
**TEACHERS' AWARENESS OF ARTIFICIAL INTELLIGENCE AND
THE USE OF AI-ASSISTED TEACHING STRATEGIES**

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ABSTRACT

This study investigated the relationship between Artificial Intelligence (AI) awareness and the utilization of AI-assisted teaching strategies among 143 public school teachers in Kitaotao 2 District during the 2025–2026 school year. The research specifically evaluated three dimensions of awareness: conceptual understanding, professional development exposure, and application confidence. Simultaneously, it assessed how these educators integrated AI into lesson delivery, assessment, feedback, and student support. Using a quantitative design with complete count sampling, the findings revealed that teachers had moderate to high AI awareness and consistently used AI-assisted strategies in their classrooms. A critical outcome of the study was the identification of a strong, significant positive correlation between awareness and utilization. This suggests that as teachers gain a deeper understanding of AI, receive more targeted training, and build their technical confidence, they become significantly more likely to adopt innovative AI tools in their daily instructional practices. The study concludes that fostering teacher competence is fundamental to the successful digital transformation of the classroom. To sustain this momentum, it is recommended that educational authorities and school administrators prioritize robust professional development programs and institutional support. By strengthening educators' capacity to navigate AI technologies, schools can ensure these innovations are used effectively to enhance learning outcomes and modernize the educational experience.

KEYWORDS: *Artificial Intelligence, teacher awareness, AI-assisted teaching, technology integration, educational innovation.*

INTRODUCTION

Artificial Intelligence (AI) has become a transformative force in education, simulating human cognition through machine learning and data analytics to provide adaptive, learner-centered instruction. By processing vast datasets and providing real-time feedback, AI tools—such as intelligent tutoring systems, chatbots, and automated grading—enhance instructional effectiveness without displacing educators' vital role (Ng et al., 2023; Chou et al., 2024). Globally, these technologies assist teachers in monitoring progress and tailoring lessons to individual needs, though successful integration remains heavily dependent on teacher confidence and technical awareness (Wardat et al., 2024; Akgun & Greenhow, 2022).

In the Philippines, the post-pandemic digital shift has accelerated interest in AI, with educators recognizing its potential for self-paced, engaging learning (Sibug et al., 2024). However, many Filipino teachers, particularly in rural areas, still face barriers, including limited training and low self-efficacy (Dinopol et al., 2025). Despite general discussions on AI, there is a notable research gap regarding the empirical link between teachers' conceptual awareness and their actual classroom adoption in rural public schools.

Addressing this, the present study examines the relationship between AI awareness—spanning conceptual understanding, training exposure, and confidence—and the adoption of AI strategies in instruction and assessment among public school teachers in Kitaotao 2 District, Bukidnon. The findings aim to inform policymakers and administrators in developing targeted professional programs. Ultimately, this research seeks to empower educators to responsibly leverage AI, fostering a future-ready education system that enhances learning outcomes in diverse rural contexts.

Theoretical Framework

This study is anchored on three key theories: the Technology Acceptance Model (TAM), the Diffusion of Innovations Theory, and the Technological Pedagogical Content Knowledge (TPACK) framework.

TAM posits that teachers' adoption of AI depends on its perceived usefulness and ease of use, with greater awareness fostering a positive outlook toward technology integration. Rogers' Diffusion of Innovations Theory further suggests that awareness represents the essential "knowledge stage" required before any technological shift can occur within a school system. Finally, the TPACK framework emphasizes that effective AI use requires a synergistic balance between technological, pedagogical, and content knowledge, ensuring that AI tools enhance specific lesson objectives.

By synthesizing these perspectives, the framework illustrates that a teacher’s familiarity and self-efficacy directly determine their likelihood of adopting AI-assisted strategies. This holistic approach accounts for individual beliefs, technical skills, and the institutional factors that drive the successful transition toward AI-integrated classrooms.

This study examines the relationship between teachers’ AI awareness and their adoption of AI-assisted teaching strategies. The independent variable comprises teachers’ conceptual understanding, professional training exposure, and confidence in using AI tools. These elements represent the educators’ overall preparedness and knowledge. The dependent variable focuses on the actual application of AI in lesson delivery, assessment, feedback, and student support. As shown in Figure 1, the framework explores how these levels of preparedness directly influence the integration of AI within classroom instruction.

