

Attitude in Using Artificial Intelligence (AI) Tools Among Public School Teachers and its Teaching Effectiveness

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Abstract—Artificial intelligence (AI) and digital technology continue to reshape learning, access to information, and instructional practices, yet their effective classroom integration depends largely on teachers' knowledge, attitudes, and patterns of technology use. This study assessed the attitude toward and perceived effectiveness of AI tools among public school teachers in Sto. Niño District, Schools Division of Samar, for the School Year 2025–2026. The study employed a descriptive-causal comparative research design. Findings revealed that the respondents were predominantly within the young to middle adulthood age range, mostly female, largely married, with many holding bachelor's degrees, some pursuing or completing graduate studies, having moderate length of service, and primarily teaching at the elementary level. Teachers commonly used smartphones and laptops, frequently utilized gadgets on a daily basis, were familiar with widely accessible AI tools, and generally had access to basic ICT resources. Teachers demonstrated a positive level of attitude in terms of theoretical knowledge, indicating awareness and understanding of AI concepts, but only moderate levels in practical knowledge and pedagogical consumption, suggesting limited classroom application. The level of effectiveness of AI tools was rated as positive across all dimensions, particularly in personalized training, time efficiency, research, data-driven inputs, and enhanced learning engagement. There were no significant differences in the level of attitude when grouped according to most demographic variables. Significant differences in perceived effectiveness were observed only when teachers were grouped according to the grade level handled. Among the technology-related variables, only the frequency of gadget use significantly predicted the level of effectiveness, while the type of device, AI tools commonly used, and the presence of other ICT resources did not show significant predictive value. The findings highlight a gap between teachers' conceptual understanding and actual classroom integration of AI. The study recommends hands-on ICT integration training to strengthen practical skills and pedagogical application, thereby improving the effectiveness of AI use in teaching.

Index Terms—Digital Technology, Pedagogical Application, Teacher Attitudes, Instructional Practices, ICT Integration, Public School Teachers.

1. The Problem and its Background

A. Introduction

Before search engines like Google existed, students and

teachers had to spend hours going through many books to find information. Today, a quick search can bring up thousands of results in seconds. This change showed how artificial intelligence (AI) and digital technology transformed how people learned and accessed information. These tools became part of daily life, helping solve problems that once took a lot of time and effort (Tuomi, 2018). Technology also changed the world of work. According to The World Economic Forum (WEF, 2018), many traditional jobs were expected to disappear as automation, and AI took over some tasks. This showed how technology reshaped the way people lived, learned, and worked in a fast-changing world.

Artificial intelligence (AI) became one of the most transformative outcomes of digital advancement, influencing nearly every sector of society (Organisation for Economic Co-operation and Development, 2019). Since the early 21st century, AI powered tools and systems that simplified daily life and enhanced productivity. For example, AI algorithms were behind song recommendations on music platforms and smart assistants used in banking applications (Bau et al., 2018). Likewise, Dwivedi et al. (2021) noted that AI had become an essential technology in fields such as healthcare, tourism, and defense, where information systems played an important role. These examples showed how AI evolved from a specialized technological innovation into a tool that supported decision-making, automation, and efficiency across industries.

In response, this study examined the attitudes of public school teachers toward AI tools and their perceived effectiveness in teaching. It specifically aimed to determine how teachers viewed AI, how they used it in instruction, and how effective they found it, in order to provide useful local evidence that could guide training programs and improve the use of AI in classroom teaching.

B. Background to the Study

The Department of Education made clear efforts to integrate artificial intelligence (AI) into the country's education system, recognizing its role in modernizing teaching and learning. This direction became more concrete with the creation of the Education Center for Artificial Intelligence Research (ECAIR)

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in 2025. Early AI-driven projects such as the Technology-Assisted Learning and Instruction for New Opportunities (Project TALINO) and the Data Utilization and Knowledge Optimization Network for Governance (Project DUNONG) were mainly designed to improve administrative processes. However, ECAIR’s broader goal was to develop AI tools that enhanced classroom instruction and school management to help Filipino learners build future-ready skills. The department also launched AI-based programs such as Project SIGLA, which tracked student health, and Project SABAY, which identified learning and cognitive risks early. These initiatives showed a strong commitment to using AI for personalized learning and addressing access and performance gaps, especially in Last Mile Schools.

Studies showed similar developments, indicating that the education sector in the Philippines is steadily moving toward a more technology-driven and data-informed learning environment. For instance, Rosqueta (2025) found that teachers observed improvements in instruction and administrative efficiency when using AI-powered tools. Likewise, Cubio (2025) reported that many DepEd personnel viewed AI as an important support system for both teaching and school management.

However, existing literature has largely emphasized this system-level implementation and perceived usefulness, with limited discussion on teachers’ ease of use, actual classroom application, and day-to-day experiences. Despite the growing global and national efforts to integrate artificial intelligence (AI) in education, most studies focused on general benefits—such as improving instruction, efficiency, and data utilization—but gave less attention to how teachers experienced and applied these tools in real classroom settings.

