

Teachers' Proficiency In Using Artificial Intelligence (AI) And Instructional Practices In Araling Panlipunan In Sdo Santo Tomas City

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Abstract

This study investigated the proficiency of Araling Panlipunan teachers in integrating Artificial Intelligence (AI) tools into instructional practices in public junior and senior high schools under SDO Santo Tomas City during the school year 2025–2026. Guided by the UNESCO AI Competency Framework and the Technological Pedagogical Content Knowledge (TPACK) model, the research assessed teachers' knowledge and skills, confidence in application, and ethical awareness, alongside the extent of AI integration in lesson planning, assessment, multimedia use, and classroom collaboration, the challenges encountered in AI adoption, and the development of a proposed teacher training activity manual.

This study employed a quantitative design utilizing researcher-developed questionnaires. The respondents included 47 junior high school and 50 senior high school Araling Panlipunan teachers, with a census approach applied. Data were analyzed using ranking, percentage, weighted mean, and Pearson's r correlation coefficient. Findings revealed moderate overall proficiency, with ethical awareness highest, followed by knowledge and skills, and confidence lowest. AI integration was moderate across domains, with the highest adoption in interactive and multimedia tools, suggesting multimedia as the primary entry point for classroom application. A strong and significant positive relationship ($r = .694$, $p < .001$) was found between confidence in application and AI use in assessment, showing that teachers who have higher self-efficacy in using AI tools are also more likely to integrate these technologies effectively in assessment practices. Challenges included cognitive codependency, lack of clear policies, and struggle with reliable connectivity and insufficient infrastructure.

Statistical results confirmed that teachers' AI proficiency significantly predicted variations in instructional practices. The study concluded that effective AI integration requires holistic teacher development encompassing technical, pedagogical, and ethical competencies. The study proposed a teacher training activity manual focused on contextualizing AI tools and ethical, adaptive assessment to maximize pedagogical value, aligning with the Department of Education initiatives. It recommended continuous teacher training, curriculum contextualization, and strengthened institutional support to promote equitable and future-ready learning environments.

Keywords: *Artificial Intelligence, Teacher Proficiency, Instructional Practices, Araling Panlipunan, AI Integration*

INTRODUCTION

Artificial Intelligence (AI) has revolutionized education by streamlining tasks, customizing learning, and enhancing instructional quality. Globally, AI is recognized as a transformative force, yet its adoption in Philippine public schools particularly in Araling Panlipunan (AP) remains limited. AP, a subject central to civic awareness and socio-cultural understanding, faces challenges in contextualizing AI outputs that often rely on global datasets detached from local realities. AI in classrooms must be aligned with the pedagogical goals and ethical standards and fits contexts and cultures. The current Artificial Intelligence research is predominantly focused on technological and data-driven disciplines, with limited representation from educators (Chen et al., 2020).

In Batangas, the teacher's AI adoption is self-initiated and informal. The reliance of major AI models on global data sets creates outputs that are culturally detached. This presented a significant challenge for Araling Panlipunan teachers, who must design content rooted in national history, regional identity, and socio-political context. Araling Panlipunan teachers struggle with pedagogical balance, contextualization deficit, cultural disconnection and informal adoption risks (Floridi & Chiriatti, 2020; Bender et al., 2021).

Teachers play a crucial role in bridging this gap. Teacher proficiency in AI encompasses not only technical knowledge and skills but also confidence in application and ethical awareness. These dimensions are essential in ensuring that AI integration aligns with pedagogical goals and maintains cultural relevance.

This study investigated the role of AI in AP instruction, focusing on teachers in SDO Santo Tomas City. Specifically, it addressed teacher's self-reported levels of proficiency, the effect of AI integration in their pedagogy and identified the barriers to mitigation and adaptation of AI in Araling Panlipunan subject. The research aimed to provide contextually grounded recommendations for AI-based teacher training activities aligned with DepEd's digital transformation initiatives and Republic Act No. 11927 on digital skills development. Specifically, the study sought to answer the following questions:

1. What is the level of teachers' proficiency in using AI tools in terms of their knowledge and skills, confidence in application and ethical awareness?
2. How may the extent of AI tool integration in instructional practices can be assessed with respect to lesson planning and content delivery, assessment and feedback, use of interactive and multimedia tools, and classroom management and collaboration?
3. Is there a significant relationship between the assessments of teachers' AI proficiency and their instructional practices in Araling Panlipunan?
4. What challenges and limitations do teachers encounter in integrating AI tools in teaching Araling Panlipunan?

5. Based on the results of the study, what teacher training activities do teachers need to improve their use of AI tools in Araling Panlipunan teaching?

Research Hypothesis

There is no significant relationship between the assessments of teachers' proficiency in using AI tools and on their integration of AI in their instructional practices in Araling Panlipunan.

METHODOLOGY

Research Design

This study utilized a descriptive research design using quantitative approach that examined Artificial Intelligence tools integration in Araling Panlipunan instruction, assessed their AI proficiency level and determined the strength and direction of associations between AI utilization and instructional effectiveness.

Participants

The respondents of the study were Araling Panlipunan teachers from public junior and senior high school in SDO Santo Tomas City. In the division, there are 47 public junior high school and 50 public senior high school AP teachers. This study employed a census approach rather than sampling, as the entire target population all 47 Araling Panlipunan teachers and 50 senior high school teachers in SDO Sto. Tomas City served as respondents.