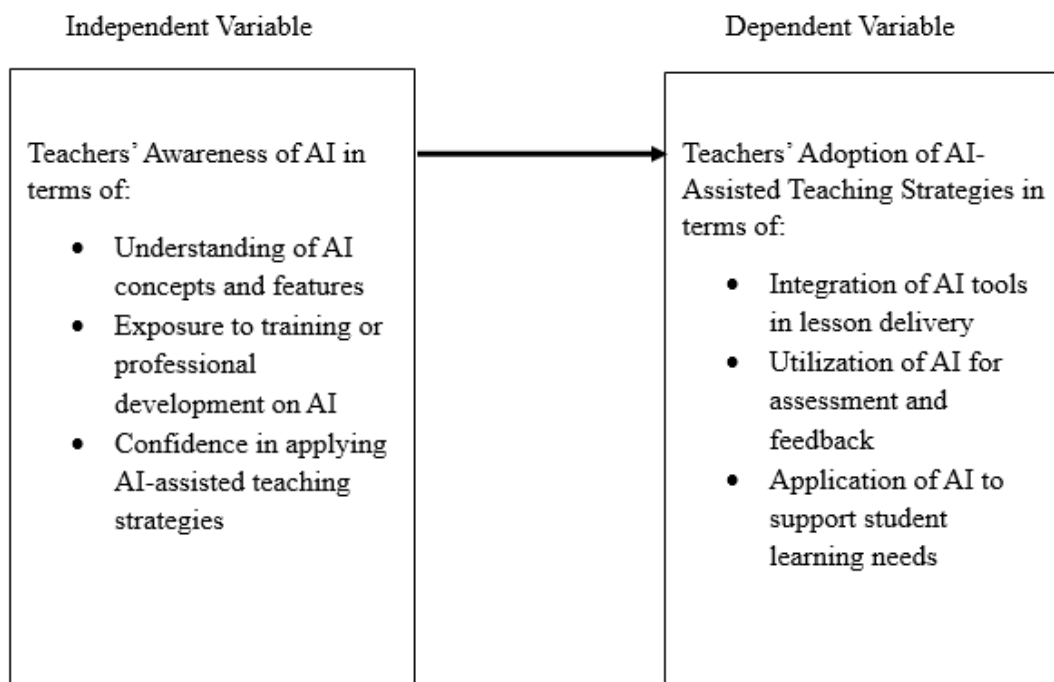


Figure 1. Schematic diagram of the study.

Scope

This study investigates the relationship between teachers’ awareness of Artificial Intelligence and their adoption of AI-assisted teaching strategies among public school educators in Kitaotao 2 District, Bukidnon, during the 2025–2026 school year. Awareness is assessed through conceptual understanding, training exposure, and confidence, while adoption focuses on lesson delivery, assessment, and student support.

The scope is limited to elementary and secondary public-school teachers in this district, excluding private institutions and other regions. Several constraints may influence the findings, including the specific one-year timeframe and the reliance on self-reported data, which can be subject to response bias. Additionally, external factors common in rural settings—such as inconsistent internet connectivity, limited access to AI tools, and varying professional development opportunities—may affect the results. Despite these geographical and technical limitations, the research aims to provide context-specific insights to help school leaders and policymakers develop targeted interventions for effective AI integration, ultimately fostering a more technologically inclusive educational environment in rural communities.

Review of the Literature

This review explores the relationship between teachers' awareness of Artificial Intelligence (AI) and their adoption of AI-assisted teaching strategies. It examines global and national perspectives, the nuances of teacher readiness, and the various opportunities and challenges inherent in integrating AI into modern classrooms.

Globally, AI is recognized as a primary driver for personalized instruction and innovative assessment. Ahmad et al. (2021) conducted a systematic review highlighting how intelligent tutoring systems and adaptive platforms enhance student engagement and instructional efficiency. Their findings suggest that AI significantly reduces administrative burdens, though they advocate for more empirical, field-based research to validate long-term ethical integration. Similarly, Chen et al. (2020) noted that while AI automates grading and supports rich learning experiences through virtual reality, many studies remain descriptive, leaving gaps in the evidence regarding long-term student outcomes and equity issues.

