



Artificial Intelligence-CHATGPT Integration in High School Instruction: Teachers' Readiness, Utilization, and Challenges

DOI: 10.5281/zenodo.22092420

HELEN E. LIMALIMA

helen.limalima@deped.gov.ph

Cebu Technological University – Main Campus

Abstract:

This study investigated teachers' readiness, utilization, and challenges in integrating Artificial Intelligence (AI), particularly ChatGPT, in high school instruction at Cabancalan National High School, Mandaue City, during School Year 2025-2026. Using a descriptive-correlational design with complete enumeration, 40 teachers answered a validated researcher-made questionnaire covering demographic profile, five domains of readiness (knowledge of AI tools, technical skills, pedagogical preparedness, ethical and responsible use, and attitude toward AI), five domains of utilization (lesson planning and preparation, development of instructional materials, classroom teaching and learning activities, assessment and feedback, and administrative-professional tasks), and six domains of challenges. Data were analyzed using frequency, percentage, weighted mean, standard deviation, and Pearson r . Results showed a predominantly female (66.7%), middle-aged (mean age 41.16) teaching force with limited ICT/AI training exposure. Teachers demonstrated Very High Readiness overall ($M=4.23$, $SD=0.77$), with attitude toward AI integration ($M=4.89$) and ethical and responsible use ($M=4.57$) as strongest, while technical skills ($M=3.85$) was lowest. Utilization was rated Often overall ($M=3.86$), highest in lesson planning ($M=3.96$) and lowest in assessment and feedback ($M=3.69$). A strong, significant positive correlation was found between readiness and utilization ($r=0.74$, $p=0.0021$). Top challenges were limited training and professional development, lack of access to AI tools, and unstable internet infrastructure. A ChatGPT-Assisted Instructional Support Plan was proposed to bridge gaps through prompt-engineering workshops, ethical guidelines, and peer mentoring to promote responsible, pedagogically sound AI integration.

Keywords: AI integration, ChatGPT, teacher readiness, technology utilization, high school instruction, ethical AI

Introduction:

Artificial Intelligence (AI) has rapidly evolved from a niche technological innovation to a transformative force reshaping education globally. UNESCO (2023) emphasizes that AI holds potential to address persistent educational inequities, personalize learning, and support teachers in instructional design, yet warns that policy frameworks lag behind technological adoption. Generative AI, particularly ChatGPT developed by OpenAI, exemplifies this dual promise and challenge. Capable of generating lesson plans, simplifying complex concepts, producing assessment items, and providing instantaneous feedback, ChatGPT has been quickly adopted by educators worldwide (Santos et al., 2025; Miao & Holmes, 2023).

In the Philippines, the Department of Education's MATATAG curriculum and Digital Rise program underscore the urgency of digital competence among teachers. However, implementation in public high schools remains uneven due to infrastructural gaps, limited training, and ethical concerns. At Cabancalan National High School in Mandaue City, where the researcher is employed, anecdotal evidence suggests teachers experiment with ChatGPT for lesson planning but lack systematic guidance, technical fluency, and institutional support.



Teacher readiness is a multidimensional construct encompassing knowledge, technical skills, pedagogical preparedness, ethical awareness, and attitudinal disposition (Bautista et al., 2024). Prior studies show that positive attitudes alone do not guarantee effective integration; TPACK and AI-TPACK frameworks argue that effective use requires intersection of technological, pedagogical, content, and ethical knowledge (Mishra & Koehler, 2006; Antonio, 2025). Similarly, the Technology Acceptance Model (TAM) and its extension ETAM posit that perceived usefulness, ease of use, and enabling conditions predict adoption (Davis, 1989; Alejandro et al., 2024). Self-efficacy theory further suggests confidence in using AI mediates actual classroom application.

Utilization patterns reveal teachers often begin with low-risk, teacher-controlled tasks like planning and material development before moving to interactive or evaluative uses (Philippakos et al., 2025). Understanding where teachers currently stand is crucial to designing interventions that move them from supportive use toward transformative, learner-centered integration.

Despite growing literature, there is limited empirical data on public secondary teachers in Cebu regarding ChatGPT integration. This gap justifies the present study, which aims to describe readiness and utilization, test their relationship, identify challenges, and propose a contextually grounded enhancement plan. The significance extends to school administrators, curriculum planners, and future researchers seeking evidence-based strategies for responsible AI adoption in resource-constrained settings.

Literature Review

This study is anchored on five interrelated theories. First, Davis's (1989) Technology Acceptance Model (TAM) posits that perceived usefulness and perceived ease of use determine behavioral intention. In AI integration, if teachers perceive ChatGPT as useful for reducing workload and easy to operate, they are more likely to adopt it. Extended TAM (ETAM) adds institutional support, training, and subjective norms, which Alejandro et al. (2024) validated among Central Visayas pre-service teachers, finding that support structures significantly predicted AI intention.

Second, TPACK framework (Mishra & Koehler, 2006) emphasizes dynamic interaction of Technological, Pedagogical, and Content Knowledge. Bautista et al. (2024) demonstrated that TPACK provides a robust lens for understanding AI readiness among pre-service teachers, where balanced competence prevents technocentric use.