Research Instrument

Data were collected using a validated researcher-made questionnaire composed of three sections:

Teachers' AI proficiency in terms of:

- Knowledge and skills
- Confidence in application
- Ethical awareness

Extent of AI integration in instructional practices:

- Lesson planning and content delivery
- Assessment and feedback
- Interactive and multimedia tools
- Classroom management and collaboration

Challenges encountered in AI integration

The instrument was validated and structured using a four-point Likert scale. This is supplemented with semi-structured interviews to obtain deeper insights regarding the challenges faced by teachers in integrating AI tools into their teaching practices. The use of both survey and interview ensured a more comprehensive understanding of the current instructional landscape in relation to AI.

Data Collection Procedure

In order to gather the needed data from the respondents, the researcher sent approval letters to the Schools Division Superintendent (SDS) of SDO Santo Tomas City. When the approval letter returned, the researcher sent a letter to the school's principal attached to the

approval letter from the SDS. With the school head's permission, the questionnaires were reproduced and distributed to the Araling Panlipunan teachers of SDO Santo Tomas City.

Permission was secured from relevant authorities prior to data collection. Throughout the data collection process, strict adherence to ethical research standards and data privacy was observed. The respondents were properly informed about the purpose of the study, the voluntary nature of their participation, and the confidentiality of their responses. Clear procedures for data collection, storage, and usage were implemented to ensure the integrity and protection of all gathered information.

After the retrieval of the questionnaires, the responses were checked for completeness, then systematically tallied, classified, and tabulated. The data were encoded and analyzed using a four-point Likert scale, where 1 represented the lowest rating and 4 represented the highest, to appropriately interpret the respondents' assessments.

Data Analysis

Statistical procedures were used to interpret the results gathered from the respondents of the study. This study used the statistical treatment of data such as ranking, weighted mean, and Person's *r*.

Ranking. This is used to determine the positional importance of the response to items answered.

Weighted mean. It refers to the arithmetic average of the overall response of the respondents.

Pearson's *r* coefficient of correlation. This study used Pearson's *r* coefficient of correlation to examine how different aspects of AI tools utilization such as in lesson planning and content delivery, assessment and feedback, interactive multimedia use and classroom management and collaboration affect Araling Panlipunan instruction. Through this statistical approach, the study identified the significant relationship between the assessments of teachers' proficiency in using AI tools and on their integration of AI in their instructional practices in Araling Panlipunan.

RESULTS AND DISCUSSION

1. Teachers' Level of Artificial Intelligence Proficiency

1.1 Knowledge and Skills

As shown in Table 1, teachers demonstrated moderate proficiency in contextualizing AI generated content for Araling Panlipunan, with the highest-rated competency being the ability to recommend relevant case studies on societal issues (WM = 3.00). This finding suggests that teachers are capable of making abstract social studies concepts dynamic and locally meaningful, bridging global events to Filipino contexts, though consistency is needed to move beyond moderate integration. Closely related skills included aligning content with 21st-century themes such as globalization, technology, and social change (WM = 2.99) and checking AI outputs against K to 12 standards (WM = 2.97). These results resonate with recent Philippine studies (Santos et al., 2024; Cruz et al., 2024), which highlight teachers' effective use of AI to generate localized, curriculum-aligned, and socially relevant materials.

By contrast, the lowest proficiency was observed in contextualizing global events for classroom discussion (WM = 2.79), adapting content to age-appropriate levels (WM = 2.82), and deepening lesson content through AI integration (WM = 2.83). These limitations restrict students' global awareness, critical analysis, and engagement, particularly in a discipline that relies on connecting world events to national issues to foster informed citizenship. The difficulty in adapting AI outputs to learners' cognitive levels also risks disengagement or confusion, while limited integration reduces opportunities to enrich discussions on current issues. This pattern suggests that while teachers can filter and identify relevant AI content, they require structured scaffolding to adapt outputs for deeper inquiry and analysis.

Table 1
Teachers' Level of Artificial Intelligence Proficiency
in Terms of Knowledge and Skills

	WM	VI	RANK
1.use AI to find updated content for Araling Panlipunan topics.(e.g., sociological trends)	2.99	MP	2
2.consult AI tools for localized and context-based information. .(e.g., historical analysis)	2.90	MP	7
3.use AI to contextualize global events for classroom discussion.	2.79	MP	10
4.rely on AI to align content with 21st-century issues.	2.96	MP	4.5
5.use AI to ensure content fits the age level of my learners.	2.82	MP	9
6.use AI to supplement textbooks with more relevant examples.(e.g., geographical mapping)	2.94	MP	6
7.integrate AI suggestions to enhance the depth of lesson content.	2.83	MP	8
8.assess the alignment of AI-generated content with K to 12 standards.	2.97	MP	3
9.use AI to recommend case studies related to current societal issues.	3.00	MP	1
10.evaluate the credibility of AI-recommended content.	2.96	MP	4.5
COMPOSITE	2.91	MP	

*Legend: **HP** (Highly Proficient), **MP** (Moderately Proficient (2.50-3.49), **SP** (Slightly Proficient), **LP** (Least Proficient)*

Taken together, the results highlighted teachers' strong skills in content alignment and civic relevance but weaker capacities in global contextualization and age-fitting. This imbalance underscores the need for targeted professional development to strengthen AI-supported disciplinary inquiry in Araling Panlipunan, consistent with calls for teacher upskilling in recent literature (Lacuna, 2025; Purnama et al., 2025). Such training would enable teachers to maximize AI's pedagogical value, ensuring that integration supports both localized relevance and global awareness in civic education.