Specifically, this created a research gap in understanding the attitudes and perceived effectiveness of AI tools among teachers in geographically isolated areas, such as the island municipality of Sto. Niño District, Schools Division of Samar. Because most existing studies focus on well-resourced environments, it remained unclear how far AI integration had truly reached and how it was being utilized in real classroom settings where access to technology, electricity, and institutional support may be limited.

C. Theoretical Underpinnings

This study was anchored on the Technology Acceptance Model (TAM) proposed by Davis (1989). This theory explained technology adoption through two central factors: perceived usefulness and perceived ease of use. Perceived usefulness referred to the degree to which teachers believed that using AI improved their teaching performance, while perceived ease of use reflected how effortless they perceived the technology to be. Teachers’ perceptions of technology use in online learning platforms were shaped by how useful and easy to use they found the system (Leaño, 2023). In the context of this study, teachers were more likely to develop positive attitudes toward AI when they viewed it as a practical and helpful tool that supported instructional tasks, addressed diverse learner needs, and improved learning outcomes. When AI tools were perceived as

easy to navigate and relevant to classroom practice, teachers tended to see them as supportive rather than disruptive to instruction. As a result, they became more confident in using AI and more willing to integrate it into their lessons, making TAM highly relevant in explaining teachers’ acceptance and continued use of AI tools in teaching.

Supporting the main theory was the Constructivist Learning Theory, rooted in the works of Piaget (1970), which emphasized that learning was an active process where learners constructed knowledge through experience, interaction, and reflection. In this study, this theory guided the understanding that teachers evaluated AI tools based on how these supported learner engagement and meaningful learning. AI applications were viewed more positively when they enabled students to explore concepts, solve problems, collaborate with peers, and learn at their own pace. When teachers observed that AI promoted these learner-centered practices in actual classroom situations, they were more likely to consider it consistent with effective teaching principles (Weber & Myrick, 2020). This made the theory relevant in explaining why teachers’ acceptance of AI was not only based on convenience but also on its instructional value in improving student participation, understanding, and learning outcomes.

By integrating the Technology Acceptance Model and Constructivist Learning Theory, this study provided a more comprehensive explanation of teachers’ acceptance and use of AI tools. It showed that teachers’ attitudes toward AI were shaped not only by perceived usefulness and ease of use but also by how well these tools supported active, meaningful, and learner-centered instruction. In this way, the study explained that teachers were more likely to adopt AI when they perceived it as both easy to manage and effective in improving classroom learning experiences.

D. Conceptual Framework

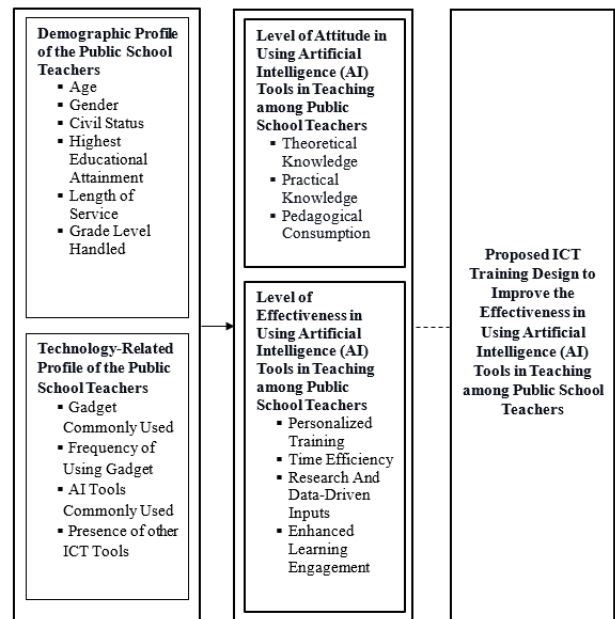


Fig. 1. Conceptual framework

Figure 1 illustrates the conceptual framework of the study,

which follows an independent-dependent variable (IV-DV) model to map the interactions guiding the proposed ICT training design.

The first box represents the independent variables, encompassing the teachers' demographic profile (age, gender, civil status, educational attainment, length of service, and grade level handled) and their technology-related profile (gadgets commonly used, frequency of use, AI tools utilized, and availability of other ICT tools). A directional arrow connects this to the second major box representing the dependent variables, which detail the teachers' level of attitude toward AI tools (theoretical knowledge, practical knowledge, and pedagogical consumption) alongside their perceived effectiveness of these tools in teaching (personalized training, time efficiency, research and data-driven inputs, and enhanced learning engagement). Finally, a broken line demonstrates how these interacting variables collectively inform the study's ultimate outcome in the third major box: the formulation of a proposed ICT training design aimed at improving the effectiveness of AI tools in public school teaching.

E. Statement of the Problem

This study assessed the attitude toward using artificial intelligence (AI) tools and their effectiveness as perceived by public teachers in Sto. Niño District, Schools Division of Samar, for the school year 2025-2026.