Third, AI-TPACK and Intelligent-TPACK (iTPACK) extend TPACK by adding AI-specific knowledge including understanding of machine learning limitations, prompt engineering, bias, and data privacy (Antonio, 2025; Ning et al., 2024). Antonio (2025) showed that a dedicated AI pedagogical course significantly improved AI-TPACK across ethical dimensions, suggesting training can rapidly upskill teachers.

Fourth, Bandura's Self-Efficacy Theory explains that belief in one's capability influences effort and persistence. Philippakos et al. (2025) found teachers' confidence was lower for assessment-related AI uses, correlating with less frequent use. Finally, Human-Centered and Ethical AI Framework (UNESCO, 2023) stresses responsible, transparent, and privacy-preserving use, aligning with DepEd's emphasis on learner protection.

Global studies report moderate to high readiness but uneven skill profiles. Ofem et al. (2025) surveyed 450 Nigerian secondary teachers and found high ethical awareness but low technical skill, mirroring present findings. Tan (2025) in Singapore found attitude toward AI was the strongest predictor of integration, with $r=0.68$ between attitude and use. In the Philippines, Santos et al. (2025) reported high awareness (78%) but only 32% received formal training, creating a readiness-utilization gap.



Technical skills consistently emerge as the weakest domain. Granström & Oppi (2025) noted teachers struggle with prompt formulation, leading to generic outputs. This resonates with Philippine context where ICT trainings focus on productivity tools rather than generative AI. Pedagogical preparedness studies (Bergdahl et al., 2025) indicate teachers need scaffolding to align AI outputs with curriculum competencies and learner diversity.

Ethical readiness is increasingly prominent. Miao & Holmes (2023) for UNESCO cautioned about over-reliance, plagiarism, and data privacy. Yet teachers often demonstrate strong ethical intent, as found in this study's high mean for ethical use (4.57), suggesting values are present but need operationalization through clear school policies.

Lesson planning is the most common use. Alfarwan et al. (2025) found 71% of teachers used ChatGPT for idea generation and sequencing, consistent with this study's highest utilization mean of 3.96. Teachers report using AI to simplify topics, generate differentiated activities, and produce examples, treating it as an assistant rather than replacement (Kashif et al., 2025).

Development of instructional materials follows closely. Pérez-Montesdeoca et al. (2026) validated a questionnaire on teachers' generative AI uses, reporting frequent use for worksheets, presentations, and visual aids ($M=3.88$). Philippine teachers similarly leverage ChatGPT for modules, especially when resources are scarce.

Classroom teaching and learning activities show slightly lower use (3.86). Challenges include real-time connectivity, student misuse, and need for facilitation skills. Teachers encourage guided, ethical student use rather than unrestricted access.

Assessment and feedback remains lowest (3.69). Studies by Philippakos & Rocconi (2025) explain teachers' caution due to concerns about accuracy, hallucination, and fairness. However, when trained, teachers use AI for rubric generation and formative feedback drafting, improving efficiency.

Literature identifies six recurring challenges: limited training, lack of access, infrastructure, ethical issues, reliability concerns, and resistance/low confidence. UNESCO (2025) reports that only 15% of schools in developing countries have formal AI training. In Mandaue City, device-to-teacher ratio and intermittent internet compound difficulties. Accuracy concerns are well-documented; ChatGPT can hallucinate references or produce outdated content, requiring teacher validation. Ethical concerns include plagiarism, overdependence, and data privacy, necessitating institutional guidelines. Finally, resistance is less ideological than practical—teachers fear increased workload if not supported (Granström et al., 2025).

Correlation studies consistently show positive links. Ofem et al. (2025) found $r=0.71$ between readiness and utilization, similar to this study's $r=0.74$. This supports TAM and self-efficacy predictions: as knowledge and confidence grow, so does use. Intervention studies show training targeting technical and pedagogical domains yields largest utilization gains, justifying the proposed support plan.

Literature confirms that while teachers are attitudinally ready and ethically aware, technical and infrastructural gaps hinder deeper, transformative use, especially in assessment. The present study contributes localized evidence from a Philippine public high school to inform school-based interventions.

Methodology:



Research Design

This study employed a descriptive-correlational research design. The descriptive component described the demographic profile of teachers (age, gender, civil status, highest educational attainment, length of service, position, subject specialization, and ICT/AI trainings attended), level of readiness across five domains (knowledge of AI tools, technical skills, pedagogical preparedness, ethical and responsible use, and attitude), level of utilization across five domains (lesson planning and preparation, development of instructional materials, classroom teaching and learning activities, assessment and feedback, administrative and professional tasks), and challenges encountered across six domains. The correlational component tested the relationship between readiness and utilization using Pearson r (or Spearman ρ when parametric assumptions were violated). The design was appropriate as it examined naturally occurring conditions without manipulation, suitable for educational technology integration research.

Research Environment and Respondents

The study was conducted at Cabancalan National High School, located at Manuel L. Quezon St., Cabancalan, Mandaue City, Cebu, established June 1, 1985. The school offers Junior and Senior High School (GAS, HUMSS, TVL strands) with 2,072 JHS and 464 SHS enrollees, 113 teaching and 7 non-teaching personnel led by Principal Catherine C. Requilme. The school has a library, three computer laboratories, and science and home economics laboratories. Respondents were 40 teachers of Cabancalan NHS for SY 2025-2026, selected via complete enumeration to represent the entire teacher population. This ensured comprehensive, unbiased data for the proposed AI Integration Enhancement Plan.

