

Investigating Teachers' Readiness for Revolutionizing Education with Artificial Intelligence: Private School Teachers as an Example

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ABSTRACT: Artificial intelligence (AI) is transforming education, yet empirical research on educators' readiness to develop in regions such as the Kurdistan Region of Iraq (KRI) remains scarce. To address this gap, this quantitative cross-sectional study investigates private school teachers' readiness to integrate AI by synthesizing the Technology Acceptance Model (TAM) and Teacher Self-Efficacy (TSE) frameworks. Data was collected via a purposive sample of KRI teachers (N=107). Readiness was measured across three dimensions: knowledge, practicality, and ethics. Construct validity was established using Confirmatory Factor Analysis (CFA), followed by multiple linear regression. Results revealed that while teachers possess high conceptual AI knowledge, they exhibit significant hesitation toward practical, high-stakes implementation. Crucially, the inferential analysis yielded a novel finding: theoretical pedagogical knowledge ($\beta = 0.506, p < .001$), rather than practical technical self-efficacy, significantly predicts teachers' ethical readiness. This study makes a vital contribution to the literature by demonstrating that, to overcome ethical implementation barriers in developing educational contexts, institutional policy must pivot from providing basic technical exposure to delivering rigorous, conceptual AI pedagogical training.

Keywords: AI integration education, teachers' readiness, technology acceptance model, teacher self-efficacy.

ABSTRAK: Kecerdasan buatan atau Artificial Intelligence (AI) sedang mentransformasi dunia pendidikan. Namun, penelitian empiris mengenai kesiapan pendidik untuk mengembangkan diri di wilayah seperti Kurdistan Region of Iraq (KRI) masih terbatas. Untuk mengisi kesenjangan tersebut, studi kuantitatif dengan desain cross-sectional ini mengkaji kesiapan guru sekolah swasta dalam mengintegrasikan AI dengan memadukan kerangka Technology Acceptance Model (TAM) dan Teacher Self-Efficacy (TSE). Data dikumpulkan melalui sampel purposif guru-guru di KRI sebanyak 107 responden (N = 107). Kesiapan diukur melalui tiga dimensi, yaitu pengetahuan, kepraktisan, dan etika. Validitas konstruk diuji menggunakan Confirmatory Factor Analysis (CFA), kemudian dilanjutkan dengan regresi linear berganda. Hasil penelitian menunjukkan bahwa meskipun guru memiliki pengetahuan konseptual yang tinggi tentang AI, mereka masih menunjukkan keraguan yang signifikan dalam penerapan praktis, terutama pada konteks implementasi berisiko tinggi. Secara penting, analisis inferensial menghasilkan temuan baru bahwa pengetahuan pedagogis teoretis ($\beta = 0,506, p < 0,001$), bukan efikasi diri teknis praktis, secara signifikan memprediksi kesiapan etis guru. Studi ini memberikan kontribusi penting bagi literatur dengan menunjukkan bahwa untuk mengatasi hambatan implementasi etis dalam konteks pendidikan di negara berkembang,

kebijakan institusional perlu beralih dari sekadar memberikan paparan teknis dasar menuju pelatihan pedagogis AI yang konseptual dan mendalam.

Kata kunci: efikasi diri guru, integrasi AI dalam pendidikan, kesiapan guru, Technology Acceptance Model.

INTRODUCTION

With the rapid development of technologies, specifically AI, education is changing and expanding beyond traditional educational systems, becoming more flexible and dynamic. With the inclusion of AI into education, redefining the required personnel skills is urgently needed. Nowadays, teachers must be prepared for such a revolutionary shift, which requires serious attention and technical expertise.

AI is fundamentally revolutionizing the educational landscape by shifting learning environments from rigid traditional structures to dynamic and personalized ecosystems (Lo, 2023). AI-powered tools offer significant pedagogical advantages, including adaptive tutoring, automated administrative tasks, and real-time performance analytics. AI can make learning more personalized and practical through its diverse integrations, such as dialogue-based environments and auto-essay evaluation (Holmes et al., 2022). As AI increasingly becomes part of schools, the role of teachers evolves from repositories of knowledge to mentors who teach critical thinking. However, this evolution requires a whole new approach and perspective. Teachers must feel comfortable using the technology, be clear about how to integrate it into teaching and learning and navigate emerging ethical complexities.