In the Philippines, the post-pandemic digital shift has brought AI to the forefront of educational discussions. Leonillo (2025) investigated teacher efficiency in a Bacolod City school, finding that while tools like ChatGPT are popular for tutoring and improve efficiency, there was no statistically significant correlation between teacher AI efficiency and actual student performance. This suggests that simply using the tool does not automatically translate to improved academic results. Estrellado and Miranda (2023) further emphasized that while AI can foster collaboration, the Philippine context is hampered by a widening digital divide, poor infrastructure, and a lack of policy safeguards. They recommend sustained professional development to bridge these gaps.

Furthermore, international studies highlight the importance of institutional support. Abbasi et al. (2024) found that faculty knowledge and positive institutional expectations are critical for AI-driven curriculum innovation. However, cultural misalignment and ethical concerns remain universal barriers. In Sweden, Velandar et al. (2023) discovered that many teachers gain AI knowledge incidentally rather than through formal training, leading to significant misconceptions about machine learning. This lack of technical depth often leads to "AI anxiety," underscoring the need for clearer curriculum guidelines.

The transition from being "aware" of AI to "adopting" it is complex. Ng et al. (2023) argued that while teachers may know of AI tools, a lack of deep technical and ethical understanding hinders their confidence. They suggest that professional development must go beyond technical skills to include critical thinking and ethical decision-making. Sibug et al. (2024) echoed this in the Filipino context, noting that while public and private school teachers recognize AI's potential to reduce workloads, they are often paralyzed by a lack of formal training and unreliable infrastructure.

Research by Chou et al. (2024) in Taiwan utilized structural equation modeling to show that "perceived usefulness" and "perceived ease of use" are the strongest predictors of AI adoption. Teachers who believe AI simplifies tasks and improves outcomes are far more likely to integrate it into their lessons. This aligns with Nazaretsky et al. (2022), whose study of Israeli teachers proved that structured training programs increase trust in AI systems, making educators more willing to use AI for personalized classroom management.

In Hong Kong and China, studies by Yau et al. (2022) and Zhang and Hou (2024) reinforced the idea that adoption is not just a personal choice but a systemic one. Conceptions of AI range from simple technical skills to complex societal implications, and behavioral intention to use AI is heavily influenced by institutional support. Finally, Kim (2023) highlighted that in South Korea, the success of teacher-AI collaboration depends on leadership that views AI as a complement to, rather than a replacement for, human instruction.

The integration of AI presents a "dual nature" of immense potential and significant risk. Celik et al. (2022) and Ali et al. (2024) identified major opportunities in personalized learning and administrative automation. However, these are balanced against challenges such as high implementation costs, data privacy issues, and a potential overreliance on AI for critical decision-making. Abulibdeh et al. (2024) linked AI to the Sustainable Development Goals but warned that inequitable access could worsen existing educational disparities.

In higher education, Alotaibi (2024) and Mao et al. (2023) noted that AI-integrated Learning Management Systems (LMS) streamline monitoring but also pose cybersecurity risks and

raise concerns about academic integrity. The ability of generative AI to provide real-time feedback is revolutionary, yet teachers require specific training to interpret AI-generated analytics effectively. Abimbola et al. (2024) and Michel-Villarreal et al. (2023) further cautioned against the risk of misinformation and the ethical dilemmas posed by generative outputs, suggesting that equitable access and ethical frameworks are non-negotiable for future integration.

Specialized fields such as medical education also observe these patterns. Preiksaitis and Rose (2023) found that while AI-driven simulations are beneficial, the risk of misinformation in high-stakes environments necessitates rigorous professional development and clear ethical policies.

The literature collectively suggests that while AI has transformative potential globally and nationally, its success is not guaranteed by the technology itself. Instead, it relies on a triad of teacher preparedness, ethical frameworks, and institutional support. Studies consistently show that awareness is merely the first step; true adoption requires confidence, perceived ease of use, and structured training (Ng et al., 2023; Chou et al., 2024).

