

Bridging Pedagogy and Technology: Phenomenological Inquiry into the Experiences of Social Science Teachers Using AI-Enhanced Teaching Tools

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ABSTRACT

This study explored the lived experiences of Araling Panlipunan teachers in using Artificial Intelligence (AI)-enhanced teaching tools in classroom instruction at Magsaysay National High School, Schools Division of Occidental Mindoro. Anchored on the Technological Pedagogical Content Knowledge (TPACK) Framework and the Diffusion of Innovations Theory, the study sought to understand teachers' experiences in integrating AI, the challenges they encountered, and the meanings they attributed to its use in teaching. A qualitative descriptive phenomenological research design was employed involving seven Araling Panlipunan teachers with direct experience in using AI-enhanced teaching tools. Data were collected through semi-structured interviews and analyzed

using Colaizzi's seven-step phenomenological method. The findings revealed four major themes: (1) AI as an Efficiency Enhancer, (2) AI as an Instructional Support Tool, (3) AI for Student Engagement, and (4) AI for Conceptual Understanding. The study also identified challenges related to technological infrastructure, internet connectivity, access to digital resources, information reliability, ethical considerations, and teachers' readiness to integrate AI effectively into classroom instruction. The findings indicate that AI serves as a valuable pedagogical support tool that enhances teaching effectiveness and learner engagement when implemented responsibly and supported by adequate technological resources, continuous professional development, and ethical practices. Based on the findings, the study developed the AI-Enhanced Teaching Framework, which provides a contextually grounded guide for the ethical and effective integration of AI in Araling Panlipunan instruction. The study contributes to the growing body of knowledge on artificial intelligence in education by offering practical implications for teachers, school leaders, and policymakers in promoting meaningful and sustainable AI integration in Philippine basic education.

Keywords: *AI-enhanced teaching, AI-Enhanced Teaching Framework, Colaizzi's method, descriptive phenomenology, Diffusion of Innovations Theory, lived experiences, qualitative research, Social Science teachers, Technological Pedagogical Content Knowledge (TPACK).*

INTRODUCTION

The Philippine education system has gone through many changes in recent years to keep up with the fast-changing needs of society. One of the biggest changes in the 21st century is the increased use of technology to improve teaching and learning (Kushwaha et al., 2024). Among these new technologies, Artificial Intelligence (AI) has become one of the most influential. It is changing how teachers teach and

how students learn in classrooms around the world. Countries like South Korea, Singapore, Finland, the United States, China, Canada, Australia, members of the European Union, and Taiwan are now leading in the use of AI in education (Lake, 2023). In the Philippines, the Department of Education (DepEd) has also started major efforts to support AI integration, including the creation of the Education Center for AI Research (E-CAIR) in February 2025, the first AI research hub in Philippine education (DepEd Order No. 13, s. 2025).

As AI becomes more common, many schools now use AI tools to support teaching. These tools help teachers create content, check student work, personalize lessons, and analyze student progress. Zhao (2023) explains that AI-assisted tools include chatbots, virtual assistants, smart grading systems, adaptive platforms, and AI-powered learning management systems (Qazi et al., 2024). Kaswan et al. (2024) say that AI can help students learn at their own pace, while Mazari (2025) shares that AI can guide learners to think deeply and study independently through customized materials.

In Philippine Basic Education, especially Araling Panlipunan, AI can make lessons more interesting and meaningful. It can help teachers create virtual field trips, simulations of historical events, real-time analysis of news, and automatic lesson materials (Sánchez, 2024). A study by Renacido and Biray (2025) found that these tools increase student motivation and interest in history by making lessons more interactive. AI can also help create instructional contents and generate teaching strategies, enabling both teachers and students to experience enhanced teaching and learning experience (Falcis & Juaneza, 2026).

However, using AI in Araling Panlipunan classes also brings challenges. Many teachers struggle with limited digital skills, slow internet, lack of devices, and fear of trying new technology (Mehdaoui, 2024). The success of AI in the classroom depends greatly on teachers' attitudes, skills, and the support they receive from their schools (Torrato et al., 2020). There are also worries about data privacy, fairness of AI systems, and the possibility of relying too much on technology (Farooqi et al., 2024). To address these concerns, schools and institutions provide training on AI literacy, create peer-support groups, improve digital infrastructure, and offer technical assistance (Tomaskinova & Tomaskin, 2024). Teacher training programs are also encouraged to include digital ethics and responsible AI use (Chan, 2023).

Although many international studies have looked at AI in education, there is still very little research on the real experiences of Social Science teachers in the Philippines. Most studies focus on schools with good technology and resources, which may not reflect what happens in local classrooms. This is especially true in the case of Magsaysay National High School, where teachers have different levels of access to devices, internet, and technical support. Teachers' comfort with technology, confidence in using AI, and personal attitudes also affect how they use these tools in their daily teaching.

