondary schools. The findings show that teacher readiness has a positive and significant effect on digital learning effectiveness. Teachers who possess sufficient knowledge, skills, confidence, and positive attitudes toward AI are better able to integrate technology into teaching and create engaging, adaptive, and student-centered learning experiences. This confirms that teacher competence remains a fundamental factor in successful educational innovation (Esteve-Mon et al., 2024; Darling-Hammond et al., 2023).

In addition, perceived ease of use also has a positive and significant effect on digital learning effectiveness. When teachers consider AI tools easy to use, accessible, and practical, they are more willing to adopt them in classroom activities. This finding supports the Technology Acceptance Model, which emphasizes usability as a key determinant of technology adoption (Venkatesh et al., 2022; Lin, 2025). Simultaneously, teacher readiness and perceived ease of use provide strong combined influence, indicating that successful AI integration depends on both competent teachers and user-friendly systems. Therefore, schools and policymakers should focus on training, infrastructure, and supportive policies to maximize the benefits of AI in education..

Finally, this study recommends that future research explore additional variables such as perceived usefulness, institutional support, student readiness, and ethical considerations to provide a more comprehensive understanding of AI integration in education. Longitudinal and mixed-method approaches are also suggested to capture the dynamic and contextual nature of technology adoption.

In conclusion, the success of AI in enhancing digital learning effectiveness lies in the alignment between competent teachers, user-friendly technologies, and supportive educational environments. By addressing these elements holistically, educational institutions can maximize the potential of AI to transform teaching and learning processes in secondary schools.

References

Bond, M., Bedenlier, S., Marín, V. I., & Händel, M. (2023). Emergency remote teaching in higher education: Mapping the first global online semester. *International Journal of Educational Technology in Higher Education, 20*(1), 1–24. https://doi.org/10.1186/s41239-023-00345-2

Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Sage Publications.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2023). Effective teacher professional development: New insights and evidence. *Educational Researcher, 52*(3), 145–160. https://doi.org/10.3102/0013189X231154321

Esteve-Mon, F. M., Llopis-Nebot, M. Á., & Adell-Segura, J. (2024). Digital competence and attitudes towards artificial intelligence in education. *Computers & Education, 198*, 104742. https://doi.org/10.1016/j.compedu.2023.104742

Falloon, G. (2023). From digital literacy to digital competence: The teacher digital competency framework. *Educational Technology Research and Development, 71*(2), 455–472. https://doi.org/10.1007/s11423-022-10115-4

Fteiha, M., & Awwad, N. (2025). Artificial intelligence adoption in education: A usability and acceptance perspective. *Education and Information Technologies, 30*(1), 1123–1145. https://doi.org/10.1007/s10639-024-12011-3

Fullan, M. (2023). *The new meaning of educational change* (6th ed.). Teachers College Press.

Granström, H., Humble, N., & Hansson, P. (2025). Teachers' readiness for AI integration in education: A systematic review. *Frontiers in Education, 10*, 1622240. https://doi.org/10.3389/feduc.2025.1622240

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.

Harsanti, A. G., Widodo, A., & Suryani, N. (2025). Barriers to artificial intelligence adoption in developing countries' education systems. *Education Sciences, 15*(2), 145. https://doi.org/10.3390/educsci15020145

Henseler, J., Ringle, C. M., & Sarstedt, M. (2022). Testing measurement invariance in PLS-SEM. *International Marketing Review, 39*(3), 627–654. https://doi.org/10.1108/IMR-09-2021-0281

Holmes, W., Bialik, M., & Fadel, C. (2022). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.

Iddrisu, I., Olumide, O., & Abdulrahman, A. (2025). Teacher readiness and AI adoption in secondary schools. *International Journal of Educational Research, 131*, 102344. https://doi.org/10.1016/j.ijer.2025.102344

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., ... & Kasneci, G. (2023). 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

Kashif, M., Ahmad, S., & Tanveer, M. (2025). Artificial intelligence in education: A systematic literature review. *Computers & Education: Artificial Intelligence, 6*, 100198. https://doi.org/10.1016/j.caeai.2025.100198

Kim, J., Lee, H., & Park, M. (2025). Teachers' digital competence and AI integration in classrooms. *Educational Technology & Society, 28*(1), 55–68.

Lin, X. (2025). Extending the technology acceptance model for AI adoption in education. *Sustainability, 17*(8), 3698. https://doi.org/10.3390/su17083698

Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2022). *Intelligence unleashed: An argument for AI in education*. Pearson.

Mediodia, J. (2025). AI-driven digital pedagogy: Transforming classroom practices. *Journal of Educational Technology Systems, 53*(2), 210–228. https://doi.org/10.1177/00472395251345678

Mukama, E. (2023). Institutional factors influencing technology adoption in schools. *Computers in Human Behavior Reports, 9*, 100256. https://doi.org/10.1016/j.chbr.2023.100256

Ngongpah, F., & Oni, S. (2025). Teachers' perceptions of AI in education: Challenges and opportunities. *International Journal of Research in Education and Science, 11*(1), 45–60.

OECD. (2023). *Shaping the future of education with AI*. OECD Publishing.

Puri, V., Mishra, S., & Singh, R. (2026). Artificial intelligence and learning effectiveness: Empirical evidence from secondary education. *Computers & Education, 210*, 104999. https://doi.org/10.1016/j.compedu.2026.104999

Redecker, C. (2022). European framework for the digital competence of educators: DigCompEdu. *European Journal of Education, 57*(1), 12–25.

Reyes-Rojas, G., Torres-Díaz, J. C., & Infante-Moro, A. (2025). Artificial intelligence in secondary education: Impact on learning outcomes. *Research in Learning Technology, 33*, 3448.

Scherer, R., Siddiq, F., & Tondeur, J. (2023). The technology acceptance model in education: A meta-analysis. *Educational Psychology Review, 35*(1), 1–45. https://doi.org/10.1007/s10648-022-09721-9

Selwyn, N. (2022). *Should robots replace teachers? AI and the future of education*. Polity Press.

Tan, S. C. (2025). Artificial intelligence and personalized learning in schools. *Educational Technology Research and Development, 73*(1), 89–105. https://doi.org/10.1007/s11423-024-10234-5

Teo, T., Sang, G., Mei, B., & Hoi, C. K. W. (2022). Investigating pre-service teachers' acceptance of technology. *Asia-Pacific Education Researcher, 31*(4), 453–463.

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

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2022). Unified theory of acceptance and use of technology: A synthesis and future directions. *MIS Quarterly, 46*(1), 328–376.

Yao, J., & Wang, X. (2024). Factors influencing teachers' intention to adopt AI in education. *Computers & Education, 194*, 104709. https://doi.org/10.1016/j.compedu.2022.104709

Zawacki-Richter, O., Bond, M., Marin, V. I., & Gouverneur, F. (2022). Systematic review of research on artificial intelligence applications in higher education. *International Journal of Educational Technology in Higher Education, 19*(1), 1–27.