Specifically, it sought answers to the following questions:

1. What is the demographic profile of the public-school teachers in terms of:
 - 1.1. age;
 - 1.2. gender;
 - 1.3. civil status;
 - 1.4. highest educational attainment;
 - 1.5. length of service; and
 - 1.6. grade level handled?
2. What is the technology-related profile of the public-school teachers in terms of:
 - 2.1. gadget commonly used;
 - 2.2. frequency of using gadget;
 - 2.3. AI tools commonly used; and
 - 2.4. Presence of other ICT tools?
3. What is the level of attitude in using artificial intelligence (AI) tools in teaching among public school teachers in terms of:
 - 3.1. theoretical knowledge;
 - 3.2. practical knowledge; and
 - 3.3. pedagogical consumption?
4. What is the level of effectiveness in using artificial intelligence (AI) tools in teaching among public school teachers in terms of:
 - 4.1. personalized training;
 - 4.2. time efficiency;
 - 4.3. research and data-driven inputs; and
 - 4.4. enhanced learning engagement?
5. Is there a significant difference in the level of attitude in using artificial intelligence (AI) tools in teaching among public school teachers when grouped

according to their demographic profile?

6. Is there a significant difference in the level of effectiveness in using artificial intelligence (AI) tools in teaching among public school teachers when grouped according to their demographic profile?
7. Which among the technology-related profiles predicts the level of effectiveness in using artificial intelligence (AI) tools in teaching among public school teachers?
8. Based on the findings of the study, what ICT training design can be proposed to improve the effectiveness in using artificial intelligence (AI) tools in teaching among public school teachers?

F. Hypothesis/Assumption of the Study

The following null hypotheses were tested in this study:

HO₁. There is no significant difference in the level of attitude in using artificial intelligence (AI) tools in teaching among public school teachers when grouped according to their demographic profile.

HO₂. There is no significant difference in the level of effectiveness in using artificial intelligence (AI) tools in teaching among public school teachers when grouped according to their profile.

HO₃. None of the technology-related profiles of public-school teachers significantly predict their effectiveness in using artificial intelligence (AI) tools in teaching.

G. Scope and Limitations

This study focused on assessing the attitude toward the use of Artificial Intelligence (AI) tools and their perceived effectiveness among public school teachers in Sto. Niño District, Schools Division of Samar, for the School Year 2025-2026. It was organized around four main variables. The first was the teachers' demographic profile, which included age, gender, civil status, highest educational attainment, length of service, and grade level handled. The second variable was the teachers' technology-related profile, which covered commonly used gadgets, frequency of gadget use, commonly used AI tools, and the presence of other ICT resources. The third variable examined was the level of attitude toward the use of AI tools in teaching, focusing on theoretical knowledge, practical knowledge, and pedagogical application. The fourth variable was the perceived effectiveness of AI tools in classroom instruction, which included personalized instruction, time efficiency, research and data-driven support, and enhanced learning engagement.

However, the study was limited to these identified variables, and other possible factors that may have influenced teachers' attitudes and perceived effectiveness were not included. The scope was confined only to teachers in Sto. Niño District, and the findings may not fully represent other districts within the Schools Division of Samar. Being an island district, Sto. Niño also presented contextual limitations such as inconsistent internet connectivity and occasional power interruptions, which may have affected access to and use of AI tools. In addition, the study relied on self-reported data, which may have introduced response bias. It was also constrained by time and budget

limitations, as well as the unavailability of some respondents during data gathering. Furthermore, the study did not include classroom observations, experimental manipulation of AI tools, longitudinal tracking of changes in teachers' attitudes, or the perspectives of students regarding the use and effectiveness of AI tools in instruction.

H. Significance of the Study

The study is particularly valuable to teachers and is significant to learners, school heads, and schools as a whole. In terms of its social value and relevance, it highlights how the use of Artificial Intelligence (AI) extends beyond the classroom and contributes to broader societal development. By developing teachers' understanding and responsible use of AI, the study supports the promotion of digital literacy, ethical technology use, and innovation within the community. It also emphasizes how AI can be applied in real-life contexts such as communication, problem-solving, and access to information, helping individuals become more adaptive and informed members of society.

In terms of nation-building, the effective integration of AI in teaching improves learners' academic performance by providing opportunities for critical thinking, problem-solving, and digital literacy development, thereby preparing students to become competent, responsible, and productive citizens who contribute meaningfully to society and the workforce. Furthermore, the study enriches existing knowledge by providing empirical insights into teachers' attitudes and the perceived effectiveness of AI tools, offering a solid reference for policymakers, educators, and future researchers interested in technology integration and instructional innovation in education.

Finally, in promoting continuous improvement for the teaching and learning process, the findings guide school administrators in designing and implementing targeted professional development and capacity-building programs that support the effective and sustained use of AI tools. This ensures that teachers have the necessary skills, support, and resources to continuously enhance teaching practices and student learning outcomes, ultimately fostering a culture of innovation and excellence within schools.