Despite the growing global interest in the integration of Artificial Intelligence (AI) in education, a significant gap remains in empirical research that examines the lived experiences of teachers within local Philippine classroom contexts, particularly in the teaching of Araling Panlipunan. Existing studies largely focus on technological capabilities, student learning outcomes, and institutional readiness for AI adoption. However, limited research explores how teachers personally experience, interpret, and adapt AI tools within their everyday instructional practices. Moreover, much of the available literature is centered on technologically advanced educational environments, providing little insight into how teachers in public secondary schools with varying levels of digital access, infrastructure, and institutional support navigate AI integration in their classrooms.

This gap underscores the need for a phenomenological investigation that captures the real experiences, challenges, coping strategies, and professional reflections of Social Science teachers using AI-enhanced teaching tools in Philippine classrooms. Understanding these experiences is essential for contextualizing AI integration within the realities of Philippine basic education.

In response to this gap, the present study aimed to explore the lived experiences of Social Science teachers using AI-enhanced teaching tools in the teaching of Araling Panlipunan. Specifically, the study examined the challenges teachers encounter, the strategies they employ to overcome these challenges, and

their perceptions of the role of AI in their instructional practices. The findings were expected to provide valuable insights for school leaders, curriculum planners, and policymakers regarding the impact of AI on teaching and learning processes. Ultimately, the study sought to develop a practical and contextually grounded framework that can guide schools in the responsible and effective integration of AI tools in Junior High School Araling Panlipunan instruction.

Theoretical Lens

This study was guided by two theoretical lenses that helped explain the experiences of Social Science teachers using AI-enhanced teaching tools in the teaching of Araling Panlipunan. These theoretical perspectives provided the foundation for understanding how teachers integrate emerging technologies into their instructional practices and how they adopt innovations in the classroom. Both frameworks aligned with the phenomenological research design of the study, which focused on understanding and interpreting the lived experiences of teachers as they engage with AI tools in their teaching.

The first theoretical lens was the Technological Pedagogical Content Knowledge (TPACK) framework. TPACK emphasizes the integration of three essential domains of teacher knowledge: content knowledge (what teachers teach), pedagogical knowledge (how teachers teach), and technological knowledge (the digital tools that support learning) (Latip et al., 2023). Effective technology integration occurs when teachers are able to meaningfully combine these three forms of knowledge in instructional practice. In the context of this study, the TPACK framework helped explain how Social Science Teachers integrate AI technologies with their subject expertise and teaching strategies to enhance student learning. Through the phenomenological approach, the study explored how teachers experience this integration process in real classroom settings, including how they utilize AI tools for lesson preparation, instructional delivery, and assessment development.

The second theoretical lens was the Diffusion of Innovations Theory developed by Rogers (2003). This theory explains how new ideas, technologies, or practices are introduced, adopted, and eventually become part of regular practice within a social system. It emphasizes factors that influence adoption, such as perceived usefulness, ease of use, social influence, and the availability of institutional support (Yu, 2022). This theory is particularly relevant to the present study because AI-enhanced teaching tools represent a relatively new innovation in Philippine classrooms. Teachers' adoption of these tools is influenced not only by their technological skills but also by their perceptions, attitudes, and the support provided by their schools and professional communities.

With the integration of these two theoretical lenses, the study provided a comprehensive perspective on AI integration in education. The TPACK framework explained how teachers combine technology, pedagogy, and content knowledge in their instructional practices, while the Diffusion of Innovations theory explained the process through which teachers adopt and adapt AI technologies in their teaching environment. Together, these frameworks helped illuminate both the instructional and social dimensions of AI integration in the classroom.

Anchored in these theoretical perspectives, the study explored the lived experiences of Social Science teachers in using AI-enhanced teaching tools in Araling Panlipunan. Through a phenomenological inquiry, the research captured how teachers interpret, experience, and adapt AI technologies within their teaching contexts. The integration of these theoretical lenses also supported the development of the study's conceptual framework, which illustrated how teachers' most significant experiences lead to formulated meanings, emergent themes, and ultimately the development of an AI-Enhanced Teaching Framework grounded in real classroom practices.

Conceptual Framework

The conceptual framework of this study was developed based on the synthesis of literature and studies presented in Chapter 2, which emphasize the growing integration of Artificial Intelligence (AI) in teaching practices and the challenges teachers encounter in adopting new technologies in the classroom. Previous studies highlighted that while AI tools can support lesson preparation, assessment development, and student engagement, teachers' readiness, technological competence, and contextual realities significantly influence how these technologies are integrated into instruction. These insights from the literature indicated the need to examine teachers' actual experiences in using AI tools, particularly in the teaching of Araling Panlipunan.