1.2 Confidence in Application

As demonstrated in Table 2, teachers expressed optimism about AI's pedagogical potential, with the highest-rated belief that AI can enhance learning outcomes through exploration and application of interactive tools (WM = 2.98). Related strengths included the ability to assess appropriate AI tools for Araling Panlipunan objectives (WM = 2.95) and overcoming anxieties in AI use (WM = 2.91). This pattern reflects psychological readiness and perceived ease of use as key adoption drivers, aligning with prior studies (Woodruff et al., 2025; Viberg et al., 2023) that emphasize confidence as a stronger predictor of adoption than technical familiarity.

By contrast, lower ratings were observed in access to training programs (WM = 2.62), use of AI-powered prompts (WM = 2.72), and operation of AI software (WM = 2.73), highlighting gaps in practical exposure and technical competence. These findings confirm earlier research (Ramos, 2022; Rodrigo et al., 2024) that capacity-building is essential for strengthening teacher self-efficacy.

Table 2
Teachers' Level of Artificial Intelligence Proficiency
in Terms of Confidence in Application

	WM	VI	RANK
1.am confident in my ability to assess the accurate and appropriate AI tools for specific Araling Panlipunan learning objectives	2.95	MP	2
2.can operate various AI software and platforms relevant to Araling Panlipunan education	2.73	MP	8
3.can troubleshoot technical issues that may arise when using AI tools in the classroom	2.76	MP	6.5
4.can overcome anxieties related to using AI in teaching	2.91	MP	3

5.have adequate access to hardware, software, and institutional support necessary for integrating AI into your Araling Panlipunan curriculum	2.76	MP	6.5
6.can detect and report cyber threats, such as phishing attempts	2.85	MP	4
7.use AI-powered discussion prompts and activities into my Araling Panlipunan lessons	2.72	MP	9
8.possess the necessary skill to adapt to AI tools effectively to meet specific pedagogical needs of Araling Panlipunan	2.82	MP	5
9.attend to training programs relevant to AI integration in the classroom	2.62	MP	10
10.believe I can enhance the learning outcomes through exploration and application of AI tools	2.98	MP	1
COMPOSITE	2.81	MP	

*Legend: **HP** (Highly Proficient), **MP** (Moderately Proficient (2.50-3.49), **SP** (Slightly Proficient), **LP** (Least Proficient)*

Overall, while teachers believe in AI's benefits and show readiness to adopt, limited training access and operational skills remain barriers. For Araling Panlipunan, this underscores the need for practice-oriented, subject-specific training modules that build operational competence, confidence in designing AI-supported prompts, and sustained engagement in upskilling—moving beyond generic workshops toward deeper, discipline based integration.

1.3 Ethical Awareness

As shown in Table 3, teachers demonstrated their strongest proficiency in ethical awareness, with the highest-rated item reflecting their ability to protect student privacy when using AI for assessment and feedback (WM = 3.30). They also showed capacity to detect harmful stereotypes in AI-generated content (WM = 3.28) and awareness of AI's impact on privacy and bias (WM = 3.23). These findings align with UNESCO's AI Competency Framework (2024) and prior studies (Holmes et al., 2021; Ifenthaler, 2025), underscoring ethics as a core dimension of AI proficiency. In Araling Panlipunan, where representation and social justice are central, such ethical preparedness provides a strong foundation for responsible AI use in civic and cultural discussions.

Table 3
Teachers' Level of Artificial Intelligence Proficiency
in Terms of Ethical Awareness

	WM	VI	RANK
1. understand AI's impact on privacy and bias in education.	3.23	MP	3
2. can identify ethical issues when using AI for grading student work	3.16	MP	4
3. promote responsible AI use by teaching students to verify AI outputs against credible sources during civic education activities	3.10	MP	6
4. can identify cultural or historical biases in AI generated content about Philippine history and governance for Araling Panlipunan lessons	3.05	MP	7
5. understand how to protect student privacy when using AI tools for assessments or personalized feedback in social studies classes	3.30	MP	1
6. recognize when AI-generated materials may perpetuate stereotypes in discussions of Filipino culture and society	3.28	MP	2
7. ensure equitable access to AI tools in my classroom, addressing digital divides among Araling Panlipunan students.	3.03	MP	9
8. can explain data ethics requirements when using student performance data with AI analytics for lesson improvement	3.13	MP	5
9. intervene appropriately when AI tools produce inaccurate or misleading information about Philippine social issues.	3.04	MP	8
10. model ethical AI practices by disclosing AI use to students and parents in my instructional planning.	2.97	MP	10
COMPOSITE	3.13	MP	

*Legend: **HP** (Highly Proficient), **MP** (Moderately Proficient (2.50-3.49), **SP** (Slightly Proficient), **LP** (Least Proficient)*

By contrast, lower scores were observed in modeling ethical practices through disclosure of AI use (WM = 2.97), ensuring equitable access (WM = 3.03), and intervening when AI produces inaccurate information (WM = 3.04). These results highlight challenges in translating ethical awareness into consistent classroom practice, particularly in transparency and inclusivity. As noted in Philippine studies (Lacuna, 2025; Villarino, 2025), teachers recognize ethical concerns but often feel unprepared to address them systematically.

Overall, while educators displayed moderate AI proficiency, their strongest dimension is ethical awareness. This strength positions them to safely integrate AI into civic education, but targeted training is needed to bridge the gap between conceptual understanding and applied practice, enabling fuller transformative potential in Araling Panlipunan instruction.