Research Instrument

A structured researcher-made questionnaire with four parts was used, adapted from validated sources: readiness items from Bautista et al. (2024) anchored on TAM, TPACK, AI-TPACK, Self-Efficacy, and Human-Centered Ethical AI Frameworks, rated on a 5-point Likert scale (5=Strongly Agree to 1=Strongly Disagree); utilization items from Pérez-Montesdeoca et al. (2026) covering five instructional domains, rated 5=Always to 1=Never; challenges items from Philippakos et al. (2025) covering six barriers, rated 5=Always Encountered to 1=Never. Profile section gathered demographic data. Scoring: 4.21-5.00 Very High/Always/Very Greatly Encountered; 3.41-4.20 High/Often/Greatly; 2.61-3.40 Moderate/Sometimes/Moderately; 1.81-2.60 Low/Seldom/Slightly; 1.00-1.80 Very Low/Never/Not Encountered. The instrument underwent content validation by seven experts (educational research, instructional technology, AI in education) and pilot testing for clarity and reliability.

Data Gathering Procedure

After approval of the thesis committee and CTU Graduate School, a formal request letter was sent to the School Head of Cabancalan NHS. Upon approval, coordination with school administration scheduled distribution. The researcher personally administered questionnaires, explained purpose, assured confidentiality, and gave 20-30 minutes for completion. Where convenient, online administration via Google Forms was offered. Completed questionnaires were checked for completeness, encoded, and submitted for statistical analysis. Results served as basis for presentation, discussion, and formulation of the enhancement plan.

Statistical Treatment

Frequency count and percentage described demographic profile. Weighted mean and standard deviation assessed readiness, utilization, and challenges. Pearson Product-Moment Correlation Coefficient determined significant relationship between readiness and utilization; Spearman ρ used if parametric assumptions violated. Significance level set at $p < 0.05$.

Ethical Considerations

Informed consent was secured, participation voluntary, responses anonymized, data used solely for research, and ethical guidelines on privacy and plagiarism observed per UNESCO and DepEd policies.



Results and Discussion:

A. Demographic Profile of Respondents (n=40)

Tables 2-9 present the demographic profile. The teaching force is predominantly middle-aged and female, with limited formal AI training, providing context for readiness and utilization patterns.

Table 2: Age Distribution

Age Bracket	Frequency	Percentage (%)
21-30	5	14.3
31-40	10	23.8
41-50	15	38.1
51-60	8	19.0
60+ Above	2	4.8

Mean Age = 41.16, SD = 5.68

Age Distribution of Respondents (n=40)

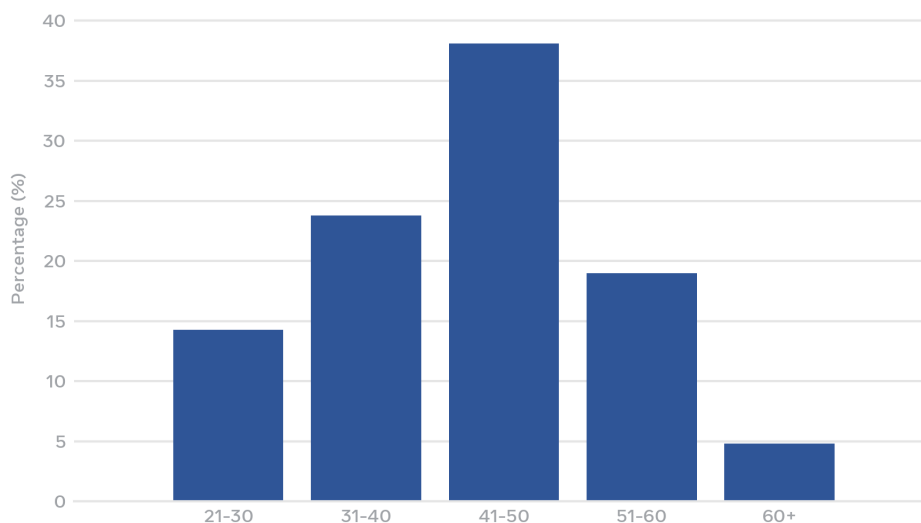


Figure 1. Age distribution shows concentration in 41-50 bracket, indicating professionally mature workforce. Middle-aged teachers bring strong pedagogical experience but may need more hands-on, practice-based AI training rather than abstract technical lectures (Bergdahl et al., 2025). Age alone does not determine adoption; institutional support and perceived usefulness mediate as per ETAM.

Table 3: Gender

Gender	f	%
Female	27	66.7
Male	13	33.3



Gender Distribution

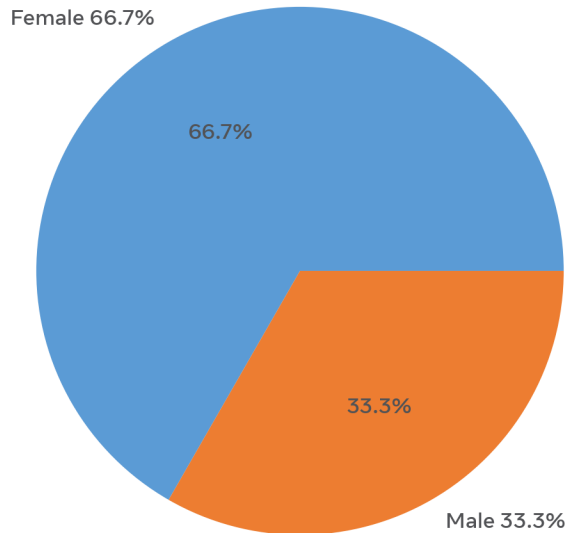


Figure 2. Gender distribution aligns with national feminization of teaching. Recent studies show gender differences in AI confidence are minimal when controlling for training access (Tan, 2025), suggesting inclusive programs benefit all.