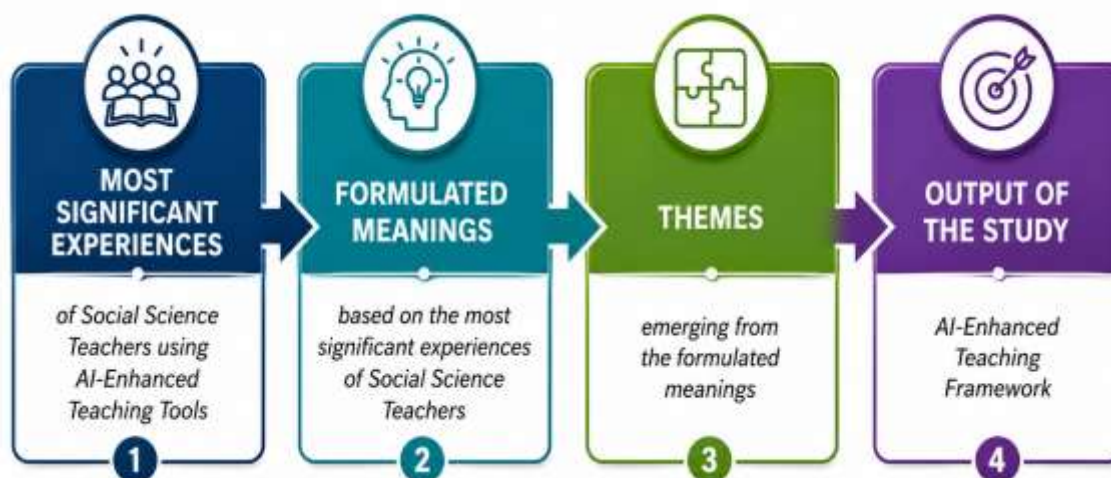


Figure 1. *The Conceptual Framework*

Guided by these insights, the conceptual framework reflected the phenomenological approach of the study, which focused on understanding the lived experiences of Social Science teachers using AI-enhanced teaching tools. In this process, the study begun by identifying the most FPORs of teachers in integrating AI tools in their instructional practices. These experiences are then analyzed and interpreted to generate formulated meanings, which captured the deeper understanding of teachers' perceptions, challenges, and strategies in using AI in the classroom.

From these formulated meanings, themes emerge, representing the common patterns and shared insights derived from the participants' narratives. These themes are central to the conceptual framework because they connected the empirical experiences of teachers with the concepts discussed in the literature review, particularly regarding technology integration and innovation adoption in education. By organizing the findings into themes emerging from the formulated meanings, the study ensured that the conceptual framework was grounded in both the reviewed literature and the lived experiences of the participants.

Eventually, these emergent themes served as the foundation for developing the AI-Enhanced Teaching Framework, which reflected the realities of teachers' experiences and provided practical guidance for integrating AI tools effectively in Araling Panlipunan instruction. In this way, the conceptual framework connected the theoretical insights discussed in Chapter 2 with the methodological process of the study, ensuring a coherent and systematic exploration of the phenomenon under investigation.

Statement of the Problem

This study aimed to explore the essence of the lived experiences of Social Science Teachers in using AI-enhanced teaching tools. Specifically, it sought to understand how teachers describe, interpret,

and make meaning of their experiences in integrating AI-supported pedagogical practices in the teaching of Araling Panlipunan.

Central Research Question

This study sought to understand the essence of the lived experiences of Social Science teachers in integrating AI-enhanced teaching tools in classroom instruction.

Specific Research Questions

Specifically, this study sought to answer the following questions:

1. How do Social Science teachers describe their lived experiences in using AI-enhanced teaching tools in classroom instruction?
2. What challenges do Social Science teachers encounter in integrating AI-enhanced tools in their teaching practices?
3. What meanings can be formulated from the lived experiences of teachers in using AI-enhanced teaching tools?
4. What themes emerge from the formulated meanings of the teachers' experiences in integrating AI tools in teaching?
5. Based on the results of the study, what AI Teaching Framework may be proposed to enhance Araling Panlipunan instruction?

Literature Review

AI-Assisted Tools for Araling Panlipunan Instruction

In the Philippine context, the integration of AI in education is gaining momentum, particularly in enhancing the teaching of Araling Panlipunan. Renacido and Biray (2025) emphasized the use of AI applications such as ChatGPT, Google Bard, and Canva Magic Write in history lessons. These tools supported the delivery of engaging and differentiated instruction, especially in simulating historical events and generating contextualized content that made Araling Panlipunan more interactive and learner-centered.