2. Extent of Integration of AI tools in Planning and Delivering Araling Panlipunan Lessons

2.1 AI Tools for Lesson Planning and Content Delivery

Table 4
Extent of AI Tools Integration in
Instructional Practices with respect to
Lesson Planning and Content Delivery

	WM	VI	RANK
1.use AI-powered tools to create comprehensive and engaging lesson plan and project based activities	2.83	MI	4
2.am assisted by AI tools in determining appropriate pacing for Araling Panlipunan lessons	2.68	MI	9
3.rely on AI tools to align my content to the learning objectives and curriculum standards for Araling Panlipunan	2.64	MI	10
4.utilize AI tools in creating student-centered lesson plans in Araling Panlipunan.	2.78	MI	6.5
5.use AI to facilitate in research to enrich content and gather information	3.20	MI	1
6.am able to use AI-powered tools (e.g., AI video generators, interactive simulations) to create or enhance multimedia content for delivering Araling Panlipunan lessons	2.78	MI	6.5
7.use AI tools to create dynamic maps, interactive timelines or chronologies for Araling Panlipunan topics	2.84	MI	2.5
8.use AI-powered educational games or gasified simulations into your Araling Panlipunan instruction to facilitate discussions	2.84	MI	2.5

9.use AI to differentiate content with diverse learning needs(e.g., adaptive learning paths, customized explanation)	2.82	MI	5
10.use AI tools to generate real-time assessments for the lesson content in Araling Panlipunan.	2.77	MI	8
COMPOSITE	2.82	MI	

*Legend: **HI** (Highly Integrated), **MI** (Moderately Integrated (2.50-3.49), **SI** (Slightly Integrated), **LI** (Least Integrated)*

As demonstrated in Table 4, teachers reported moderate integration of AI tools in lesson planning and content delivery (composite WM = 2.82), indicating regular but not extensive use. The highest-rated practice was using AI to facilitate research and enrich content (WM = 3.20), reflecting teachers' reliance on AI as a research assistant to update and contextualize Araling Panlipunan materials. Moderately high ratings were also observed in creating dynamic maps and timelines (WM = 2.84) and integrating AI-powered educational games (WM = 2.84), consistent with prior studies (Garcia & Wang, 2024; Pangan et al., 2025) on multimedia AI in social studies. These results suggest that teachers' proficiency is concentrated in technical material tasks, while deeper competencies such as aligning AI outputs with objectives or evaluating bias remain less developed (Chen et al., 2020; Kucirkova & Cremin, 2021).

Lower ratings were recorded in aligning AI content with curriculum standards (WM = 2.64), determining lesson pacing (WM = 2.68), and using AI for real-time assessment (WM = 2.77). These findings highlight partial success in mapping societal topics to DepEd standards and echo challenges noted by Dizon (2023) regarding cultural relevance in AI outputs. The pattern mirrors confidence gaps observed in application skills, where teachers feel capable of selecting tools but less confident in operating multiple platforms or designing complex AI-integrated activities (Viberg et al., 2023; Alonzo et al., 2020).

Overall, AI is present in teacher planning and content delivery but remains at a developing stage of integration—used primarily as a support tool rather than a transformative instrument for curriculum design.

2.2 AI Tools for Assessment and Feedback

Table 5
Extent of AI Tools Integration in
Instructional Practices with respect to
Assessment and Feedback

	WM	V	RANK
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		I	
1.use AI tools to customize test formats based on student needs in Araling Panlipunan. (e.g., multiple-choice, true/false, matching type questions)	2.88	MI	3
2.can use AI tools to create quizzes for Araling Panlipunan assessments.	2.86	MI	5
3.feel confident using AI tools to create essay and higher order thinking skills (HOTS) questions for Araling Panlipunan assessments.	2.87	MI	4
4.use AI tools to assist in creating personalized learning paths or targeted intervention for students	2.89	MI	2
5.use AI-powered grading software to provide automated feedback on student work (e.g., zip grade)	2.79	MI	8
6.use AI tools to analyze and interpret the results of assessments in Araling Panlipunan.	2.82	MI	7
7.feel comfortable using AI to ensure validity and reliability in assessments for Araling Panlipunan.	2.72	MI	10
8.integrate AI-powered plagiarism checkers into my assessment process	2.77	MI	9
9.believe AI enhance the overall efficiency and accuracy of assessment and feedback in my Araling Panlipunan instruction	2.83	MI	6
10.am aware of the ethical considerations when using AI tools for assessment in Araling Panlipunan.	3.09	MI	1
COMPOSITE	2.85	MI	

*Legend: **HI** (Highly Integrated), **MI** (Moderately Integrated (2.50-3.49), **SI** (Slightly Integrated), **LI** (Least Integrated)*

As shown in Table 5, teachers reported moderate integration of AI tools in assessment and feedback practices (composite WM = 2.85), indicating regular but not extensive use. The highest-rated item reflected strong ethical awareness, with teachers prioritizing student privacy in AI-based assessments (WM = 3.09). Closely related competencies included detecting harmful

stereotypes (WM = 3.28) and recognizing AI's impact on privacy and bias (WM = 3.23), aligning with UNESCO's AI Competency Framework (2024) and prior studies (Holmes et al., 2021; Ifenthaler, 2025). Moderate ratings for personalized learning paths (WM = 2.89) and customized test formats (WM = 2.88) suggest emerging but selective confidence in tailored interventions, consistent with findings that AI can support differentiation and timely feedback (Santos et al., 2023; Li & Ma, 2021).