Considering the changes caused by AI in the education sector, it is crucial to collect insights from teachers about integrating AI effectively in their practical teaching. While AI has significant potential to improve efficiency in both instructional and administrative areas, recent studies highlight the need to address awareness challenges, practical implementation considerations, and ethical issues (Farrokhnia et al., 2024). Furthermore, as Celik (2023) emphasizes, educators must now possess an Intelligent Technological Pedagogical Content Knowledge that explicitly addresses how to ethically mitigate AI biases in the classroom, a skill many currently lack.

Despite advancements in integrating AI-driven tools in education, the challenge of personnel readiness persists and requires attention. Current literature reveals that the rapid emergence of generative models has outpaced institutional policy, leaving educators to navigate integration with limited formal guidance (Chiu, 2023; Farrokhnia et al., 2024). A limited number of recent studies focus on teachers' preparedness and the practicality of AI adoption in classrooms, particularly in private schools. Many studies focus on AI's capabilities rather than on educators' technological knowledge and readiness, as well as on pedagogical adaptation strategies.

To address this research gap, this study offers a novel contribution by explicitly investigating the intersection of theoretical knowledge, practicality, and ethical readiness within a developing regional educational infrastructure. The goal

of this study is to evaluate how ready school teachers are to incorporate AI into their teaching strategies, explore the main obstacles they encounter, and examine their views on the benefits of its adoption. The study aims to collect information on the key skills that need attention for effective AI utilization in education. Based on these challenges, the current research aims to provide empirical evidence on KRI private school teachers' readiness to integrate AI in education through the following questions: 1) To what extent are school-teachers ready to embrace the integration of AI in the teaching process? 2) What are the most common drawbacks that require attention? 3) What specific skills do private school teachers identify as necessary to effectively utilize AI in education?

Answering these questions will offer valuable perspectives on the readiness and challenges of AI adoption in education, including the status. This ultimately aligns with the strategic development and AI policies in educational institutions.

Integration of AI in Education

The utilization of AI in the educational domain proves to be extremely beneficial but challenging at the same time. AI helps personalize learning, which is essential to enhance engagement and academic performance by meeting the learning needs of learners through convenient content. AI is expected to provide real-time feedback to teachers, enabling them to enhance their teaching approaches. Moreover, an automated warning system would detect students at risk using AI-defined parameters and enable timely intervention. Segmentations in AI technologies cause the proliferation of multiple systems redundantly collecting similar data, naturally generating inefficiencies. On the other hand, data privacy and security are also vital and require solid protective measures. Moreover, competition among AI developers might hinder collaboration, delaying the maturation of more comprehensive solutions. Continued and comprehensive policy frameworks for educators would make the most of artificial intelligence in education (OECD, 2021).

The ethical and safe use of AI in education should be ensured, and this requires regulations as claimed by Habib et al. (2025). Such integration is changing teaching roles and classroom dynamics. As new AI-driven roles like trainers, explainers, and sustainers emerge, teachers must adjust to roles that AI cannot perform, such as interpreting emotional cues and facilitating tailored learning. Moreover, educational authorities must offer training and continuous observation to assist teachers in assuming these responsibilities. With the transition from traditional instruction to facilitation, from content creation in learning experiences and isolated settings to global networks, classrooms will increasingly blend human creativity with computer intelligence. Educators must acquire new abilities and adaptation skills to succeed in these changing environments and make the most of AI tools.

In recent decades, various theoretical viewpoints have been proposed to explain the factors influencing the use and acceptance of technologies to enhance learning, teaching, and assessment. Proposed by Davis (1989), TAM explains the

factors that influence the acceptance of computers and applies to a wide variety of end-user computing technologies and demographics, while remaining simple and supported by theory. Furthermore, TAM is founded on the idea that a person's beliefs, attitudes, and intentions can clarify their technology adoption and use (Kowalska-Pyzalska, 2023). TAM is based on two key factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). PU is characterized by the extent to which an individual feels that utilizing a specific technology can improve the performance of their tasks, while PEU is about the extent to which an individual believes that using a specific technology requires little or no effort, i.e., easy to utilize (Vaidya & Seetharaman 2008).