Gurion et al. (2025) in their analysis of AI integration in public high schools in Central Luzon, reported that teachers in Araling Panlipunan used AI-powered tools for lesson planning, quiz generation, and news summarization. However, they noted that respondents have limited usage due to technical limitations and unfamiliarity with AI features. This highlights the uneven access and capacity among educators that raise concerns aligned with the present study's focus on barriers to AI adoption. Furthermore, Bagang et al. (2024) discussed the pedagogical potential of AI tools in supporting culturally relevant pedagogy in the Araling Panlipunan classroom. Tools like Google Earth VR and AI-driven historical simulations were cited for bringing abstract socio-political concepts to life. Their work aligns with the current study's interest in identifying AI-assisted tools that enhance contextualized learning in the local curriculum.

Internationally, AI tools in education are being recognized for transforming traditional teaching approaches. Zhao (2023) defined AI-assisted tools as software and systems that simulate human intelligence to support teaching functions examples include intelligent tutoring systems, virtual field trips, automated content generation, and adaptive feedback platforms. In the context of Araling Panlipunan, these tools enable dynamic and interactive approaches to complex civic and historical themes.

Kaswan et al. (2024) found that AI in education supports personalization, enabling teachers to tailor instruction based on real-time student data. This is crucial in Araling Panlipunan, where students may vary in historical understanding and critical thinking. The study also underscored the potential of AI in promoting inclusive education through translation and accessibility features. While Sánchez (2024) emphasized how AI can enhance civic competence through current events analysis, simulations of democratic processes, and global issue mapping. He pointed out that tools like ChatGPT and Perplexity.AI

can provide students with multiple perspectives on socio-political issues, fostering critical inquiry. This supports the study's objective of understanding how AI contributes to deeper engagement in Araling Panlipunan.

Likewise, Mazari (2025) highlighted the role of AI in promoting metacognition in Araling Panlipunan by prompting students to reflect on their learning process and by providing personalized resources that cater to their academic profiles. This directly aligns with the potential of AI to facilitate learner autonomy in understanding historical events and civic concepts. In contrary, Farooqi et al. (2024) warned of the risks of algorithmic bias and historical misinformation in AI-generated content. Their literature underscored the importance of teacher mediation and content validation, which connects with the present study's attention to the ethical concerns and challenges in AI tool utilization for teaching history and citizenship education.

Similarly, Castillo and Reyes (2023) explored the experiences of high school Social Science teachers in using AI tools like ChatGPT and SlidesAI. The findings revealed that while most educators used AI to improve lesson presentation and create formative assessments, their usage was hampered by fear of AI-generated inaccuracies and lack of institutional training. This study provides empirical support for the challenges identified in the current research.

In a mixed-methods study conducted by Garcia (2024) in Region IV-A, results showed that teachers who received school-based AI orientation sessions were more likely to integrate tools such as Canva AI and YouTube AI Assistants into their classes. However, they also emphasized the need for ethical guidelines and curricular alignment echoing this study's concern for appropriate intervention strategies. Additionally, the study of Falcis & Juaneza (2026) revealed that teachers in public secondary schools in Matalam, Cotabato found the AI integration as a helpful assistant in enriching the quality of classroom instructions particularly for content generations and even teaching strategies. However, despite the mentioned advantages, several disadvantages also emerged including content inaccuracy and reliability.

In a cross-national survey by Qazi et al. (2024), AI use in Araling Panlipunan across India, the UAE, and Singapore was analyzed. Teachers commonly used tools such as Natural Language Processors, automated grading systems, and adaptive quiz platforms. However, ethical issues and the lack of localized content emerged as consistent obstacles paralleling the Philippine experience in AI use within values-laden subjects. Finally, a recent study by Berson and Berson (2024) involving educators in the U.S. and Australia revealed that Social Science teachers found AI most helpful in simplifying complex texts, visualizing historical data, and managing classroom differentiation. Yet, the same study indicated that without proper pedagogical frameworks, AI use remained surface-level. This finding directly informs the present study's ultimate goal: to propose an AI-assisted learning framework for Social Science teachers.

Challenges in Using AI Tools

The integration of Artificial Intelligence (AI) tools in education, particularly in the teaching of Araling Panlipunan, has opened new possibilities but has also revealed numerous challenges. In the local Philippine context, several pieces of literature underscore these difficulties. At Eastern Visayas State University, a study highlighted that many teacher-education students found AI-generated outputs from tools like ChatGPT unreliable (Guarin et al., 2025). These tools often produced information with fabricated citations and unverifiable references, which undermined academic credibility. Participants in the study described their experience of tracing back references generated by ChatGPT, only to find that they were nonexistent or could not be found in any legitimate database. This issue presents a serious problem in Araling Panlipunan education, where the accurate representation of historical and social data is essential.

In the same institution, another literature piece explored the growing student dependence on AI tools. It was noted that students often described a sense of helplessness without access to AI, claiming they could not complete writing tasks without it. This growing dependency undermines the development of independent critical thinking and analytical skills, which are foundational in Araling Panlipunan learning.