Lower scores were observed in using AI for high-stakes assessments (WM = 2.72), plagiarism detection (WM = 2.77), and automated grading (WM = 2.79), reflecting teacher caution about validity, reliability, and fairness. These results highlight reliance on human judgment for complex civic arguments and sociocultural issues, echoing Ifenthaler & Schumacher (2021) on the need for teacher oversight in higher-order tasks.

Overall, teachers recognized AI's value for assessment but remain cautious, a stance that reflects professional responsibility and ensures trust in culturally sensitive contexts like Araling Panlipunan. While ethical awareness provides a strong foundation, more specialized training is needed to translate this awareness into systematic practice, particularly in aligning AI with higher-order skills assessment and psychometric quality.

2.3 AI Tools for Interactive and Multimedia use

Table 6
Extent of AI Tools Integration in
Instructional Practices with respect to
Interactive and Multimedia use

	WM	V I	RANK
1.am able to use AI tools such as Canva to develop presentation slides for Araling Panlipunan lessons.	3.09	MI	3
2.use AI to create multimedia resources (e.g., videos, images, audio clips, animations) for Araling Panlipunan lessons	3.17	MI	2
3.use AI tools to create simulations or virtual reality experiences for Araling Panlipunan	2.94	MI	4
4.use AI tools to develop interactive maps and timelines for Araling Panlipunan.	2.89	MI	6.5
5.use AI to develop visual aids (e.g., charts, info graphs, interactive diagrams) to support Araling Panlipunan lessons.	3.19	MI	1
6.use AI to generate digital storytelling and study guides for Araling Panlipunan lessons.	2.84	MI	8

7.use AI tools to create interactive quizzes and flashcards as instructional resources in Araling Panlipunan.	2.83	MI	9
8. use AI tools to incorporate gamified elements (e.g., points, badge, and merit or reward card) for Araling Panlipunan.	2.82	MI	10
9.utilize AI tools in personalizing learning materials for individual students in Araling Panlipunan.	2.89	MI	6.5
10.am confident in using AI to create content that aligns with students' interests in Araling Panlipunan	2.91	MI	5
COMPOSITE	2.96	MI	

*Legend: **HI** (Highly Integrated), **MI** (Moderately Integrated (2.50-3.49), **SI** (Slightly Integrated), **LI** (Least Integrated)*

As demonstrated in Table 6, teachers reported the highest integration of AI tools in interactive and multimedia instruction (composite WM = 2.96), interpreted as moderately integrated. The strongest practices included developing visual aids (WM = 3.19), creating multimedia resources (WM = 3.17), and designing AI-assisted presentation slides (WM = 3.09). These clustered ratings suggest that visualization is core strength, with teachers leveraging AI to produce charts, infographics, videos, and interactive diagrams that enhance engagement. Prior studies (Garcia & Wang, 2024; Pangan et al., 2025; Santos & Villanueva, 2021) confirm that AI-powered visuals deepen conceptual understanding in history and social studies, highlighting teachers' comfort with AI as a multimedia assistant for enriching Araling Panlipunan content.

Lower ratings were observed in gamified elements (WM = 2.82), interactive quizzes and flashcards (WM = 2.83), and digital storytelling or study guides (WM = 2.84). These results indicate that while teachers are adopting AI for engagement-oriented practices, student centered interactivity remains emerging rather than routine. This pattern reflects Engagement Theory, where AI-driven visuals serve as a gateway to deeper pedagogical integration but have not yet expanded into highly interactive, game-like, or narrative-rich learning experiences.

Overall, teachers treat AI primarily as a tool for visualization and presentation, which suits the visually demanding nature of Araling Panlipunan, but systematic training is needed to extend integration toward interactive strategies that foster critical thinking and civic engagement.

2.4 AI Tools for Classroom Management and Collaboration

Table 7
Extent of AI Tools Integration in
Instructional Practices with respect to
Classroom Management and Collaboration

	WM	V I	RANK
1.utilize online collaboration platforms to facilitate communication with students, parents, stakeholders and the community	3.02	MI	3
2.am confident in using AI to track student behavior and expectations and establish classroom routines	2.88	MI	7
3.use AI tools to monitor classroom data (participation, assignment completions) to improve student engagement	2.84	MI	9
4.utilize AI tools to analyze management strategies	2.90	MI	5.5
5.assess AI recommendations to ensure vertical articulation and sequencing of topics.	2.87	MI	8
6.make sure AI-generated materials support summative assessments	2.82	MI	10
7.use AI to review interdisciplinary connections in Araling Panlipunan strands.	2.90	MI	5.5
8.verify that AI content corresponds to MELCs and curriculum standards	2.93	MI	4
9. cross-check AI suggestions with Department of Education	3.09	MI	1

standards.			
10.use AI tools to maintain fidelity to the national curriculum.	3.03	MI	2
COMPOSITE	2.93	MI	

*Legend: **HI** (Highly Integrated), **MI** (Moderately Integrated (2.50-3.49), **SI** (Slightly Integrated), **LI** (Least Integrated)*

As shown in Table 7, teachers reported moderate integration of AI tools in classroom management and curriculum governance (composite WM = 2.85), with the highest-rated practice being cross-checking AI suggestions against Department of Education standards (WM = 3.09). This reflects strong curriculum consciousness, where AI is treated as a support rather than a substitute for DepEd benchmarks, consistent with UNESCO (2024) and DepEd (2025) emphasis on curriculum fidelity. Closely following were AI-assisted collaboration platforms for communication with students, parents, and communities (WM = 3.03; WM = 3.02), highlighting AI's efficiency in stakeholder engagement and classroom management, as noted by Alam & Ahmad (2023) and Garcia (2023). These results suggest that teachers are confident in using AI to reinforce curriculum alignment and maintain communication channels, situating AI as a supportive tool for governance and engagement.