Despite this wealth of information, a significant research gap exists. Most existing studies focus on higher education or global urban centers, leaving a void in empirical data regarding K-12 public schools in rural Philippine districts like Kitaotao 2. There is a scarcity of research that directly links the dimensions of teacher awareness—conceptual understanding, training, and confidence—to classroom adoption in resource-limited settings. Furthermore, few studies offer actionable, context-specific strategies for schools facing the "digital divide." This study seeks to fill that gap by providing localized evidence on how awareness influences public school teachers' actual practices in Bukidnon.

Research Methodology

This study outlines the systematic approach used to investigate the relationship between AI awareness and the adoption of AI-assisted teaching strategies. By detailing the research design, participants, and analytical techniques, the study ensures a rigorous and replicable process.

The study utilizes a quantitative correlational research design, which is the most appropriate method for examining the statistical relationship between two or more variables without manipulating them. This approach allows for the numerical measurement of teachers' AI awareness and their subsequent adoption behaviors, determining both the strength and the direction of their association.

By quantifying these variables, the design provides empirical evidence on how specific factors—such as conceptual knowledge, professional development exposure, and self-confidence—relate to the actual integration of AI tools in classroom instruction, assessment, and student support. This methodology is vital for identifying the drivers or barriers to technology adoption, offering actionable insights for school administrators and policymakers in the Division of Bukidnon to design effective, targeted interventions.

The study focuses specifically on public school teachers within the Kitaotao 2 District. To ensure a representative sample from both elementary and secondary levels, a systematic sampling method is employed. This ensures that the findings reflect the diverse experiences of educators across different grade levels and subject areas within the rural school context.

Data is gathered using a structured survey instrument designed to capture self-reported levels of awareness and adoption. To maintain high academic and professional standards, the research adheres to strict ethical considerations. All participants are provided with informed consent forms, and their identities remain confidential to encourage honest and unbiased responses.

The collected data is processed using a standardized scoring system to categorize levels of awareness and adoption. Statistical techniques, such as Pearson’s *r* correlation, are used to test hypotheses and determine whether a significant relationship exists between the variables. This analysis provides a clear, data-driven picture of how teacher preparedness translates into innovative classroom practices.

Findings

Teachers’ awareness of AI concepts and features reflects their foundational knowledge of AI’s principles and educational applications. This conceptual understanding is critical for the responsible integration of technology in the classroom. While high awareness indicates a strong readiness to adopt AI-assisted strategies, lower levels highlight a specific need for targeted professional development and instructional support.

Table 2 *Level of teachers’ awareness on Artificial Intelligence (AI) in terms of Understanding of AI concepts and features.*

Indicator	Mean	SD	Interpretation
I can explain the basic concepts of Artificial Intelligence in education.	3.62	0.902	High
I understand how AI can support lesson planning and instructional delivery.	3.46	0.767	High

I am familiar with the different types of AI tools used in teaching and learning.	3.43	0.783	High
I can identify the key features and functions of AI-based educational applications.	3.38	0.803	Moderate
I am aware of both the advantages and limitations of using AI in education.	3.33	0.710	Moderate
Overall	3.44	0.690	Moderate

In Table 2, Teachers demonstrate a moderate overall level of awareness, with their strongest ability being the explanation of basic AI concepts in education. While they highly understand how AI supports instructional delivery, they show a more moderate grasp of specific technical features and the limitations of these applications.

Table 3 *Level of teachers' awareness on Artificial Intelligence in terms of Exposure to training or professional development on AI*

Indicator	Mean	SD	Interpretation
I have participated in school- or district-led initiatives to learn about AI integration.	3.43	0.818	High
I regularly update my knowledge about AI by joining professional development programs.	3.41	0.790	High
My school provides opportunities to learn about AI-assisted teaching strategies.	3.40	0.770	High
I have explored online courses or webinars to improve my understanding of AI in teaching.	3.34	0.693	Moderate
I have attended seminars, workshops, or training sessions focused on AI in education.	3.27	0.752	Moderate
Overall	3.37	0.614	Moderate

The overall interpretation of Table 3 for training exposure is moderate, highlighted by high participation in school or district-led initiatives. However, teachers report lower to moderate attendance at formal seminars or workshops, suggesting a reliance on local or informal learning opportunities.