2. Related Literature and Studies

Advances in technology and artificial intelligence (AI) offer new opportunities to tailor instruction, enhance student engagement, and support educational equity across diverse learning environments (Colegado, 2025; Co, 2025; Zhu, 2023). However, the successful integration of these digital innovations depends heavily on purposeful implementation and sustained teacher professional development (Monteza, 2025; Casilao *et al.*, 2025).

Teachers' willingness to adopt AI is strongly influenced by their demographic and technology-related profiles. Multiple studies show that advanced degrees, teaching experience, and robust digital competence are key predictors of AI readiness and teaching efficacy (Zhai *et al.*, 2024; Güneşli *et al.*, 2024; Zheng & Chen, 2024; Dringó-Horváth *et al.*, 2025).

Furthermore, familiarity with AI technologies and prior digital skills training significantly shape a teacher's pedagogical capacity and confidence to integrate these tools effectively into the classroom (Kasinidou & Otterbacher, 2025; Al-Abdullatif, 2024; López Costa, 2025).

Overall, educators exhibit positive attitudes toward AI, recognizing its potential to support differentiated instruction and improve teaching efficiency (Alejandro *et al.*, 2024; Christina & Panagiotidis, 2024). In the Philippines, teachers and administrators alike express readiness to complement traditional methods with AI to address individual learning needs (Rosqueta, 2025; Cubio, 2025; Francisco, 2025). Nevertheless, actual classroom adoption remains constrained by a lack of institutional support, limited technical training, and inadequate technological infrastructure, emphasizing that positive attitudes must be paired with organizational readiness (Işık *et al.*, 2024; Dovgyi *et al.*, 2024; Viberg *et al.*, 2024; Ayanwale, 2022).

Regarding effectiveness, AI applications like ChatGPT and adaptive learning platforms consistently yield substantial learning gains, improved student participation, and enhanced higher-order thinking (Wang & Fan, 2025; du Plooy *et al.*, 2024; Kulik & Fletcher, 2016). In the local context, AI has been shown to improve instructional design and assessment turnaround times, particularly when teachers are well-trained (Mangubat & Paglinawan, 2025; Prestoza & Banatao, 2024; Jauhiainen, 2024). However, achieving these outcomes requires sustained, scaffolded learning experiences and clear pedagogical alignment rather than isolated use (Tan & Cheng, 2025; Tabuena, 2025; Lacuna, 2025).

Finally, the literature emphasizes that effective AI integration depends not merely on access to technology, but on the frequency and consistency of its use (Caratiquit & Javier, 2025; Ongayo & Quilestino, 2023). While demographic factors such as subject specialization and educational level can moderate AI adoption (Bakhadirov & Rzayev, 2024; Çayak, 2024), continuous engagement with digital tools remains the primary driver in strengthening teachers' instructional capabilities and perceived effectiveness in the classroom (Yim, 2024; Tan, 2024).

3. Methodology

A. Research Design

This research utilized a descriptive-causal comparative-correlational research design. According to Creswell and Creswell (2018), this design aimed not only to describe the characteristics or perceptions of a population but also to determine whether and how differences existed between groups based on certain variables, and to explore possible causal relationships. In descriptive research, the researcher aimed to present a clear and accurate picture of what was happening in the given situation. On the other hand, the causal-comparative research design examined cause-and-effect relationships by comparing two or more groups that differed in an independent variable without manipulating it. It was typically used to determine whether differences in one variable were associated

with differences in another variable. This design was appropriate for this study because it allowed the researcher to describe the teachers' attitudes toward using AI tools and simultaneously compare groups based on demographic or technology-related profiles to determine how these differences affected the perceived effectiveness of AI in teaching. This design helped identify whether variations in teachers' attitudes or technological competence were associated with differences in how effectively they used AI tools in the classroom.

B. Respondents and Sampling Procedure

The respondents of this study consisted of public elementary and secondary school teachers from 16 schools in Sto. Niño District, Schools Division of Samar. The total population was 171 teachers, and a sample size of 120 was determined using the Raosoft Sample Size Calculator with a 95% confidence level and a 5% margin of error. To ensure representativeness,

the sample was distributed proportionally based on the population of each school, with larger schools contributing more respondents than smaller schools. For instance, Sto. Niño National High School and Cabungaan Integrated School contributed 20 and 15 respondents, respectively, while smaller schools such as Malobago Elementary School and Pinanangnan Elementary School contributed 2 respondents each.

The study employed proportionate stratified random sampling, where teachers were first stratified by school and then randomly selected within each stratum. This approach ensured that both elementary and secondary schools were adequately represented, thereby providing a balanced and representative sample for examining teachers' attitudes toward AI tools and their perceived effectiveness in classroom instruction.