Lower ratings were observed in AI use for summative assessment support (WM = 2.82), participation monitoring (WM = 2.84), and behavior tracking (WM = 2.88), reflecting cautious integration in direct management functions. This hesitation aligns with Costa et al. (2025), who noted teacher concerns about overreliance on AI for monitoring and evaluation.

Overall, AI integration across domains remains moderate, with teachers in a transitional phase where adoption is more engagement-focused than instructional-depth focused. Teachers primarily treat AI as a multimedia assistant and curriculum support tool, but greater institutional backing and ethics-sensitive professional development are needed to extend integration toward data-informed classroom management while safeguarding privacy, autonomy, and student dignity.

3. Relationship between teachers' level of proficiency of use of AI tools and their extent of integration of AI tools

Table 8
Relationship between the Assessments of Teachers' AI Proficiency and on the Extent of AI Tools Integration In Instructional Practices in Araling Panlipunan

r
value Degree
p
value
Decision on

H0 Interpretation

AI Tools for Lesson Planning and Content Delivery

Knowledge and skills .505 Moderate <.001 Reject Significant Confidence in

application .635 Strong <.001 Reject Significant Ethical awareness .558 Moderate <.001 Reject Significant

Table 8 revealed a consistent positive and significant relationship between teachers' AI proficiency and the integration of AI tools in instructional practices, particularly in lesson planning and content delivery. Confidence in application emerged as the strongest predictor, followed by ethical awareness and knowledge and skills. The largest coefficient indicated that teachers who feel confident in using AI are significantly more likely to integrate it into classroom practice, underscoring self-efficacy as a critical driver of adoption. This finding aligns with Self-Efficacy Theory and prior studies (Liu, 2025; Viberg et al., 2023; Woodruff et al., 2025), which emphasize that perceived utility and confidence outweigh mere technical familiarity in shaping technology use.

Ethical awareness also showed a moderate but meaningful relationship, suggesting that teachers who are sensitive to AI's ethical implications integrate tools more responsibly, consistent with UNESCO's (2024) emphasis on ethics as a core dimension of AI proficiency. Technical knowledge and skills demonstrated the smallest yet still significant coefficient, reinforcing the TPACK framework's view that knowledge supports integration but is insufficient without confidence and ethical grounding.

Overall, the results highlighted confidence as the most influential factor in translating proficiency into practice, with ethical awareness and technical knowledge providing complementary support. For Araling Panlipunan teachers, this implies that while competence and ethics matter, building confidence through targeted training is essential to move AI from supportive use toward transformative integration in lesson planning and delivery.

Table 9
Relationship between the Assessments of Teachers'
AI Proficiency and on the Extent of AI Tools Integration
In Instructional Practices in Araling Panlipunan

r
value Degree
AI Tools for Assessment and Feedback
p
value
Decision on

H0 Interpretation

Knowledge and skills .555 Moderate <.001 Reject Significant Confidence in
application .694 Strong <.001 Reject Significant Ethical awareness .603 Strong <.001
Reject Significant

Table 9 revealed a statistically significant relationship between teachers' AI proficiency and their integration of AI tools in assessment and feedback, with confidence in application emerging as the strongest predictor ($r = .694$). This finding underscores self-efficacy as a critical driver of adoption, consistent with Technology Acceptance and Self-Efficacy Theory, which emphasize perceived ease of use and confidence over mere technical awareness (Liu, 2025; Viberg et al., 2023; Woodruff et al., 2025). Teachers who feel capable of applying AI are more

likely to embed it in grading, test design, and feedback processes, highlighting confidence as the decisive factor in translating competence into practice.

Ethical awareness also showed a strong relationship, indicating that teachers who prioritize fairness, accuracy, and privacy integrate AI more responsibly in assessment, aligning with UNESCO (2024) and Bender et al. (2021). Technical knowledge and skills demonstrated a moderate but positive correlation, reinforcing the TPACK framework's view that knowledge supports integration but is insufficient without confidence and ethical grounding.

Overall, the results emphasized that confidence and ethical awareness are interdependent pillars of effective AI adoption in evaluative practices. For Araling Panlipunan teachers, this

interplay ensures that AI integration balances capability with responsibility, underscoring the need for training programs that simultaneously build confidence and embed ethical safeguards to strengthen validity, fairness, and cultural relevance in assessment.

Table 10
Relationship between the Assessments of Teachers'
AI Proficiency and on the Extent of AI Tools Integration
In Instructional Practices in Araling Panlipunan

r
value Degree
AI Tools for Interactive and Multimedia
p
value
Decision on

H0 Interpretation

Knowledge and skills .387 Weak <.001 Reject Significant Confidence in application .513 Moderate <.001 Reject Significant Ethical awareness .444 Moderate <.001 Reject Significant

Table 10 revealed a statistically significant relationship between teachers' AI proficiency and their integration of AI tools for interactive and multimedia instruction, though the correlations ranged from weak to moderate. Confidence in application showed the strongest association, indicating that teachers who feel comfortable operating AI tools, troubleshooting minor issues, and experimenting with features such as dynamic maps, timelines, and diagrams are more likely to embed AI into interactive tasks. Ethical awareness also demonstrated a moderate relationship, suggesting that teachers who are sensitive to issues of privacy, stereotyping, and student agency integrate multimedia tools more responsibly, consistent with UNESCO's (2024) emphasis on ethics in digital education.