The literature suggests that while AI can be a helpful tool, it may also erode students' ability to engage meaningfully with social and historical content when used as a crutch rather than a supplement (Gudelos, 2025). Another local literature further emphasizes the overarching barriers in AI integration within Philippine classrooms. Teachers often report a lack of technical knowledge, insufficient infrastructure, ethical concerns regarding student data, and difficulties in curriculum alignment. These systemic challenges limit the effectiveness of AI in Araling Panlipunan instruction, which demands not only factual accuracy but also the ability to handle multiple perspectives and complex social issues (Sibug et al., 2024).

On the international front, various studies and reviews echo these concerns with broader scope and deeper technological insight. A systematic scoping review of large language models (LLMs) in education pointed to persistent issues such as insufficient technological readiness, lack of transparency, weak data privacy protections, and ethical shortcomings (Yan, 2024). In the context of Araling Panlipunan, these problems raise red flags, as inaccurate or biased interpretations of historical and cultural events may shape student worldviews in problematic ways. Moreover, an international meta-review on AI implementation in higher education revealed that many institutions face gaps in infrastructure, teacher training, curriculum design, and assessment strategies (Gomo & Machaya, 2024). These systemic weaknesses are critical when teaching Araling Panlipunan, as teachers need to be especially sensitive to bias, cultural representation, and historical context areas where AI tools may oversimplify or misrepresent reality.

Moreover, Hadinejad (2024) highlights that AI-generated content can challenge students' ethical awareness. For example, studies have shown that students often accept AI outputs at face value without interrogating the inherent biases or assumptions embedded in them. This passivity is particularly concerning in Araling Panlipunan, where students are expected to develop critical, civic, and ethical reasoning. Furthermore, UNESCO and other global educational policy bodies as cited by Li et al. (2025), have stressed the inequity that comes with AI integration. They warn that under-resourced schools and students face greater barriers, such as lack of internet access, outdated devices, and limited teacher support. In a subject like Araling Panlipunan, where understanding community, nationhood, and global citizenship is critical, such inequality can widen the learning gap. Lastly, AI tools have also complicated academic integrity. Many educators report increasing cases of plagiarism, AI-generated essays, and challenges in verifying student-authored work (Oliveira et al., 2025). This problem is especially problematic in Araling Panlipunan, which often relies on reflective writing, historical analysis, and original thought areas vulnerable to AI misuse.

In terms of empirical studies, the local scene also reflects specific insights into the challenges of using AI in Araling Panlipunan. A qualitative study at Eastern Visayas State University investigated the practical experiences of students and faculty in using ChatGPT (Gudelos, 2025). Two primary issues were uncovered: the unreliability of information provided and the over-dependence of students on the tool. Faculty members shared that many students submitted outputs with references that could not be verified, while some students confessed, they were unable to write without the help of the chatbot. These findings highlight how AI, if not carefully guided, can impair students' academic development and undermine the teaching process in subjects that demand historical accuracy and interpretive skills.

Another local study explored by Villarino (2025) in a broader AI implementation challenge in Philippine education, noting a lack of teacher training, budget limitations, and absence of institutional frameworks to guide ethical AI use. For Araling Panlipunan educators, this means facing difficulty in designing effective lesson plans, assessing student learning fairly, and ensuring that AI-generated content does not misrepresent sensitive topics like politics, culture, or human rights. These structural barriers make the teaching of Araling Panlipunan through AI tools not only difficult but also potentially harmful if misused or misunderstood.

Internationally, one study by the Artificial Intelligence and Measurement in Education (AIME) project led by Bulut et al. (2024), highlighted the risks of using AI in academic assessments. It pointed out that automated scoring systems and AI-powered evaluations often carry hidden biases that

disproportionately affect students from minority or marginalized groups. In Araling Panlipunan, where personal and cultural narratives play a significant role, such biases could lead to unfair grading and skewed learning outcomes. Another international study reviewed by Karataş et al. (2025) which revealed the implementation of AI in classroom settings, finding consistent challenges in transparency, fairness, and teacher preparedness. Teachers frequently struggled to adapt curricula, lacked understanding of AI outputs, and reported feelings of diminished control over the instructional process. These problems are critical in Araling Panlipunan education, where teacher guidance and context framing are essential in interpreting complex social issues.

In a study investigated by Vashishth et al. (2025) in the changing role of teachers in AI-enhanced classrooms. It revealed that many educators felt overwhelmed by the ever-changing dynamics brought on by AI tools, as students increasingly turned to chatbots and automation for academic work. Teachers reported difficulty in maintaining engagement, ensuring critical thinking, and preserving the authenticity of student output. In Araling Panlipunan, these issues can be particularly damaging, as the subject aims to nurture civic responsibility, empathy, and independent inquiry some qualities that may be diluted when over-relying on AI-generated content.