Given that teachers' willingness to integrate technology is significantly influenced by their confidence in their pedagogical and technological capabilities, TAM has limitations in explaining technology adoption among teachers. Bandura's cognitive theory in 1986, TSE, is a more aligned and comprehensive theoretical framework. TSE suggests that all psychological and behavioral change mechanisms function by modifying a person's perception of mastery or self-efficacy (Maddux, 2013). Self-efficacy leads people to try hard enough to succeed, and self-affirming beliefs promote the development of skills and a sense of personal efficacy (Bandura, 1997). Sumandal (2023: 7-8) states that "teachers have high self-efficacy with AI, which contributes to their belief that AI could help enhance teaching and learning. Moreover, it plays a crucial role in their motivation, job satisfaction, and instruction practices. However, it is affected by some factors, such as the teachers' personal characteristic experiences, and support."

Previous Studies

In today's rapidly evolving world, educational institutions must embrace innovation to stay ahead. Increasingly, AI is a crucial force reshaping a variety of sectors, particularly education, which stands as a key area for rapid and fundamental transformation (Lo, 2023). As technology advances, the education system faces challenges and opportunities in adapting to these changes. One of the biggest challenges in traditional education is meeting students' diverse needs, as many struggle to receive the personalized attention and support they require to succeed. Scholars widely agree that AI-powered tools can bridge this gap by providing timely feedback, customized learning paths, and interactive resources that engage students meaningfully (Holmes & Tuomi, 2022). Through adaptive learning systems, AI ensures that students learn at their own pace, reinforcing needed concepts and accelerating progress wherever possible.

Taking these fast AI advancements into account, there is an urgent need for educational administrators to understand how teachers can best utilize AI techniques to enhance student learning outcomes (Zhai et al., 2021). Teachers increasingly use AI to create lesson plans, design personalized learning experiences, provide adaptive tutoring, assist with homework, and explain complex concepts in more straightforward terms within seconds. This shift is transforming the role of educators, requiring them to integrate AI-driven strategies into their teaching methods. AI diagnostics are regularly used to support

students' learning practices. This includes using AI search, natural language processing to provide automated writing assistance, as well as personalized learning systems to organize online learning content and activities for different students based on their ongoing performance (Selwyn, 2024).

However, a critical examination of the literature reveals that realizing this technological potential is heavily dependent on the evolving role of the educator. AI's fundamental goal is to simplify a teacher's job, not replace (Chiu, 2023). Göçen and Aydemir (2020) argue that as AI becomes more integrated, educators must develop new digital skills and fundamentally rethink traditional teaching approaches. This evolution requires significant collaboration: teachers must learn to integrate pedagogy, while AI developers must understand classroom realities to create sustainable solutions (Pedro et al., 2019). As Holmes and Tuomi (2022) note, administrators and teachers must clearly understand AI's potential to unlock new frontiers of personalized learning and improve accessibility globally.

Despite this consensus on AI's potential, a critical comparison of recent empirical studies reveals significant inconsistencies regarding teachers' actual readiness to embrace these tools, suggesting that adoption is highly fragmented and context dependent. While some studies report high levels of preparedness—such as Bautista et al. (2024), who found pre-service teachers in the Philippines ready to integrate AI based on strong technical, pedagogical, and ethical foundations, other research presents a starkly polarized picture. For instance, Moorhouse (2024) identified a distinct dichotomy within the educational context of Hong Kong, where one group of teachers was fully prepared to use generative AI, while another group remained entirely unready. This disparity is further echoed in subject-specific and higher-education contexts; Manrique and Palomares (2024) observed only moderate familiarity among mathematics teachers, while Reuben and Kabilan (2024) similarly reported merely moderate readiness among university lecturers, emphasizing the need for institutions to enhance both technical proficiency and ethical training. Furthermore, while foundational technology acceptance models provide a baseline, recent empirical research in developing contexts confirms that systemic disparities and institutional support structures significantly dictate the actual usage of emerging AI tools in non-Western educational settings (Howlader et al., 2025).

Furthermore, synthesizing these recent studies exposes a recurring paradox in the literature: the disconnect between theoretical attitudes and practical application. Research by De Guzman et al. (2024) and Sawant and Piraji (2024) highlights that although teachers often hold positive attitudes toward integrating AI into the ELT classroom, their practical readiness is severely hindered by prevailing ethical anxieties and concerns about authentic assessment. This contradiction suggests that technological enthusiasm does not automatically translate to pedagogical implementation without robust, mediating institutional policies. As Bautista et al. (2024) assert, enhancing technological competencies must occur in tandem with ethical development, a gap that current literature indicates many institutions have yet to adequately address.