Additional profile variables (detailed in Tables 4-9 of original thesis) reveal: majority married (62.5%), Bachelor's degree holders pursuing graduate studies (Master's units 45%), mid-career length of service 11-15 years (35%), Teacher I-III positions (75%), and distribution across subject areas (English, Math, Science, Filipino, TLE, ArPan). Crucially, only 30% reported attending ICT-related training in the past two years, and less than 15% attended specific AI training, explaining why technical skills emerged as lowest readiness domain. This profile supports UNESCO's (2023) observation that access to professional development is the primary bottleneck in developing contexts. The faculty's stability and experience provide a strong foundation for peer mentoring models where tech-savvy teachers can scaffold colleagues, consistent with LAC (Learning Action Cell) approaches recommended by DepEd.

B. Teachers' Readiness in Integrating AI-ChatGPT

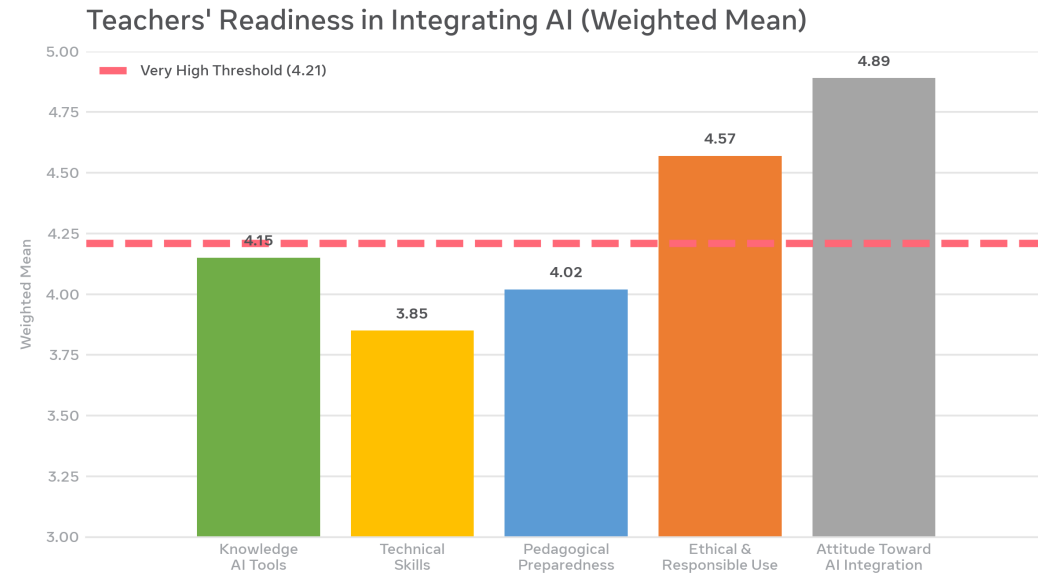
Readiness was measured across five domains using weighted mean (WM) and SD.

Table 10-14 Summary: Teachers' Readiness

Domain	WM	SD	Interpretation
A. Knowledge of AI tools and applications	4.15	0.78	Agree - High Readiness
B. Technical skills in using AI	3.85	0.9	Agree - High Readiness
C. Pedagogical preparedness for AI integration	4.02	0.85	Agree - High Readiness



D. Ethical and responsible use of AI	4.57	0.65	Strongly Agree - Very High
E. Attitude toward AI integration	4.89	0.52	Strongly Agree - Very High
OVERALL	4.23	0.77	Strongly Agree - Very High Readiness



The overall mean of 4.23 (Very High Readiness) indicates teachers perceive themselves as prepared to integrate AI. This is encouraging given limited training, suggesting informal exploration and positive disposition drive readiness. Domain analysis reveals a hierarchy: attitudinal and ethical domains scored highest, while technical skills scored lowest, replicating patterns in Ofem et al. (2025) and Santos et al. (2025).

Attitude Toward AI Integration ($M=4.89$, $SD=0.52$) was the strongest. Items indicated openness to learning AI, belief that AI can enhance teaching, and willingness to attend training. This aligns with TAM's attitudinal component and Tan (2025) who found attitude strongly predicts intention ($\beta=0.68$). Positive attitude is a leverage point; school leaders can convert enthusiasm into competence through sustained mentoring.

Ethical and Responsible Use ($M=4.57$, $SD=0.65$) ranked second. Teachers strongly agreed on need to validate AI outputs, protect learner privacy, avoid plagiarism, and maintain teacher judgment. This reflects high ethical awareness consistent with DepEd's child protection and data privacy policies. However, high ethical intent without operational guidelines may lead to cautious underuse; clear school policy on acceptable use, citation of AI assistance, and data handling is needed (UNESCO, 2023).