Table 1

Schools	Population (N)	Sample (n)	Percentage (%)
Baras Elementary School	8	6	5.00
Baras National High School	13	9	7.50
Balatguti Elementary School	4	3	2.50
Buenavista Elementary School	9	6	5.00
Cabungaan Integrate School	22	15	12.50
Corocowayan Elem. School	7	5	4.00
Ilijan Elementary School	7	5	4.00
Lobe Lobe Elementray School	4	3	2.50
Malobago Elementray School	3	2	1.50
Pinanangnan Elem. School	3	2	1.50
Sevilla Integrated School	16	11	9.00
Sto Nino Central School	17	12	10.00
Sto Nino National High School	29	20	16.50
Takut Elementary School	7	5	4.00
Villahermosa Elem. School	7	5	4.00
Villahermosa National High School	15	11	9.00
Total	171	120	100

Table 2

Dimension and its Indicators	I-CVI	Description
Theoretical Knowledge		
I understand the basic ideas and functions of AI.	1.00	Acceptable
I am aware of how AI tools are applied in education.	1.00	Acceptable
I know the benefits of using AI in classroom teaching.	1.00	Acceptable
I can differentiate AI tools from other educational technologies.	1.00	Acceptable
I recognize the potential of AI to improve teaching and learning.	1.00	Acceptable
6. I understand the ethical considerations of using AI in education.	1.00	Acceptable
7. I am familiar with current trends and developments in AI technology.	0.83	Acceptable
	S-CVI 0.98	Acceptable
Practical Knowledge		
I can use AI tools to prepare instructional materials.	1.00	Acceptable
I can operate different AI applications confidently.	1.00	Acceptable
I can troubleshoot basic technical issues with AI tools.	0.83	Acceptable
I can select appropriate AI tools for different lessons.	1.00	Acceptable
I can apply AI tools in both online and face-to-face teaching.	0.83	Acceptable
I can evaluate the reliability of AI-generated outputs.	1.00	Acceptable
I can integrate AI tools into my lesson plans effectively.	1.00	Acceptable
	S-CVI 0.95	Acceptable
Pedagogical Consumption		
I integrate AI tools in classroom instruction to enhance learning.	1.00	Acceptable
I use AI to support learners with different learning styles.	1.00	Acceptable
I encourage students to use AI responsibly for academic tasks.	1.00	Acceptable
I believe AI tools increase student motivation and engagement.	1.00	Acceptable
I value the role of AI in improving teaching strategies.	1.00	Acceptable
I use AI tools to assess student performance.	0.83	Acceptable
I promote critical thinking when students use AI-assisted learning tools.	1.00	Acceptable
	S-CVI 0.98	Acceptable

Legend: CVI Interpretation (Polit & Beck, 2006)

I-CVI ≥ 0.78 → Acceptable / Content Valid; *I-CVI* < 0.78 → Needs Revision / Not Content Valid;

S-CVI/Ave ≥ 0.80 → Acceptable / Good Scale-Level Content Validity

Table 3

Dimensions	Kolmogorov-Smirnov Statistic	df	Sig.
Attitude Toward the Use of Artificial Intelligence (AI) Tools in Teaching			
Theoretical Knowledge	0.219**	120	0.028
Practical Knowledge	0.087**	120	<0.001
Pedagogical Consumption	0.133**	120	<0.001
Perceived Effectiveness of Artificial Intelligence (AI) Tools in Teaching			
Personalized Training			
Time Efficiency	0.109**	120	0.001
Research and Data-Driven Inputs	0.113**	120	0.001
Enhanced Learning Engagement	0.130**	120	<0.001

C. Research Locale

The study was conducted in Sto. Niño District, an island municipality in Samar. Despite significant infrastructural challenges, including unstable, scheduled electricity and limited internet access, teachers and students actively maximize available alternative resources, such as mobile data and local "piso net" stations, to support instruction.

D. Research Instrumentation

A four-part researcher-made survey questionnaire was utilized. Part 1 gathered demographic profiles, and Part 2 assessed technology-related profiles. Part 3 measured attitudes toward AI tools across three dimensions (theoretical knowledge, practical knowledge, pedagogical consumption) using a 5-point Likert scale. Part 4 evaluated the perceived effectiveness of AI tools across four dimensions (personalized training, time efficiency, research/data inputs, enhanced engagement) using a parallel 5-point Likert scale.

E. Validation and Reliability of Instrument

Face and content validation were established by a panel of six ICT coordinators with over five years of experience. All items achieved acceptable Content Validity Indices (I-CVI ranging from 0.83 to 1.00; S-CVI ranging from 0.93 to 0.98). A pilot test among 30 non-participating teachers confirmed the instrument's reliability; Cronbach's alpha coefficients were 0.899 for the attitude section and 0.837 for the perceived effectiveness section, indicating good to excellent internal consistency across all dimensions.

F. Data Gathering Procedure

Prior to data collection, formal approval was secured from the Regional Office, the Schools Division Superintendent (SDS) of SDO Samar, the District Supervisor, and the respective school heads of Sto. Niño District. The study strictly adhered to ethical standards by securing informed consent from all respondents, emphasizing voluntary participation, and ensuring the utmost confidentiality of all gathered information. Upon retrieval, the responses were consolidated, encoded, tabulated, and analyzed using SPSS.