Table 4 *Level of teachers' awareness on Artificial Intelligence in terms of Confidence in applying AI-assisted teaching strategies.*

Indicator	Mean	SD	Interpretation
I believe I can troubleshoot minor issues when using AI tools in class.	3.49	0.795	High
I am comfortable integrating AI tools into my teaching	3.43	0.756	High

activities.			
I can independently plan lessons that integrate AI-assisted strategies.	3.41	0.632	High
I am confident in explaining to students how AI tools support their learning.	3.38	0.711	Moderate
I feel confident in selecting appropriate AI tools for my lessons.	3.36	0.696	Moderate
Overall	3.42	0.552	High

Table 4 indicates that teachers report a high overall level of confidence in using AI, particularly when troubleshooting minor technical issues or integrating tools into activities. Interestingly, while they feel capable of independent lesson planning, they are slightly less confident when selecting the most appropriate tools for specific lessons.

Table 5 *Level of utilization of AI-assisted teaching strategies in terms of Integration of AI tools in lesson delivery.*

Indicator	Mean	SD	Interpretation
I regularly include AI applications to enhance student engagement.	3.50	0.711	High
I use AI to personalize learning activities according to students' needs.	3.46	0.679	High
I use AI tools (e.g., chatbots, adaptive learning apps) to deliver lessons.	3.39	0.788	Moderate
I design lessons that actively utilize AI features such as data-driven recommendations.	3.39	0.650	Moderate
I incorporate AI-generated materials (e.g., presentations, quizzes) into my teaching.	3.35	0.684	Moderate
Overall	3.42	0.518	High

The data in Table 5 shows a high overall level of AI integration in lessons, specifically used to boost student engagement and personalize learning activities. Despite these strengths, the actual use of specific AI features, such as chatbots or data-driven recommendations, remains moderate.

Table 6 *Level of utilization of AI-assisted teaching strategies in terms of Utilization of AI for assessment and feedback.*

Indicator	Mean	SD	Interpretation
I integrate AI applications to create automated tests or quizzes.	3.48	0.730	High
I use AI analytics to monitor student progress and identify learning gaps.	3.35	0.744	Moderate
I find AI-generated reports helpful in evaluating students' outcomes.	3.34	0.733	Moderate
I use AI-based platforms to assess students' performance.	3.32	0.688	Moderate
I rely on AI tools to generate feedback for students.	3.30	0.692	Moderate
Overall	3.36	0.540	Moderate

Table 6 presents that teachers utilize AI for assessment at a moderate overall level, with the highest usage found in creating automated tests or quizzes. Conversely, they are less likely to rely on AI to generate student feedback or to monitor progress through detailed analytics.

Table 7 *Level of utilization of AI-assisted teaching strategies in terms of Application of AI to support student learning needs*

Indicator	Mean	SD	Interpretation
I utilize AI to recommend additional learning resources for struggling students.	3.88	0.575	High
I find AI helpful in giving individualized instruction to students.	3.81	0.616	High
I use AI tools to provide extra support for students with diverse learning styles.	3.80	0.645	High
I apply AI-based tools to help students with special educational needs.	3.72	0.754	High
I use AI to track and adjust teaching strategies based on student performance.	3.70	0.606	High
Overall	3.78	0.487	High

Table 7 shows the highest overall utilization, with teachers consistently using AI to recommend resources for struggling students and provide individualized instruction. All

indicators in this category received "High" interpretations, proving that AI is most frequently used as a support system for diverse learning styles.

Table 8 *Test of significant relationship between teachers' awareness of Artificial Intelligence and their utilization of AI-assisted teaching strategies.*

Variable	r	p-value	Interpretation
Understanding of AI Concepts and Features	.620	.000	Significant
Exposure to Training or Professional Development on AI	.643	.000	Significant
Confidence in Applying AI-Assisted Teaching Strategies	.685	.000	Significant
Overall	.707	.000	Significant

The analysis in Table 8 reveals a strong, significant positive relationship between overall teacher awareness and the actual utilization of AI strategies. This indicates that as teachers' understanding, training, exposure, and confidence increase, their likelihood of integrating AI into their teaching practices grows significantly.