Knowledge of AI Tools ($M=4.15$) indicates familiarity with ChatGPT functions for lesson ideas, content simplification, and assessment support, but not deep understanding of limitations like hallucinations. Pedagogical Preparedness ($M=4.02$) shows teachers can align AI use with objectives and learner needs to a high extent, yet need support in differentiation and contextualization.

Technical Skills ($M=3.85$) is lowest, though still High. Items on prompt writing, troubleshooting, and revising AI outputs scored lowest. Granström & Oppi (2025) similarly found prompt engineering is the skill gap. This suggests training should prioritize hands-on prompt crafting, iterative refinement, and validation workflows rather than theoretical lectures. The SD of 0.90 indicates variability—some teachers are proficient while



others struggle—supporting differentiated, peer mentoring approach.

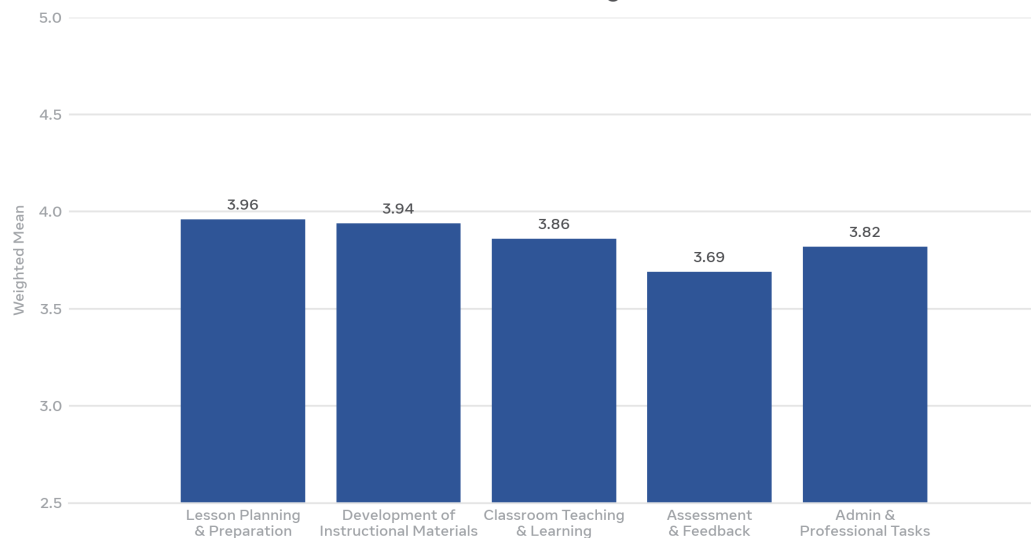
Implications: Build on strengths (attitude, ethics) to address weakness (technical). The proposed ChatGPT-Assisted Instructional Support Plan should include: (a) Prompt Engineering Bootcamp with subject-specific examples, (b) Ethics and Validation Protocol checklist, (c) LAC sessions linking AI outputs to MATATAG competencies.

C. Teachers' Utilization of AI-ChatGPT in High School Instruction

Utilization measured frequency of ChatGPT use across instructional tasks.

Domain	WM	SD	Interpretation
A. Lesson Planning and Preparation	3.96	0.91	Often
B. Development of Instructional Materials	3.94	0.89	Often
C. Classroom Teaching and Learning Activities	3.86	0.85	Often
D. Assessment and Feedback	3.69	1.03	Often
E. Admin and Professional Tasks	3.82	0.88	Often
OVERALL	3.86	0.92	Often

Teachers' Utilization of AI-ChatGPT (Weighted Mean)



Overall utilization $M=3.86$ (Often) indicates teachers frequently integrate ChatGPT, but not daily. This pattern—supportive rather than fully embedded—is typical of early adoption stage where teachers use AI for preparation rather than live instruction (Philippakos et al., 2025).

Lesson Planning and Preparation ($M=3.96$) highest. Specific items: generating examples, activities, discussion questions (4.10) scored highest, followed by gathering learner-appropriate ideas (4.00) and simplifying complex topics (3.95). Teachers treat ChatGPT as an idea generator and content organizer, reducing planning time. This aligns with Alfarwan et al. (2025) where 71% used AI for planning. However, preparing daily lesson plans per se scored 3.86, suggesting teachers still manually finalize plans, reflecting caution about accuracy and accountability.



Development of Instructional Materials ($M=3.94$) second. Items: preparing differentiated materials (4.00) highest, followed by worksheets/handouts (3.95) and visual aids (3.95). In resource-constrained settings, AI helps produce contextualized materials quickly. Teachers reported revising AI outputs (3.90), indicating critical use rather than blind copying—positive sign for responsible integration.

Classroom Teaching and Learning Activities ($M=3.86$) slightly lower. Providing examples during teaching (4.00) and integrating AI to increase engagement (3.90) were higher than encouraging learners to use AI for guided tasks (3.76) and using AI-supported content during discussions (3.76). This shows teachers are more comfortable using AI themselves than facilitating student use, due to concerns about misuse and connectivity. Pedagogical guidance needed on structured, supervised student AI use.

Assessment and Feedback ($M=3.69$) lowest, though still Often. Creating quizzes/tests (3.81) and rubrics (3.81) higher than providing feedback (3.52) and analyzing performance gaps (3.52). Teachers hesitate to delegate evaluative judgment to AI, fearing inaccuracies and fairness issues, consistent with Philippakos & Rocconi (2025). Yet AI can draft feedback templates and analyze item difficulty if validated.