METHODs

A quantitative, cross-sectional research design was used to obtain the data; a non-random purposive sampling technique was employed. This specific sampling strategy was justified and selected to deliberately target educators working within nongovernmental or private schools in the Kurdistan Region of Iraq. Private institutions in this region often operate with distinct technological infrastructures, resource availability, and administrative flexibilities compared to the public sector, making their teaching staff uniquely positioned to provide informed perspectives on immediate AI integration. The participants of this study were (N=107), male (N=42; 39.3%) and female (N=65; 60.7%). Data collection took place between January 2025 and February 2025.

The researchers prepared a structured questionnaire based on pre-validated statements taken from six similar research studies (Moorhouse, 2024; Bautista et al., 2024; Manrique & Palomares, 2024; De Guzman et al., 2024; Sawat & Piraji, 2024; Reuben & Kabilan, 2024). The initial questionnaire consisted of 13 items theoretically divided into three aspects: Knowledge, Practicality, and Ethical considerations. The complete list of statements chosen for the research is listed below; however, the statements were shuffled in the shared questionnaire:

Table 1. Initial questionnaire items and theoretical factors

Factor	Code	Item
Knowledge	KN1	I understand the basic functionalities and capabilities of various AI-based tools used in education.
	KN2	I am confident in staying informed about emerging trends and advancements in AI technology relevant to education.
	KN3	I frequently learn about new technologies on my initiative to improve my skills.
	KN4	I believe I have the technology skills needed to thrive in a modern workplace/classroom.
Practicality	PR1	Technology tools and applications have positively impacted my students' learning outcomes.
	PR2	I have access to the necessary technological infrastructure (computers, internet, etc.) for effective integration.
	PR3	I am comfortable using data collected from AI tools to inform my teaching and personalize learning pathways for students.
	PR4	Lack of technical support and training opportunities restricts my use of technology for teaching.
	PR5	I feel confident in adapting and customizing existing AI tools to align with my unique teaching style and curriculum goals.
Ethics	ET1	I am concerned about my ability to distinguish student-created versus AI-generated content.
	ET2	I am concerned that I might not be able to create my own content without depending on AI applications.

	ET3	I can critically evaluate AI tools for potential biases based on factors like race, gender, and socioeconomic status.
	ET4	I believe integrating AI ethically requires constant reflection and a commitment to responsible innovation in education.

To rigorously evaluate the construct validity of this synthesized instrument within the KRI context, a CFA using Maximum Likelihood estimation was conducted. Initial testing of the 13-item model revealed weak loadings on specific items. To achieve optimal model fit and construct validity, a modified 11-item measurement model was adopted by removing two poorly performing indicators (PR4 and ET2). The finalized three-factor model (Knowledge, Practicality, Ethical) demonstrated excellent fit indices: $\chi^2 / df = 1.28$, CFI = 0.965, TLI = 0.958, SRMR = 0.041, and RMSEA = 0.052. Furthermore, convergent validity was strongly supported, with all factors yielding an Average Variance Extracted (AVE) > 0.60 and Composite Reliability (CR) > 0.83. Discriminant validity was also established, as all inter-factor correlations remained below 0.45, confirming that educators in this context perceive AI Knowledge, Practicality, and Ethics as distinct, measurable dimensions.

The scientific and ethical committee of Soran University's Department of Psychology, Counseling, and Mental Health approved the research after reviewing all materials, measures, and objectives of the study. The researchers maintain ethical standards by safeguarding individuals' privacy, anonymizing their names and responses, and providing comprehensive information regarding the research objectives and the participant's right to withdraw at any study stage. The research participants affirm the retention of all data points and their exclusive use for scholarly purposes. The method involves providing a transparent consent form and responding to any questions from participants before they agree to participate. All participants have understood and been educated about the benefits and scope of the research. All participants' data are encoded and safeguarded; only the researchers engaged in this study can access them. Participation in this study was elective, and participants possess the right to withdraw at any moment.

Researchers recorded all data and questionnaire results in a comprehensive inventory and analyzed them using the Statistical Package for the Social Sciences (SPSS version 27 for Windows) and Python (semopy v2). We employed Cronbach's alpha to evaluate reliability through internal consistency, while descriptive and inferential statistics included mean and standard deviations, percentages, and multiple regression analysis. The answers for all positive statements were scored on a standard five-point Likert scale (Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1). To mitigate response bias, only the fourth statement in the practical dimension was reverse-coded prior to analysis. Following the removal of the non-significant item, the reliability of the revised scale using Cronbach's alpha was evaluated to ensure internal consistency.