G. Data Analysis

The collected data first underwent a Kolmogorov-Smirnov test to check for normal distribution. As detailed in Table 3, all computed significance values ($p = 0.000$) fell below the 0.05 threshold, indicating a violation of the normality assumption. Consequently, this justified the use of nonparametric statistical techniques for inferential analysis.

Descriptive statistics, including frequency, percentage,

mean, and standard deviation, were used to summarize the respondents' demographic and technology-related profiles, as well as their levels of attitude and perceived effectiveness regarding AI tools. Prior to inferential testing, a Kolmogorov-Smirnov normality test was conducted, which revealed that the data significantly deviated from a normal distribution. Consequently, the non-parametric Kruskal-Wallis test was employed to determine significant differences in teachers' attitudes and perceived effectiveness when grouped by demographic profile. Finally, linear regression analysis was applied to identify which specific technology-related factors significantly predicted the effectiveness of AI tool usage in teaching.

4. Presentation, Interpretation, Analysis of Data

A. Profile of the Public School Teachers

Table 4

Profile	Frequency (f)	Percentage (%)
Age		
25-34 years old	45	37.50
35-44 years old	33	27.50
45-54 years old	34	28.30
55-64 years old	8	6.70
65 years old and above		
Mean	40.13	
SD	9.31	
Gender		
Male	26	21.70
Female	94	78.30
Civil Status		
Single	39	32.50
Married	77	64.20
Widow/er	2	1.70
Separated	2	1.70
Highest Educational Attainment		
Bachelor's Degree	79	65.80
Master's Degree	41	34.20
Length of Service		
1-5 years	22	18.30
6-10 years	35	29.20
11-15 years	24	20.00
16 years and above	39	32.50
Mean	13.11	
SD	8.69	
Grade Level Handled		
Kindergarten/Elementary (K-Grade 6)	78	65.00
Junior High School (Grades 7-10)	32	26.70
Senior High School (Grades 11-12)	10	8.30

Table 4 presents the frequency and percentage distribution of the demographic profile of the public-school teachers in Sto. Niño District.

The data reveals that a large proportion of respondents (37.50%) are in the 25-34 age bracket, while the majority

(78.30%) are female and married (64.20%). In terms of academic standing and experience, most hold a bachelor's degree (65.80%), with the largest segment having served 16 years and above (32.50%), primarily teaching at the Kindergarten/Elementary level (65.00%). This implies that perceptions of AI tools are interpreted through the lens of a workforce that mixes younger adaptability with extensive teaching expertise. Agreeing to this result is the research of Zhai et al. (2024) and Güneyli et al. (2024), which emphasizes that demographic profiles such as education and experience shape how teachers understand and use AI in the learning environment.

B. Technology-Related Profile of the Public School Teachers

Table 5
Technology-related profile of the public-school teachers

Profile	Frequency (f)	Percentage (%)
Gadgets commonly used for teaching		
Laptop	114	95.00
Desktop	6	5.00
Tablet	10	8.30
Smartphone	68	56.70
Frequency of using gadgets for teaching-related tasks		
Always	63	52.50
Often	19	15.80
Sometimes	29	24.20
Seldom	7	5.80
Never	2	1.70
AI tools commonly used		
ChatGPT	98	81.70
Google Bard	20	16.70
Canva	58	48.30
Grammarly	19	15.80
Quillbot	7	5.80
Presence of other ICT tools in the school		
Available and accessible	28	23.30
Available but limited	81	67.50
Not available	11	9.20

Table 5 presents the technology-related profile of the public-school teachers.

The findings indicate that most teachers rely on laptops (95.00%) and smartphones (56.70%), with more than half (52.50%) always using gadgets for teaching-related tasks. ChatGPT is the most utilized AI tool (81.70%). However, most teachers (67.50%) reported that other ICT tools in their schools are available but limited. This suggests that while teachers are actively engaged with digital tools, their capacity for innovation is constrained by limited school infrastructure. This finding is reinforced by Lucas et al. (2024) and Mangubat and Paglinawan (2025), who noted that teachers' readiness to integrate technology strongly depends on access to resources and institutional support.

C. Attitude Toward the Use of Artificial Intelligence (AI) Tools in Teaching

Table 6
Teachers' attitudes toward the use of artificial intelligence (AI) tools across the different dimensions

Dimensions	Mean	SD	Interpretation
Theoretical Knowledge	4.36	0.09	Very High
Practical Knowledge	3.59	0.28	High
Pedagogical Consumption	3.62	0.23	High
Overall	3.86	0.44	High

Table 6 summarizes the teachers' attitudes toward the use of artificial intelligence (AI) tools across the different dimensions.

All dimensions were rated as "High" to "Very High" (Overall Mean = 3.86). Theoretical Knowledge obtained the highest rating (M = 4.36), whereas Practical Knowledge (M = 3.59) and Pedagogical Consumption (M = 3.62) recorded relatively lower means. This implies that while teachers possess a strong conceptual understanding of AI concepts, their practical application in the classroom is still developing. Consistent with the literature, Rubio and Pastor (2025) and Silagan and Tumapon (2025) found that while teachers demonstrate positive attitudes and awareness, technical skills and practical application often remain a challenge without targeted training.