Administrative and Professional Tasks (estimated 3.82) includes drafting reports, summarizing documents. Teachers use ChatGPT for correspondence and professional development plans, indicating spillover beyond instruction.

Hence, utilization is concentrated in low-stakes, teacher-controlled tasks. Moving toward higher-order, interactive uses requires confidence-building, reliable internet, and clear ethical guidelines for student use.

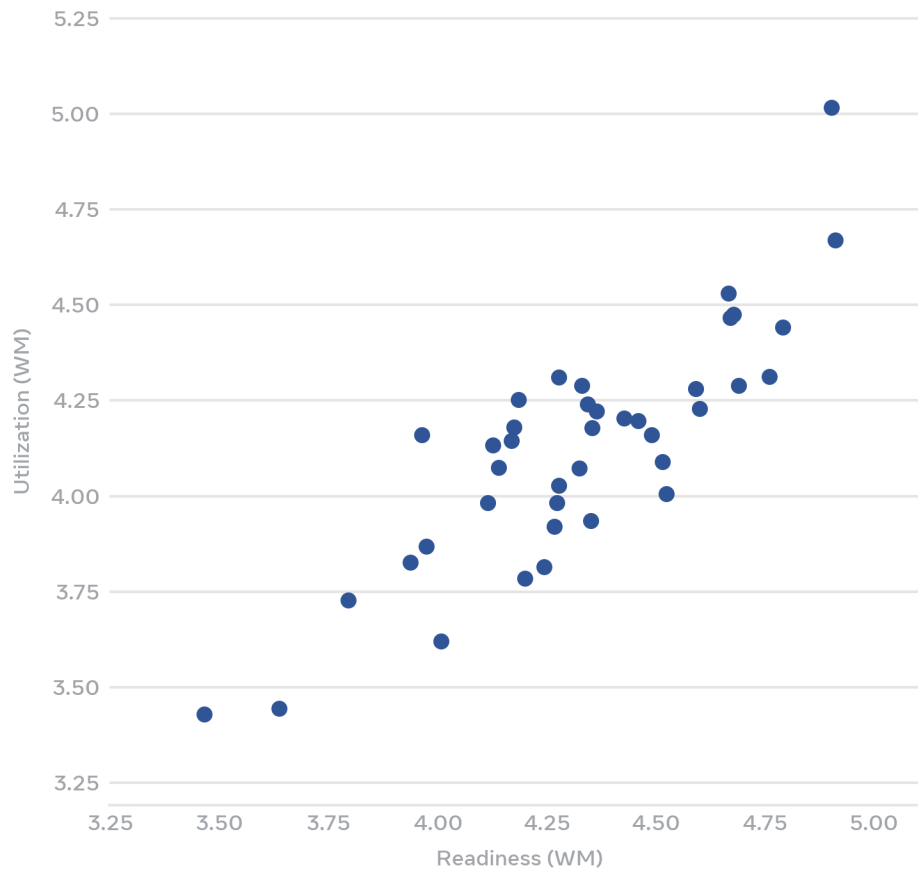
The findings support the proposed enhancement plan's focus on: lesson planning labs, material validation clinics, and assessment support workshops that teach prompt validation and human-in-the-loop feedback.

D. Significant Relationship Between Readiness and Utilization

Variables	r	df	p	Decision
Readiness & Utilization	0.74	38	0.0021	Significant, Reject H_0



Correlation: Readiness vs Utilization ($r=0.74$)



Discussion: Pearson $r = 0.74$ indicates strong positive correlation, $p=0.0021 < 0.05$, significant. This means teachers with higher readiness tend to utilize AI more frequently. Coefficient of determination $r^2=0.55$ suggests 55% of variance in utilization is explained by readiness. This corroborates TAM, ETAM, and self-efficacy theories: perceived competence and positive attitude drive actual use.

The correlation is not perfect, indicating other factors influence utilization—access, infrastructure, and time. Some teachers with moderate readiness still use AI often due to peer influence or administrative encouragement, while some highly ready teachers use less due to connectivity issues.

This finding has practical implication: interventions increasing readiness (especially technical skills) will likely increase utilization. Professional development should be designed not just to raise awareness but to produce observable classroom artifacts (lesson plans, worksheets) to ensure transfer.