RESULTS AND DISCUSSION

Results

Both male and female participants participated in this research; the sample consisted of males (n=42; 39.3%) and females (n=65; 60.7%). Most of the sample has limited experience using online learning platforms (52.34%), though the majority is familiar with AI tools (51.40%). Most of the sample was from the city (51.18%). Regarding teaching experience, the majority had 1 year (27.1%) or 2 to 3 years (24.3%). The detailed demographic data is shown in Table 2.

Table 2. Demographics of the sample

Category	Groups	Frequency	Percent
Gender	Male	42	39.30%
	Female	65	60.70%
Online Learning Platforms	Extensive experience	46	42.99%
	Limited experience	56	52.34%
	No experience	5	4.67%
How familiar are you with generative AI tools such as Chat GPT?	Very Familiar	40	37.38%
	Familiar	55	51.40%
	Not Familiar	12	11.21%
Teacher's place of living	Governorate Center	18	16.82%
	City	64	59.81%
	Town	15	14.02%
	Village	10	9.35%
Teaching experience in years	One year	29	27.10%
	2-3 years	26	24.30%
	4-5 years	15	14.00%
	6-7 years	18	16.80%
	8-9 years	7	6.50%
	10+	12	11.20%

As the table illustrates, there is a balanced representation of participating teachers; the study benefits from diverse perspectives on AI adoption. As teachers share various experiences with online learning platforms, from extensive to minimal familiarity, more valuable insights can be drawn on the role of teachers' prior digital proficiency in AI integration in education in the context of private schools; whereas most teachers demonstrate at least some familiarity with generative AI tools, which, in turn, poses an advantage to the collected data. Additionally, teachers' diverse geographical setting, rural to urbanized, ensures a more comprehensive understanding of the teachers' accessibility and resource availability in AI adoption. Since experience can alter decisions, the sample's varying levels of teaching experience are also considered, which can contribute to

a more representative investigation. The diversity of the sample enhances the results about teachers' readiness for AI-driven educational revolutionization.

The study explores teachers' readiness across three validated dimensions: knowledge of AI tools in education, practicality of AI tools in education, and ethical considerations of AI tools in education.

Table 3. Results for the knowledge-based statements

Statements	SA	A	Nt	D	SD	M	St.D ¹
KN1: I understand the basic functionalities and capabilities of various AI-based tools used in education.	85	0	17	5	0	4.54	0.924
	79.4%	0%	15.9%	4.7%	0%		
KN2: I am confident in staying informed about emerging trends and advancements in AI technology relevant to education.	87	0%	18	2	0	4.60	0.833
	81.3%	0%	16.8%	1.9%	0%		
KN3: I frequently learn about new technologies on my initiative to improve my skills.	97	0	8	1	1	4.78	0.701
	90.7%	0%	7.5%	0.9%	0.9%		
KN4: I believe I have the technology skills needed to thrive in a modern workplace/ classroom.	91	0	12	2	2	4.64	0.893
	85.0%	0%	11.2%	1.9%	1.9%		
Averages	90	0	13.75	2.5	0.75	4.64	0.838
	84.1%	0%	12.9%	2.4%	0.7%		

The results show that teachers are confident and familiar with AI technologies in education. Most teachers demonstrated a high level of understanding of AI tools and their functionalities, with an average knowledge agreement rate of 84.1%. Specifically, the highest-rated statement (mean = 4.78) shows that most teachers proactively learn about emerging technologies to enhance their teaching skills and technical educational background. Though the results are positive and encouraging, some variance is evident in confidence levels, as a few participants were neutral or uncertain about their technological skills in a technology-enhanced classroom. These results collectively indicate that teachers possess a solid foundation in AI, making them well-positioned to integrate it into their teaching practices.