By contrast, knowledge and skills showed only a weak correlation, implying that technical familiarity alone does not strongly predict integration of multimedia AI tools. This may reflect the intuitive, platform-driven nature of tools like Canva or CapCut, which allow teachers to

create rich visuals with relatively low technical barriers.

Overall, the findings highlighted confidence as the key driver of integration, with ethical awareness supporting responsible use and knowledge providing modest contributions. The weaker correlations compared to other domains suggest that interactive and multimedia integration may be shaped by contextual factors such as resource access, time, and training. These results underscore the need for professional development that builds confidence and embeds ethical safeguards, enabling teachers to move beyond AI as a visual assistant toward deeper, student-centered interactivity in Araling Panlipunan instruction.

Table 11
Relationship between the Assessments of Teachers’
AI Proficiency and on the Extent of AI Tools Integration
In Instructional Practices in Araling Panlipunan

r
value Degree
p
value
Decision on

H0 Interpretation

AI Tools for Classroom Management and Collaboration

Knowledge and skills .418 Moderate <.001 Reject Significant
Confidence in
application .587 Moderate <.001 Reject Significant Ethical awareness .555 Moderate
<.001 Reject Significant

Table 11 revealed a statistically significant relationship between teachers’ AI proficiency and their integration of AI tools for classroom management and collaboration, confirming that proficiency meaningfully influences the use of AI in managing activities and facilitating collaborative learning in Araling Panlipunan. Confidence in application showed the strongest correlation, indicating that teachers who feel capable of operating AI platforms, tracking classroom data, and maintaining curriculum fidelity are more likely to embed AI into daily routines. This finding reinforces self-efficacy as a critical driver of adoption, highlighting confidence as the most influential factor in encouraging teachers to apply AI in managing student interaction and engagement.

Ethical awareness also demonstrated a moderate positive relationship, underscoring the importance of responsible technology use in fostering safe and effective collaboration. Teachers attentive to ethical issues were more likely to integrate AI for curriculum alignment, stakeholder communication, and collaborative platforms in ways that safeguard trust and inclusivity. Knowledge and skills showed the weakest but still meaningful correlation, consistent with the TPACK framework, suggesting that technical competence supports integration but requires

confidence and ethical grounding to be fully effective.

Overall, the consistent moderate correlations across all domains highlighted confidence as the most critical determinant of AI integration, supported by ethical awareness and knowledge. This pattern reinforces the theoretical link between self-efficacy and instructional innovation, suggesting that strengthening confidence alongside ethics and competence will enable teachers to harness AI more effectively for engagement, collaboration, and learning outcomes in Araling Panlipunan.

4. Challenges encountered in using AI tools in Araling Panlipunan instruction.

Table 12
Challenges encountered in using AI tools in
Araling Panlipunan Instruction

	WM	V I	RANK
1.struggle with internet access or technological infrastructures for AI use. (e.g., reliable internet, sufficient device)	2.98	A	3
2.have limited training designed specifically for Araling Panlipunan content	2.86	A	6
3.receive limited professional development on AI use.	2.87	A	5
4.lack institutional support in exploring AI application on local context and cultural nuances	2.80	A	8.5
5.have trouble in staying updated with rapid advancements and selecting appropriate AI tools.	2.79	A	10
6.find it hard to balance AI use and traditional strategies.	2.84	A	7
7.find it challenging to assess the accuracy and reliability of AI-generated content.	2.80	A	8.5
8.fear overreliance on AI might hinder my critical thinking skills	3.01	A	1
9.am concerned about ethical issues, clear policies when using AI in education.	3.00	A	2
10.find it difficult to ensure data privacy and academic integrity when using AI tools.	2.89	A	4

COMPOSITE	2.88	A	
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Legend: SA (Strongly Agree), A (Agree (2.50-3.49), D (Disagree), SD (Strongly Disagree)

As shown in Table 12, teachers expressed notable concerns about AI overreliance, with the highest-rated item (WM = 3.01) reflecting fears that dependence on AI could erode critical thinking and weaken professional judgment in addressing complex societal topics in Araling Panlipunan. These anxieties mirror Selwyn (2022) and Popenici & Kerr (2020), who warned that unchecked reliance may undermine teacher agency, and align with Alshahrani & Ward (2023) on adoption fatigue amid rapid technological change. Parallel concerns about ethical issues and unclear policies (WM = 3.00) further highlight uncertainty around academic integrity, plagiarism, and student privacy, consistent with UNESCO (2024) and Bender et al. (2021) on the need for clear frameworks to bridge awareness and practice.

Taken together, these concerns revealed not only technical hurdles but deeper professional anxieties over judgment erosion and absent localized guidelines. Echoing Floridi & Chiriatti (2020) on culturally detached AI outputs, teachers worry that without contextual safeguards, AI may constrain equitable access and weaken its role in contextualizing societal issues. Despite strengths in ethical awareness and confidence in application, these blockers underscore the importance of institutional support and policy clarity to ensure AI integration strengthens, rather than diminishes, teacher agency in civic and cultural education.