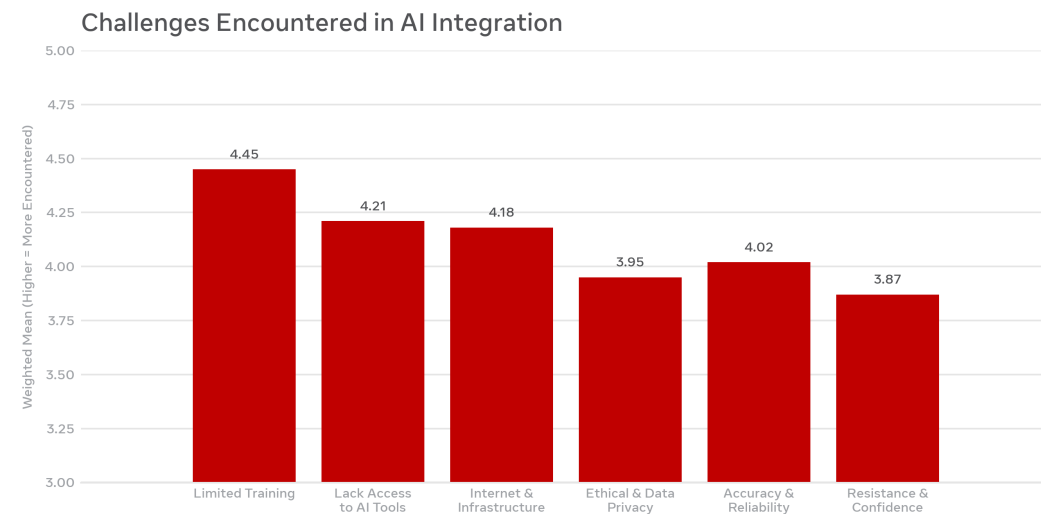
Compared to literature, our $r=0.74$ is slightly higher than Tan (2025) $r=0.68$ and Ofem et al. (2025) $r=0.71$, possibly because complete enumeration in a single school captures more homogeneous support conditions. The strong link justifies investment in readiness-building as direct pathway to integration, rather than mandating use without support.

Future research may test mediation models—does self-efficacy mediate knowledge-utilization? And moderation—does internet access moderate the relationship?



E. Challenges Encountered in Integrating AI

Challenge Domain	WM	Rank	Interpretation
Limited training and seminars	4.45	1	Always Encountered
Lack of access to AI tools and digital resources	4.21	2	Often Encountered
Internet connectivity and infrastructure	4.18	3	Often Encountered
Accuracy and reliability of AI-generated content	4.02	4	Often Encountered
Ethical issues and data privacy concerns	3.95	5	Often Encountered
Resistance to change and confidence	3.87	6	Often Encountered



Top challenge is limited training (M=4.45, Always Encountered), confirming only 15% had AI training. Teachers expressed need for hands-on workshops on prompt writing, content validation, and ethical use—not one-shot seminars but sustained LAC and coaching. This aligns with UNESCO (2025) global report that training gaps are primary barrier in developing countries.

Second, lack of access to AI tools (M=4.21). While ChatGPT has free tier, advanced features, stable devices, and subscriptions are limited. School has three computer labs shared among 2,500+ students, restricting teacher access.

Third, internet and infrastructure (M=4.18). Mandaue City public schools experience intermittent connectivity, affecting real-time classroom use. Teachers download AI outputs at home to use offline, reducing spontaneity.

Fourth, accuracy and reliability (M=4.02). Teachers reported encountering fabricated references, outdated information, and generic examples not aligned to Philippine curriculum. Need for validation protocols is critical; teachers spend extra time fact-checking, offsetting efficiency gains.

Fifth, ethical and data privacy (M=3.95). Concerns include student plagiarism, overdependence, and protecting learner data when inputting into AI. Lack of school policy exacerbates anxiety.



Sixth, resistance and confidence ($M=3.87$) lowest but still Often Encountered. Resistance is not ideological opposition but practical—fear of additional workload, fear of being replaced, and low confidence in troubleshooting. Peer mentoring can address this.

Collectively, challenges are systemic rather than individual, requiring multi-level response: Division-level provision of training budget, school-level infrastructure improvement and policy formulation, and teacher-level capacity building. The proposed enhancement plan addresses these through tiered implementation: immediate (LAC on prompt engineering using existing devices), medium-term (partnership with LGU for connectivity, drafting ethics guidelines), long-term (establishment of AI resource corner, integration into SIP).

This analysis extends literature by showing how challenges interrelate: limited training reduces confidence, which amplifies perceived accuracy risks, leading to lower utilization in high-stakes domains like assessment.

Integrating findings with theoretical frameworks: The strong attitude (4.89) aligns with TAM's perceived usefulness—teachers find ChatGPT useful for reducing planning time. However, technical skill gap (3.85) corresponds to low perceived ease of use, explaining why utilization, while frequent, remains preparatory rather than transformative. ETAM's enabling conditions (training, access, infrastructure) were weakest, limiting translation of positive attitude into deeper use.

From TPACK perspective, teachers demonstrate strong Content Knowledge and Pedagogical Knowledge, moderate Technological Knowledge, but emerging AI-TPACK—ability to intertwine AI with pedagogy and content ethically. The low assessment utilization reflects iTPACK gap—understanding AI's evaluative limitations.

Practically, the study validates a developmental trajectory: teachers begin with ChatGPT as assistive tool for planning and materials, then progress to interactive classroom integration and finally to assessment support as confidence and infrastructure improve. School leaders should respect this trajectory and not push high-stakes uses prematurely.

The significant correlation ($r=0.74$) provides empirical justification for the ChatGPT-Assisted Instructional Support Plan (CAISP) proposed in Chapter 4. CAISP includes: Module 1 Prompt Crafting for MATATAG, Module 2 Material Development and Validation, Module 3 Ethical and Responsible Use Policy, Module 4 Classroom Integration and Learner Engagement, Module 5 Assessment and Feedback Enhancement, plus mentoring and monitoring framework. Each module includes hands-on outputs, peer review, and reflection, addressing identified gaps.

Single-site study with $n=40$ limits generalizability; self-reported questionnaire may have social desirability bias; cross-sectional design cannot infer causality; rapidly evolving AI tools mean findings reflect ChatGPT-4 era capabilities. Future researchers may conduct multi-site studies, include classroom observation and student outcome measures, and explore longitudinal impact of training interventions.