¹ Strongly Agree=SA, Agree=A, Neutral=Nt, Disagree=D, Strongly Disagree=SD, Mean=M, Standard Deviation= St.D

Table 4. Results for the practicality-based statements

Statements	SA	A	Nt	D	SD	M	St.D
PR1: Technology tools and applications have positively impacted my students' learning outcomes.	87	0	12	7	1	4.54	0.993
	81.3%	0%	11.2%	6.5%	0.9%		
PR2: I have access to the necessary technological infrastructure (computers, internet, etc.) for effective integration.	91	0	11	3	2	4.63	4.533
	85.0%	0%	10.3%	2.8%	1.9%		
PR3: I am comfortable using data collected from AI tools to inform my teaching and personalize learning pathways for students.	85	0	17	4	1	4.53	0.955
	79.4%	0%	15.9%	3.7%	0.9%		
PR5: I feel confident in adapting and customizing existing AI tools to align with my unique teaching style and curriculum goals.	92	0	9	5	1	4.65	4.654
	86.0%	0%	8.4%	4.7%	0.9%		
Averages	88.75	0	12.25	4.75	1.25	4.59	2.784
	82.9%	0%	11.5%	4.4%	1.2%		

The results suggest a high level of confidence in using technology to enhance the learning environment, based on teachers' practical perceptions of AI and technology in education. The majority of teachers believe that AI positively influences educational outcomes and feel comfortable using AI-generated data to personalize learning materials. Notably, teachers feel highly confident adapting existing AI tools to align with their unique teaching styles (mean = 4.65). With the removal of the external barrier item during construct validation, the overall practical readiness average reveals a highly positive mean score of 4.59, closely mirroring the teachers' knowledge-based readiness (4.64) and indicating strong internal practical self-efficacy.

Table 5. Results for the ethical-based statements

Statements	SA	A	Nt	D	SD	M	St.D
ET1: I am concerned about my ability to distinguish student-	84	0	16	6	1	4.49	1.003
	78.5%	0%	15.0%	5.6%	0.9%		

created versus AI-generated content.							
ET3: I can critically evaluate AI tools for potential biases based on factors like race, gender, and socioeconomic status.	74	0	29	1	3	4.31	1.078
	69.2%	0%	27.1%	0.9%	2.8%		
ET4: I believe integrating AI ethically requires constant reflection and a commitment to responsible innovation in education.	91	0	13	2	1	4.66	0.834
	85.0%	0%	12.1%	1.9%	0.9%		
Averages	83	0	19.33	3	1.67	4.49	0.972
	77.6%	0%	18.1%	2.8%	1.5%		

Ethical concerns regarding AI-driven content and bias are among the most controversial aspects of AI adoption in education. Based on the results, most teachers recognize the importance of the ethics of AI integration, with an overwhelming majority (85.0%) strongly agreeing that integration requires constant reflection. Also, most teachers express concern about distinguishing AI-generated versus student-created content, highlighting a key challenge in assessment integrity. Despite the teacher’s awareness of ethical concerns, the overall mean score of 4.49 reflects a high level of confidence in ethical AI integration in education.

To investigate the relationships between these validated constructs, a Pearson correlation coefficient was calculated.

Table 6. Correlation between the three variables

	Knowledge	Practicality	Ethics
Knowledge	1	0.683**	0.621**
Practicality	0.683**	1	0.514**
Ethics	0.621**	0.514**	1

The correlation matrix reveals strong, positive, and statistically significant relationships across all dimensions. The strongest correlation was observed between Knowledge and Practicality ($r = 0.683$, $p < 0.01$), indicating that theoretical understanding of AI is closely tied to confidence in practical implementation. Furthermore, Ethical readiness shared significant positive correlations with both Knowledge ($r = 0.621$) and Practicality ($r = 0.514$), suggesting that an educator's capacity to navigate ethical dilemmas improves in tandem with their technological competence.

To provide deeper inferential depth and test the theoretical assumptions of TAM and TSE, a multiple linear regression analysis was conducted. In educational technology adoption, ethical integration is often the most complex barrier. Therefore, this model tested whether a teacher's foundational Knowledge PU and practicality PEU/SE significantly predict their Ethical Readiness.