Intervention Strategies in Using AI Tools

In the Philippine context, integrating Artificial Intelligence (AI) tools in the education system has steadily gained attention, especially with the Department of Education's call for digital transformation. Ododo et al. (2024) explored the role of AI in enhancing instructional delivery in Araling Panlipunan. They emphasized that AI-driven platforms like chatbot tutors and adaptive assessment tools enabled differentiated instruction, helping students in public schools with varied learning paces. Santos emphasized that AI is especially useful in addressing large class sizes and limited teaching resources.

Another local literature by Mane (2025) stressed the teachers' readiness and technology integration in the classroom. Their findings revealed that while most teachers recognized AI's potential to enrich civic education and historical inquiry, they felt unequipped due to insufficient training. This literature stresses the need for structured intervention strategies such as capacity-building workshops and the localization of AI tools in Filipino contexts.

Miguel-Revilla et al. (2020) also investigated the digital pedagogies in Araling Panlipunan during the pandemic, noting that the sudden shift to online learning prompted a reliance on AI tools such as automated grading systems and virtual discussion platforms. Their work highlighted a gap in content contextualization, as many AI tools available are tailored to Western perspectives, making it imperative for interventions to address cultural and curriculum alignment.

Globally, the use of AI in education, especially in the humanities and social sciences, is rapidly evolving. Liu (2024) emphasized the unprecedented disruptions that AI causes on education particularly the unsupervised use of students, leading them to misuse the said technology and commit plagiarism, placing risk on the assessment validity of outputs.

In the Chile, Burgos-Videla et al. (2025) wrote extensively on AI's role in developing 21st-century skills, particularly in subjects like Araling Panlipunan where critical thinking, historical empathy, and civic engagement are emphasized. They noted that AI can be leveraged to simulate decision-making scenarios or run virtual debates that promote deeper learning experiences.

From a Chinese perspective, Zhou et al. (2024) examined how AI-enhanced applications are being utilized to teach moral and civic education. Their research showed that AI tools, when combined with traditional instruction, fostered more meaningful student engagement. AI chatbots were used to simulate historical dialogues, allowing students to explore multiple perspectives on past events.

In another international literature from Finland, Näykki and Häkkinen (2023) discussed the ethical implications of AI in Araling Panlipunan education. They argued that intervention strategies must include ethical AI literacy among both teachers and students, particularly in navigating biases embedded in

algorithms and historical content. They emphasized that an inclusive AI approach is necessary in diverse learning environments.

Balland et al. (2025) provided a comprehensive review of how AI intersects with the goals of social education in European schools. She posited that AI can be instrumental in promoting global citizenship education by offering platforms for international collaboration, real-time data analysis on social issues, and multilingual historical resources. Their work supports the view that effective interventions require not just tool integration, but also content and values alignment.

A study by Polinar et al. (2025) explored the effectiveness of AI-assisted instruction in Public School Setting. The quasi-experimental study revealed that students exposed to AI-enhanced modules (featuring interactive timelines and automated quizzes) performed significantly better in comprehension and retention compared to those in traditional classrooms. The study called for expanded teacher training programs and curriculum redesigns to integrate AI systematically.

In another study, Umali (2024) investigated the use of AI chatbots as supplemental tutors in private schools located in Calamba City, Laguna. The study found that students who engaged with AI chatbots for inquiry-based activities demonstrated improved critical thinking and historical analysis skills. However, it also highlighted limitations in the local infrastructure and the need for culturally relevant content in AI databases.

An international study by Kavitha et al. (2025) examined the role of AI-powered Intelligent Tutoring Systems (ITS) in high school history classes in the United States. The study concluded that ITS facilitated a more personalized learning experience, allowing students to review content at their own pace while receiving real-time feedback. Teachers reported reduced workload and improved student outcomes, supporting the development of structured AI implementation models.

Roy and Swargiary (2024) conducted a mixed-methods study in 500 students and 50 teachers in Guwahati, Assam, India on the integration of AI-driven visual analytics tools. The findings revealed that when students used AI to analyze real-world data (e.g., population trends, political events), their engagement and analytical thinking increased. The study recommends curriculum-aligned AI toolkits and teacher support systems as part of intervention strategies.

Finally, Salas-Pilco et al. (2022) carried out an ethnographic study Artificial intelligence and new technologies in inclusive education for minority students. The study found that while AI provided novel visualizations and interactivity, teachers struggled with ensuring content authenticity and cultural sensitivity. This emphasized the necessity of culturally responsive AI systems and targeted professional development as key intervention components.