D. Perceived Effectiveness of Artificial Intelligence (AI) Tools in Teaching

Table 7
The perceived effectiveness of artificial intelligence (AI) tools in teaching across different dimensions

Dimensions	Mean	SD	Interpretation
Personalized Training	3.65	0.23	Effective
Time Efficiency	3.96	0.12	Effective
Research and Data-Driven Inputs	3.82	0.08	Effective
Enhanced Learning Engagement	3.90	0.20	Effective
Overall	3.83	0.13	Effective

Legend: 1.00-1.80 Not Effective (NE); 1.81-2.60-Slightly Effective (SE); 2.61-3.40-Moderately Effective (ME); 3.41-4.20-Effective (E); 4.21-5.00-Very Effective (VE)

Table 7 summarizes the perceived effectiveness of artificial intelligence (AI) tools in teaching across different dimensions.

Teachers perceive all dimensions as "Effective" (Overall Mean = 3.83). Time Efficiency is perceived as the strongest contributor (M = 3.96), followed by Enhanced Learning Engagement (M = 3.90). This suggests that AI is primarily valued as a practical tool for reducing workload and making lessons more interactive rather than deeply personalized instruction. This finding is supported by Wang and Fan (2025) and du Plooy et al. (2024), who emphasized that AI tools significantly improve instructional efficiency and student engagement when thoughtfully integrated.

E. Test of Difference on the Level of Attitude in Using AI Tools

The study tested for significant differences in the level of attitude using the Kruskal-Wallis H-test.

The results showed no statistically significant differences across age, gender, civil status, highest educational attainment, or length of service. However, a significant difference emerged in Theoretical Knowledge (p = 0.039) and Practical Knowledge (p = 0.007) when grouped by grade level handled. Post-hoc results clarify that Junior and Senior High School teachers demonstrate significantly higher theoretical and practical knowledge compared to Elementary teachers. This indicates that instructional context shapes AI readiness more than personal demographics. This is supported by Sibug et al. (2024) and Obedencio (2025), who found that teaching environment and responsibilities critically influence AI engagement.

Table 8
Study tested for significant differences in the level of attitude using the Kruskal-Wallis H-test

Profile	Dimension					
	Theoretical Knowledge		Practical Knowledge		Pedagogical Consumption	
	H	Sig.	H	Sig.	H	Sig.
Age	1.766 ^{ns}	0.622	2.815 ^{ns}	0.421	0.111 ^{ns}	0.991
Gender	1331.500 ^{ns}	0.483	1333.000 ^{ns}	0.478	1437.000 ^{ns}	0.169
Civil Status	1.370 ^{ns}	0.713	1.434 ^{ns}	0.697	4.840 ^{ns}	0.184
Highest Educational Attainment	1329.000 ^{ns}	0.106	1311.000 ^{ns}	0.123	1483.500 ^{ns}	0.450
Length of Service	3.934 ^{ns}	0.269	6.282 ^{ns}	0.099	1.129 ^{ns}	0.770
Grade Level Handled	6.498*	0.039	9.939**	0.007	3.910 ^{ns}	0.142

Level of significance at 0.05; ns-not significant; *-significant; **- highly significant

Table 9
The test for significant differences in the perceived effectiveness of AI tools

Profile	Dimensions							
	Personalized Training		Time Efficiency		Research and Data-Driven Inputs		Enhanced Learning Engagement	
	H	Sig.	H	Sig.	H	Sig.	H	Sig.
Age	4.978 ^{ns}	0.173	6.992 ^{ns}	0.072	6.914 ^{ns}	0.075	1.899 ^{ns}	0.594
Gender	1372.000 ^{ns}	0.337	1388.500 ^{ns}	0.353	1435.500 ^{ns}	0.170	1537.500 ^{ns}	0.052
Civil Status	1.517 ^{ns}	0.678	2.000 ^{ns}	0.572	1.832 ^{ns}	0.608	4.767 ^{ns}	0.190
Highest Educational Attainment	1308.000 ^{ns}	0.083	1406.500 ^{ns}	0.235	1327.000 ^{ns}	0.103	1273.500 ^{ns}	0.053
Length of Service	6.386 ^{ns}	0.094	4.102 ^{ns}	0.251	3.960 ^{ns}	0.266	3.359 ^{ns}	0.339
Grade Level Handled	1.717 ^{ns}	0.424	4.693 ^{ns}	0.096	3.860 ^{ns}	0.145	0.899 ^{ns}	0.638

Level of significance at 0.05; ns-not significant; *-significant; **- highly significant

Table 10
The linear regression analysis predicting the effectiveness of AI tools based on technology-related profiles