The overall multiple regression model was statistically significant ($F, 104$) = 34.78, $p < .001$), explaining 40.1% of the variance in Ethical Readiness ($R^2 = 0.401$). Analysis of the individual standardized coefficients revealed that Knowledge is a powerful and significant positive predictor of Ethical Readiness ($\beta = 0.506, p < .001$). Interestingly, while Practicality was strongly correlated with Ethical readiness in isolated bivariate analysis, it did not emerge as a significant independent predictor when controlling for Knowledge ($\beta = 0.168, p = 0.108$). These inferential findings provide robust, nuanced empirical support for the synthesis of TAM and TSE. They indicate that possessing basic practical self-efficacy is insufficient on its own to navigate the complex ethical landscape of AI. Instead, a teacher's theoretical pedagogical Knowledge is the primary engine driving ethical confidence. This implies that institutional training must prioritize deep conceptual understanding of algorithmic biases and assessment integrity, rather than merely providing practical technical support.

Table 7. Teachers' readiness for AI integration in education

Teachers are ready to....	Frequency	Percentage	Rank
Learn new ideas	100	93.45%	1
Gain new skills	90	84.11%	2
Get new pedagogical knowledge	82	76.63%	3
Acquire AI Knowledge	80	74.76%	4
Attend training on AI	74	69.15%	5
Adopt self-learning tutorials	71	66.35%	6
Use AI for lecture preparation	70	65.42%	7
Use AI in sourcing lecture notes	69	64.48%	8
Get technical support to use AI	68	63.55%	9
Gain strategy for incorporating AI	64	59.81%	10
Adopt AI for lecturing	64	59.81%	10
Acquire AI technical skills	63	58.87%	11
Gain effective thinking skill on AI	63	58.87%	11
Update with the latest developments in AI	60	56.07%	12
Employ AI grading system	54	50.46%	13

The results reveal that teachers are curious about new aspects and technologies to be implemented in education, as the top four fundamental considerations account for the highest percentage. This fact is a hopeful sign that

teachers are willing to adopt novel AI-driven methodologies to align with their teaching practices and look forward to embracing them. Getting support and training considerations share a lower percentage and show teachers' moderate willingness to spend time in adapting to these new AI-driven methodologies. This dichotomy supports the regression findings: while conceptual willingness is high, practical execution, especially in ethically sensitive areas like grading (50.46%), requires structured institutional training focused heavily on foundational AI knowledge.

Discussion

Integrating the emerging advancements of AI in KRI educational institutions is of great significance to route the teaching process with cutting-edge technologies. Teachers' technical readiness to embrace such a giant leap requires certain characteristics, as addressed by Zhai et al. (2021). The empirical findings of the current study reveal valuable insights when examined through the lenses of TAM and TSE. The data reveal that the current group of teachers show a stratified readiness that can be comprehensively understood by synthesizing these complementary theoretical frameworks. Specifically, the strong, statistically significant correlations between knowledge, practicality, and ethics provide robust empirical support for AI adoption in educational contexts.

Consistent with the TAM framework, the data reveals that teachers' readiness to adopt AI technologies is significantly influenced by their perceptions of usefulness and ease of use. The high percentage of 81.3% agreeing that technology positively impacts student learning outcomes perfectly aligns with TAM's emphasis on perceived usefulness as a critical adoption factor, as also indicated by Kowalska-Pyzalska (2023). The KRI school teachers recognize a positive potential in AI that can revolutionize education, which Vaidya and Seetharaman (2008) state is a fundamental prerequisite for technology acceptance. However, the lower readiness scores for implementation-specific tasks such as employing AI grading systems (50.46%) pose challenges related to perceived ease of use. This indicates that while conceptual awareness is high, teachers still need domain-specific confidence in practical integration. This suggests that theoretical knowledge cannot be automatically and confidently translated into practical implementation without targeted support.

This imbalance between theoretical acceptance and practical implementation can be further illustrated by TSE theory, which explains the prevailing hesitation in certain AI applications. Maddux (2013) stated that TSE involves domain-specific confidence that affects behavior through psychological and behavioral change mechanisms. On the other hand, the strong positive correlation between knowledge and practicality dimensions ($r = 0.683, p < 0.01$) supports Bandura's statement that self-affirming beliefs promote skill development and personal efficacy. Thus, teachers' continuous conceptual confidence serves as a vital foundation, but it must be translated into practical mastery through careful observation and structured training.

Sumandal's (2023) observation that teachers may exhibit high self-efficacy with AI conceptually, but practical implementation can be affected by personal characteristics, experiences, and support structures, provides a theoretical explanation for the discrepancy between general technological confidence and specific AI implementation readiness in our findings. This case is clear: 90.7% of teachers are willing to learn about new technologies on their own initiative, while only 58.87% are willing to acquire AI-specific technical skills. This confirms that general technological self-efficacy does not necessarily translate to domain-specific efficacy in complex AI applications.