5. Proposed Teacher Training Activities

Based on the study's findings, teachers demonstrated moderate integration of AI tools across instructional domains, with confidence in application and ethical awareness emerging as the strongest predictors of effective use. However, gaps were observed in operational skills, curriculum alignment, and interactive pedagogy. To address these, the following training activities are proposed. These activities aims to update pedagogical knowledge, strengthen classroom management skills, and improve student learning outcomes. In the Philippine context, these activities align with the Department of Education's (DepEd) frameworks and national Continuing Professional Development (CPD) laws, ensuring that teacher growth is sustained, ethical, and responsive to evolving instructional demands.

Discussion

The study revealed that Araling Panlipunan teachers possess a moderate level of AI proficiency, with ethical awareness emerging as their strongest dimension. Teachers demonstrated high sensitivity to issues of privacy, bias, and cultural representation, consistent with UNESCO's (2024) emphasis on ethics as a core competency in AI use. However, confidence in application was the weakest dimension, reflecting hesitation in operating AI platforms and designing complex AI-integrated activities. This finding aligns with Self-Efficacy Theory, which posits that confidence is a critical determinant of

technology adoption. Teachers' ethical preparedness provides a strong foundation for responsible AI use, but confidence gaps hinder full integration into instructional practice.

In terms of extent of integration, AI tools were most frequently used for interactive and multimedia instruction, particularly in creating visuals, presentations, and simulations. This suggests that teachers are more comfortable employing AI for engagement-oriented tasks, consistent with Engagement Theory, which highlights the role of interactive strategies in fostering student motivation. Conversely, lesson planning and content delivery showed the weakest integration, with teachers struggling to align AI outputs with curriculum standards and lesson pacing. Assessment and feedback practices reflected cautious adoption, with teachers using AI for personalized learning paths and quiz creation but hesitating to rely on AI for high-stakes evaluation, plagiarism detection, or automated grading. Classroom management and collaboration also showed moderate integration, with teachers using AI platforms for communication and monitoring but remaining cautious about intensive tracking functions.

The relationship analysis confirmed that teachers' AI proficiency significantly influences integration across domains. Confidence in application consistently showed the strongest correlations, reinforcing the theoretical link between self-efficacy and instructional innovation (Liu, 2025; Viberg et al., 2023). Ethical awareness also demonstrated meaningful associations, suggesting that responsible use is not only a guiding principle but also a motivating factor in adoption. Knowledge and skills contributed positively but showed weaker correlations, particularly in multimedia integration, where user-friendly platforms reduce technical barriers. These findings highlight that confidence and ethics, more than technical knowledge alone, drive effective AI integration in Araling Panlipunan instruction.

Despite these strengths, teachers reported systemic challenges including infrastructure limitations, policy uncertainty, and fears of cognitive dependency. Concerns about overreliance on AI reflect anxieties over judgment erosion and adoption fatigue, echoing Selwyn (2022) and Popenici & Kerr (2020). Ethical concerns and unclear guidelines further constrain integration, underscoring the need for localized policies that safeguard academic integrity and cultural relevance. These barriers explain why both proficiency and integration remain at moderate levels, despite teachers' ethical awareness and willingness to experiment with AI tools.

In response, the study proposed an Enhancement Activity Manual to strengthen teachers' AI proficiency and instructional practices. The manual includes structured training activities across three core areas: AI Foundation (building baseline knowledge and confidence), AI TPACK in Araling Panlipunan (integrating technological, pedagogical, and content knowledge for curriculum fidelity), and Ethical and Sustainable Integration (embedding transparency, privacy safeguards, and responsible practices). These activities align with DepEd frameworks and national CPD laws, ensuring that professional development is continuous, context-sensitive, and ethically grounded. By addressing gaps in confidence, technical skills, and ethical application, the manual provides a pathway for teachers to move from moderate AI use toward transformative integration in Araling Panlipunan instruction.

Conclusion

Based on the findings, these were the following conclusions were drawn:

1. Teachers assessed themselves as moderately proficient in using AI.
2. AI tool integration in instructional practices was assessed as moderately integrated.
3. The assessments on the level of teachers' AI proficiency and on the extent of integration of AI tools in their instructional practices in Araling Panlipunan were significantly related.
4. The main challenges encountered by the teachers in using AI tools were as follows; fear of overreliance may hinder their critical thinking, ethical concerns and clear policies when using AI, and struggle with internet access or technological infrastructure.
5. The study confirms that AI proficiency improves teaching effectiveness. Hence, this study proposed an enhancement activity manual as a structured guide that provides strategies, rubrics, and activities to help teachers confidently adopt AI in their classrooms.

Recommendations

In light of the findings and conclusions, the following recommendations are proposed: 1.

- Authorities should review the proposed Enhancement Activity Manual before implementation to ensure alignment with DepEd frameworks and CPD requirements.
2. Teachers are encouraged to engage in continuous professional development focused on AI-TPACK. Building technical skills and confidence through hands-on practice is essential, alongside critically evaluating AI-generated content for accuracy, relevance, and cultural appropriateness.
3. School Administrators should provide structured AI training programs, workshops, and hands-on activities tailored to Araling Panlipunan. They must also ensure stable internet connectivity, adequate devices, appropriate AI tools, and clear school-level policies on privacy, data use, and academic integrity.
4. DepEd and Policy Makers should integrate structured AI competencies into teacher standards (e.g., PPST) and curriculum guides. National guidelines for ethical AI use must be developed to ensure inclusivity, equity, and sustainability, while supporting research-based AI integration models for social studies.
5. Future Researchers may explore qualitative insights into teacher experiences, investigate the impact of AI-integrated Araling Panlipunan instruction on student outcomes, and examine AI integration across different grade levels and subject areas.

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