Profile	Dimensions							
	Personalized Training		Time Efficiency		Research and Data-Driven Inputs		Enhanced Learning Engagement	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.
Gadget commonly used	0.432 ^{ns}	0.663	0.684 ^{ns}	0.386	0.301 ^{ns}	0.704	0.380 ^{ns}	0.653
Frequency of using gadget	5.412*	0.038	7.470*	0.021	7.539*	0.030	8.229*	0.022
AI tools commonly used	0.317 ^{ns}	0.674	0.504 ^{ns}	0.401	0.479 ^{ns}	0.427	0.167 ^{ns}	0.795
Presence of other ICT tools	1.835 ^{ns}	0.114	0.945 ^{ns}	0.305	0.589 ^{ns}	0.524	0.107 ^{ns}	0.914

Level of significance at 0.05; ns-not significant; *-significant; **- highly significant

F. Test of Difference on the Perceived Effectiveness of AI Tools

Table 9 presents the test for significant differences in the perceived effectiveness of AI tools.

No statistically significant differences were found across any of the demographic variables, including age, gender, civil status, educational attainment, length of service, and grade level handled (all p-values > 0.05). This suggests that perceptions of AI effectiveness are stable and equitable across the teaching workforce. This aligns with Dayagbil, Boholano, and Sumalinog (2025), who reported that educators generally share comparable levels of perception toward AI regardless of demographic differences, driven more by shared institutional exposure.

G. Test of Prediction for the Level of Effectiveness Using Technology-Related Variables

Table 10 presents the linear regression analysis predicting the effectiveness of AI tools based on technology-related profiles.

Among the variables, only the frequency of using gadgets emerged as a significant predictor across all dimensions (p < 0.05). The type of gadget, AI tools commonly used, and the presence of other ICT tools did not show significant predictive effects. This implies that consistent and active engagement with technology is the critical driver of AI effectiveness, rather than mere access to devices. This finding is reinforced by Caratiquit and Javier (2025) and Ongayo and Quilestino (2023),

highlighting that active and frequent utilization of technology strengthens both skill development and instructional application.

5. Summary, Conclusions and Recommendations

A. Summary

The primary objective of this study was to assess the attitude toward using artificial intelligence (AI) tools and their effectiveness as perceived by public school teachers in Sto. Niño District, Schools Division of Samar, for the school year 2025-2026. Utilizing a descriptive-causal comparative-correlational research design, the study gathered data from 120 proportionally selected respondents across 16 public elementary and secondary schools. The findings revealed that the respondents were predominantly younger to middle-aged females, mostly married, with a majority holding bachelor's degrees and teaching at the elementary level. Technology-wise, most relied on laptops and smartphones, frequently using them for teaching, with ChatGPT being the most common AI tool, despite limited school ICT resources.

Teachers demonstrated a "High" positive attitude overall, particularly in theoretical knowledge, though practical knowledge and pedagogical consumption were comparatively lower. They also perceived AI tools as "Effective" across all dimensions, especially in time efficiency and learning engagement. Inferential analysis showed significant differences in attitude only when grouped by grade level handled, with

secondary teachers scoring higher in theoretical and practical knowledge. There were no significant differences in perceived effectiveness across any demographic profile. Finally, among the technology-related variables, only the frequency of gadget use significantly predicted the perceived effectiveness of AI tools in teaching.

B. Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. Public school teachers in Sto. Niño District demonstrate a strong conceptual understanding and positive attitude toward AI, but there remains a notable gap between their theoretical knowledge and their practical, pedagogical application in the classroom.
2. AI tools are primarily valued as task-oriented supplementary aids that improve time efficiency, lesson preparation, and student engagement, rather than as tools for deeply personalized pedagogy or complex assessment.
3. Attitudes toward AI tools are highly context-dependent; secondary school teachers exhibit significantly higher theoretical readiness and practical competence compared to their elementary counterparts, likely due to varying curriculum demands.
4. Perceptions of AI effectiveness are uniform and equitable across the teaching workforce, remaining unaffected by personal demographic factors such as age, gender, educational attainment, or length of service.
5. Active and consistent engagement with technology—specifically the frequency of gadget use—is the most critical driver in determining the effective integration of AI tools, proving to be far more influential than mere access to specific devices or ICT infrastructure.

C. Recommendations

Considering the findings and conclusions, the following recommendations are offered:

1. School leaders and administrators should strengthen policies that promote the consistent, daily use of digital tools, moving beyond the mere provision of access to ensuring active integration in classroom instruction.
2. Targeted professional development programs must be designed to bridge the gap between theory and practice, focusing heavily on hands-on training, lesson integration, and assessment design to build teachers' practical competence.
3. Schools should implement specific interventions that train teachers to use AI for personalized learning and adaptive instruction, expanding its use beyond basic administrative and time-saving tasks.
4. Teachers, particularly at the elementary level, should be provided with context-specific, developmentally appropriate AI training to elevate their practical and

pedagogical consumption of digital tools to match secondary level readiness.

Future researchers are encouraged to explore other variables such as digital literacy, institutional support, and teacher self-efficacy to provide a more holistic framework for sustained AI integration in basic education.

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