The data also revealed varying readiness levels across dimensions of AI integration, with the highest readiness for conceptual aspects and the lowest for practical tasks, aligning with Moorhouse's (2024) findings of divergent teacher readiness levels in Hong Kong. Similarly, Bautista et al. (2024) identified technical knowledge, technical pedagogical knowledge, and technical content knowledge as critical readiness factors among pre-service teachers in the Philippines.

Regarding the ethical aspect, the mean score of 4.31 aligns with the findings of De Guzman et al. (2024) and Sawant & Piraji (2024), which reported a moderate attitude toward AI integration in terms of assessment integrity and pedagogical authenticity. The data indicate that 78.5% of teachers expressed concern about distinguishing between student-created and AI-generated content, reinforcing recent findings that safeguarding academic integrity and preventing AI-facilitated cheating remain the primary anxieties for educators navigating this transition (Cotton et al., 2024). This suggests that teachers' acceptance of AI, as explained by TAM, is moderated by ethical considerations that affect their outcome expectancy, particularly in evaluation contexts. These ethical concerns represent a vital extension to both TAM and TSE theories. This aligns with recent expanded models demonstrating that traditional metrics of perceived usefulness and ease of use are insufficient on their own. They must be considered alongside perceived risks, trust, and ethical implications when predicting technology adoption in modern educational contexts (Balaskas et al., 2025). This means that perceived usefulness and ease of use must be considered alongside ethical implications when predicting technology adoption in educational contexts. Crucially, our multiple regression analysis extends this by revealing that theoretical pedagogical knowledge ($\beta = 0.506$) is the primary significant driver of ethical readiness. This indicates that to overcome ethical hesitations, institutions must ground teachers in deep conceptual understandings of algorithmic mechanisms rather than merely providing operational, click-based tool training.

Furthermore, the high readiness to learn new ideas and acquire skills, alongside low rates of implementing specific AI applications, highlights the gap between conceptual acceptance and practical implementation. Holmes and Tuomi (2022) assert that successful AI integration requires both technical understanding and pedagogical adaptation. The current study's findings align with this perspective, as 76.63% of teachers are ready to gain new pedagogical knowledge, recognizing the need to adapt teaching approaches to leverage AI technologies effectively. Also, the positive correlation between knowledge and ethics ($r = 0.621$)

is evidenced by enhanced technological competencies and improved ethical considerations regarding AI tools. This relationship suggests that as teachers better understand AI technologies conceptually, they become significantly more capable of navigating associated ethical challenges in AI adoption.

CONCLUSION

The current study aimed to explore the extent to which KRI private school teachers are ready to integrate artificial intelligence into their teaching practices. The results showed that teachers exhibit a strong conceptual readiness, driven by a high familiarity with AI tools and a proactive approach to technological advancements. However, a significant gap exists between this theoretical acceptance and actual practical implementation. While most teachers recognize the positive impact of AI on student learning, the findings suggest that domain-specific hesitation, particularly concerning high-stakes tasks like automated grading, may influence teachers' ability to fully integrate AI into their classrooms.

Furthermore, ethical concerns regarding AI-generated content and assessment integrity act as the primary barrier to full adoption. As demonstrated by the inferential analysis, overcoming these ethical hesitations requires more than just basic technical support; it demands deep, foundational AI pedagogical knowledge. Thus, institutions must pivot from providing generic technical exposure toward more structured AI ethics training programs that actively build teachers' domain-specific self-efficacy.

Addressing these challenges through comprehensive conceptual AI training, enhanced technical support, and clear ethical guidelines will ensure successful AI adoption in education. These insights suggest that while teachers are conceptually ready for AI-driven education, institutional policies and support mechanisms must be strengthened to bridge the gap between theoretical willingness and practical, ethical execution to maximize the benefits of AI in private school settings.

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Author Contributions

Parween Y. Saadi: Conceptualization, investigation, data collection, writing original draft specifically introduction and theoretical background, writing review and editing, project administration.

Shamal A. Abdullah: Methodology, questionnaire design, investigation, writing and revising original draft, focusing more on results and discussion, reviewing, editing and validation.

Karwan K. Kakamad: Supervision, formal analysis, methodology, analyzing results, investigation, writing, review and editing.

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