The Use of AI in Philippine Education

The integration of Artificial Intelligence (AI) tools in teaching is gradually gaining traction, especially in higher education institutions. Villarino (2024), in a study conducted at Cebu Technological University, reported a significant utilization rate of AI tools among students, with ChatGPT being the most frequently used platform. The study found that 100% of respondents used AI in some form, and 78.5% used ChatGPT specifically for academic support in content-heavy subjects like Araling Panlipunan. The research highlighted that while students found AI tools useful for summarizing and analyzing historical texts, concerns about ethical use and digital divide persisted, especially in rural areas. Espartinez (2025) further explored these concerns by documenting the experiences of students and faculty across various Philippine higher education institutions. Through narrative inquiry, it was discovered that there was a "silent acceptance" of AI tools like ChatGPT in the classroom.

However, the degree of integration varied significantly between urban and rural schools, revealing inequities in access, institutional guidance, and digital readiness. Espartinez (2025) called for clearer academic policies and culturally sensitive teaching strategies to manage AI use responsibly. In a more applied context, Fenta (2025) conducted a case study in secondary schools that focused on the use of generative AI tools such as Bard and Perplexity AI. Her findings showed that students engaged more

actively in lessons, demonstrated better retention, and exhibited improved academic performance when AI tools were integrated into lessons. Interestingly, the positive impact was more pronounced among female learners, suggesting that AI may have a role in addressing gender gaps in engagement.

Globally, the literature reflects a rapidly growing interest in AI tools in non-STEM subjects, including Araling Panlipunan. A study conducted by Alshammari and Al-Enezi (2024) examined the use of AI chatbots in Araling Panlipunan instruction and emphasized that, although such tools are more commonly used in computer science and language instruction, their application in Araling Panlipunan shows promising results in enhancing interactivity and student motivation. The researchers argued that chatbots provided personalized feedback and helped in creating immersive learning experiences, although they emphasized the need for teacher training to maximize effectiveness. Similarly, Prieto-Gutierrez et al. (2023) conducted a bibliometric analysis of nearly 20,000 academic articles and found a marked increase in AI-related research in the social sciences. Their findings suggest that the use of AI in education is not merely a trend but a developing research domain, with increasing interdisciplinary applications in history, political science, ethics, and core areas within Araling Panlipunan.

Another expansive bibliometric study by Hajkowicz et al. (2023) revealed that by 2021, AI had been adopted in over 98% of academic disciplines. This includes not just natural sciences and engineering, but also the social sciences and humanities, indicating a paradigmatic shift in how AI is perceived and utilized across academic fields. Their findings reinforce the idea that Araling Panlipunan is increasingly part of this global technological evolution. Furthermore, Dedema and Ma (2024) investigated the perceptions and usage patterns of generative AI tools among scholars in the digital humanities. Although the study was not confined to Araling Panlipunan, it provided important insights into how AI is reshaping teaching and research practices in humanities-based fields. Respondents expressed a range of views from enthusiasm over AI's assistance in generating source analyses to concern over academic integrity and critical thinking. These findings align with those of Van Brummelen and Lin (2021), who studied how AI-related curricula were co-designed with educators for use in K–12 environments. Their research showed that while AI can enhance learning in core subjects, including Araling Panlipunan, its integration must be supported by ethical instruction, clear pedagogical strategies, and ongoing teacher training. They emphasized the importance of co-developing AI learning tools with educators to ensure relevance, usability, and alignment with existing curricular goals.

Empirical investigations in the Philippine setting provide preliminary yet valuable data on the use of AI tools in Araling Panlipunan classrooms. A study published in the *International Journal of Education and Research* by Fabro et al. (2024) explored the frequency of AI utilization among Filipino junior high school students and its impact on academic performance. The results showed that students regularly used AI tools for completing assignments, preparing for exams, and researching topics in Philippine history and governance. Although the study stopped short of establishing causation, it found a positive correlation between frequent AI use and improved grades, especially when tools were used to reinforce rather than replace learning.

Another local study conducted at Cebu Normal University by Alejandro et al. (2024) focused on pre-service teachers and their willingness to adopt AI tools in their future classrooms. Using the Extended Technology Acceptance Model (ETAM), the research revealed that perceived usefulness and ease of use were the strongest predictors of AI adoption intentions. Interestingly, subjective norms (peer or societal pressure) had little influence, suggesting that future teachers' decisions to use AI are driven more by practical and personal experiences than external expectations.

International studies further validate these trends. A comparative study by Nieves et al. examined Filipino and Indonesian teachers' experiences with AI in Araling Panlipunan instruction. It found that although teachers in both countries faced infrastructural and policy-related challenges, they also exhibited a high degree of creativity in adapting AI tools for lesson planning, assessment, and student feedback. The study emphasized the importance of professional development and institutional support to facilitate

effective AI integration. In a related empirical study conducted by Yetişensoy and Karaduman (2024), the implementation of AI chatbots in middle school Araling Panlipunan classes led to measurable improvements in student retention, participation, and academic performance. Teachers reported that students were more engaged during interactive sessions with AI-powered assistants, particularly when discussing historical events or analyzing civic issues.