CONCLUSION AND RECOMMENDATIONS

The integration of Artificial Intelligence (AI) in the educational landscape represents a pivotal shift toward a more adaptive, data-driven, and personalized learning environment. This study was established to explore the intersection of teacher preparedness and classroom practice within the specific context of public school teachers in the Kitaotao 2 District during the 2025–2026 school year. By examining the dimensions of awareness—conceptual understanding, training exposure, and confidence—alongside the utilization of AI for instruction, assessment, and student support, the research provides a comprehensive look at how digital transformation is unfolding in a rural district.

Based on the empirical evidence gathered from 143 public school teachers, several critical conclusions can be drawn regarding the state of AI in the local education system. It is evident that teachers in the Kitaotao 2 District have reached a commendable baseline of awareness, as their ability to understand fundamental AI concepts and their burgeoning confidence suggest that initial hurdles of technology resistance are being overcome. The data indicates that teachers are not merely passive observers of technological change but are actively engaging with AI to support their primary instructional goals, particularly in areas that directly impact student learning and lesson delivery. Teachers are successfully leveraging AI to recommend resources, individualize instruction, and support diverse learning styles, which are essential

components of modern pedagogy. However, a secondary conclusion is that a utilization gap exists in more technical domains: while basic automated testing tools are being adopted, the use of advanced AI analytics for monitoring long-term learning gaps and providing sophisticated feedback remains at a more moderate level. Most importantly, the study confirms a strong, significant positive relationship between awareness and utilization, validating that as teachers become more knowledgeable and grow in their self-efficacy, their actual adoption of AI strategies increases proportionately.

For school administrators and district leaders, it is recommended to transition from ad hoc training sessions to continuous, structured professional development programs that focus on the pedagogical purpose of AI rather than on software mechanics. Administrators must prioritize improving local infrastructure by strengthening internet connectivity and ensuring hardware accessibility in every classroom, particularly to bridge the digital divide inherent in rural districts. Furthermore, they should establish clear school-level policies for ethical AI use and develop mentorship models that enable high-confidence "AI champions" to provide peer-to-peer technical assistance to colleagues. By creating a supportive institutional environment, leaders can help shift teachers' conceptual understanding from moderate to high-level instructional mastery.

For classroom teachers, it is recommended to take a proactive stance toward professional growth by engaging in consistent self-directed learning and attending available district-led initiatives. Educators should move beyond the surface-level use of automated quizzes and experiment with diverse AI applications for advanced analytics, personalized student feedback, and creative lesson delivery. By actively participating in professional learning communities and sharing successful AI-assisted strategies, teachers can reduce the individual burden of technological integration. Continuously updating these competencies is essential for moving from a moderate grasp of AI features to a high level of confidence in selecting the most appropriate tools for specific classroom needs.

For policymakers and national education authorities, it is recommended that they develop a comprehensive framework to support responsible and ethical AI integration across all public schools. This should involve allocating specific funding for technology infrastructure and professional development programs to ensure that rural districts like Kitaotao 2 receive equitable access to digital tools. Authorities should also work toward updating the national curriculum to include AI literacy as a core competency for both educators and students. By establishing these top-down support systems, the government can ensure that the significant

relationship between teacher awareness and technology utilization results in a synchronized, nationwide digital transformation.

For future researchers, it is recommended to conduct comparative studies across regions or among private school educators to determine whether geographical or institutional variations influence the relationship between AI awareness and adoption. Future inquiries should utilize qualitative methods, such as interviews, to explore the underlying reasons for teacher anxiety or enthusiasm that quantitative data might not fully capture. There is also a need for longitudinal research to track a cohort of teachers over several years and determine whether increased AI utilization leads to quantifiable improvements in long-term student performance. Investigating additional variables, such as the impact of teacher age and specific subject areas on the willingness to adopt AI tools, would further refine the understanding of how best to support the future-ready classroom.

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