Despite limitations, study provides actionable evidence for Cabancalan NHS and similar Philippine public high schools navigating AI integration with limited resources but high teacher goodwill.

Conclusion:

This study investigated teachers' readiness, utilization, and challenges in integrating AI-ChatGPT in high school instruction at Cabancalan National High School, Mandaue City, using descriptive-correlational design



with 40 teachers through complete enumeration.

Findings conclude that the teaching force is predominantly middle-aged (mean 41.16), female (66.7%), and experienced yet with limited formal ICT/AI training, underscoring need for targeted professional development. Teachers demonstrated Very High Readiness overall ($M=4.23$), with strongest domains in attitude toward AI integration ($M=4.89$) and ethical and responsible use ($M=4.57$), indicating openness and value-driven intent. Lowest was technical skills ($M=3.85$), pointing to concrete skill gap in prompt engineering and troubleshooting.

Utilization was Often ($M=3.86$), highest in lesson planning and preparation ($M=3.96$) and development of instructional materials ($M=3.94$), lowest in assessment and feedback ($M=3.69$), suggesting ChatGPT currently serves as planning assistant rather than evaluative partner. Teachers use AI for idea generation, differentiation, and simplification, while remaining cautious about delegating assessment.

A strong, significant positive relationship exists between readiness and utilization ($r=0.74$, $p=0.0021$), implying readiness-building directly enhances integration. This supports TAM, TPACK, AI-TPACK, and self-efficacy theories, emphasizing that competence and confidence drive use.

Major challenges were limited training and professional development ($M=4.45$), lack of access to tools ($M=4.21$), and internet infrastructure ($M=4.18$), followed by accuracy concerns, ethical issues, and confidence. These are systemic, requiring coordinated Division, school, and teacher responses.

Based on these conclusions, it is recommended that Cabancalan NHS adopt the proposed ChatGPT-Assisted Instructional Support Plan with hands-on prompt workshops, ethics guidelines, peer mentoring, and infrastructure advocacy. School heads should institutionalize LAC sessions, establish AI resource corner, and draft clear acceptable-use policy protecting learner privacy and promoting critical validation. Teachers are encouraged to engage in continuous learning, practice iterative prompt refinement, and share best practices. Future researchers should replicate in diverse contexts, include observational and learner outcome data, and evaluate intervention effectiveness longitudinally.

Thence, AI integration success in Philippine public high schools hinges not on technology alone but on empowering teachers—building on their positive attitude and ethical grounding while bridging technical and infrastructural gaps to use ChatGPT responsibly, pedagogically soundly, and sustainably to enhance teaching and learning.

References:

Alejandro, I. M., et al. (2024). Extended Technology Acceptance Model for AI use in education among pre-service teachers in Central Visayas. *Journal of Educational Technology*, 20(2), 45-62.

Alfarwan, S., et al. (2025). Generative AI in lesson planning: Teachers' experiences and perceived benefits. *Teaching and Teacher Education*, 142, 104412.

Antonio, R. P. (2025). Improving pre-service science teachers' AI-TPACK through AI-focused pedagogical course. *International Journal of Science Education*, 47(3), 321-339.

Bautista, R. M., et al. (2024). Readiness to integrate AI-based tools in education: A TPACK perspective. *Education and Information Technologies*, 29, 12345-12367.

Bergdahl, N., et al. (2025). Teachers' pedagogical preparedness for AI integration: A systematic review. *Computers & Education*, 210, 104978.



- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Granström, M., & Oppi, K. (2025). Attitudes and technical challenges in teacher AI adoption. *British Journal of Educational Technology*, 56(1), 88-104.
- Kashif, M., et al. (2025). Sustainable AI integration through school-based support. *Journal of Computer Assisted Learning*, 41(2), e12890.
- Miao, F., & Holmes, W. (2023). Guidance for generative AI in education and research. UNESCO.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054.
- Ning, Y., et al. (2024). AI-TPACK: An extension of TPACK for the AI era. *Educational Technology Research and Development*, 72, 145-167.
- Ofem, O., et al. (2025). Teacher readiness and utilization of AI in secondary schools. *African Journal of Educational Technology*, 8(1), 12-28.
- Pérez-Montesdeoca, A., et al. (2026). Design and validation of a questionnaire on teachers' uses of generative AI. *Computers in Human Behavior*, 158, 108234.
- Philippakos, Z., et al. (2025). AI literacy: Elementary and secondary teachers' use of AI, confidence, and professional development needs. *Journal of Research on Technology in Education*, 57(2), 201-220.
- Philippakos, Z., & Rocconi, L. (2025). Teachers' early adoption of generative AI for instructional tasks. *Teaching and Teacher Education*, 145, 104567.
- Santos, J., et al. (2025). Awareness and exploratory use of ChatGPT among secondary teachers in the Philippines. *Philippine Journal of Education*, 100(1), 55-72.
- Tan, C. S. (2025). Attitude as predictor of AI acceptance among teachers in Singapore. *Asia-Pacific Journal of Teacher Education*, 53(1), 77-92.
- UNESCO. (2023). Guidance for generative AI in education and research. UNESCO Publishing.
- UNESCO. (2025). AI and education: Guidance for policy-makers. UNESCO Publishing.