Furthermore, the international survey by Dedema and Ma (2024), mentioned previously, also functioned as an empirical study by collecting qualitative and quantitative data on AI tool usage among educators and researchers. It confirmed that while AI is widely seen as a helpful assistant in drafting, editing, and brainstorming content, there remains a strong call for ethical guidelines, institutional policies, and pedagogical frameworks that ensure AI is used to augment rather than replace critical thinking.

AI-Enhanced Teaching Framework

The integration of Artificial Intelligence (AI) tools in Araling Panlipunan education has seen a growing body of scholarly work both locally and internationally. In the Philippine context, Espartinez (2025) conducted a narrative inquiry using Clandinin and Connelly's framework to examine how students and faculty in higher education institutions experience ChatGPT across urban and rural settings. This study revealed critical challenges such as the digital divide, ethical concerns, and the need for more responsive pedagogy. Espartinez emphasizes the importance of developing an AI-assisted learning framework that is context-sensitive, offering offline alternatives and institutional support for effective integration. Similarly, Mangubat and Paglinawan (2025) explored teachers' perceptions of AI tools in teaching science research at Central Mindanao University. While not focused on Araling Panlipunan directly, their findings are highly applicable: teachers appreciated the efficiency and personalization offered by AI tools such as ChatGPT and Scite but also highlighted limitations in infrastructure and teacher training. The researchers recommended capacity-building programs and clear policy guidance to ensure ethical and effective AI integration in classrooms. Another local study by Sibug et al. (2024) examined teachers' attitudes toward AI integration in general classroom settings. Teachers expressed optimism regarding AI's potential to personalize instruction and improve engagement, but they also called for enhanced training and support to align these technologies with meaningful learning outcomes.

Globally, several frameworks and studies offer valuable insights into the development of an AI-assisted learning approach. Sajja et al. (2024) proposed the AIIA framework, an AI-enabled intelligent assistant model that leverages natural language processing to generate personalized learning content and assessments. Though initially applied in higher education, its adaptability makes it suitable for secondary-level Araling Panlipunan, especially in promoting learner autonomy. Dickey and Bejarano (2024) introduced GAIDE (Generative AI for Instructional Development), a framework rooted in constructivist theory that guides educators in using generative AI to create pedagogically sound materials while reducing teacher workload. Complementing these is the work of Perkins et al. (2024), who developed the AI Assessment Scale (AIAS), a tool for educators to determine appropriate levels of AI integration in assessment tasks. The AIAS supports academic integrity by ensuring that AI usage aligns with specific learning objectives and levels of cognitive complexity. Meanwhile, Brummelen and Lin (2020) emphasized the importance of co-designing AI curricula with teachers, particularly in non-technical subjects like Araling Panlipunan. Their research showed that when educators are involved in the development process, they are more likely to integrate AI in ways that support inquiry, critical thinking, and ethical awareness. Finally, an article from eSchool News (2024) detailed practical applications of AI in the Araling Panlipunan classroom, including the use of AI tools for primary-source analysis, virtual simulations, adaptive learning pathways, and personalized research support. These tools were noted to enhance student engagement and deepen historical understanding when integrated thoughtfully by trained educators.

Empirical studies provide further evidence of the relevance and challenges associated with AI-assisted learning frameworks in Araling Panlipunan. In the Philippines, a study conducted by Berson and Berson (2024) explored the frequency of AI tool usage and its correlation with student performance in

Grade 10 Araling Panlipunan. The results indicated a positive relationship between regular AI use and improved academic outcomes, particularly in developing analytical and interpretive skills. However, the study also emphasized the need for teacher guidance to prevent misuse and ensure that AI is used as a learning aid rather than a shortcut. Another local study by Mangubat and Paglinawan (2025) offered important insights into how teachers perceive AI in classroom instruction. Though focused on science, their findings are transferable to Araling Panlipunan, especially in terms of the perceived barriers such as inadequate infrastructure and insufficient professional development that usually prevent the full realization of AI's educational potential.

Several studies further illustrate the promise and limitations of AI in educational settings. Including the proposed human-centered learning and teaching framework using generative AI for K–12 education of Kong and Yang (2024). Wherein, this proposal aims to maximize the use of AI into human-centered teaching and learning tools. In addition, Yalcinalp et al. (2024) identified a suite of AI tools such as ChatGPT, EduAide.ai, MagicSchool, and Quizizz that are being used in K–12 settings to enhance lesson planning, student engagement, and differentiated instruction. These tools enable teachers to create interactive assessments, virtual historical simulations, and personalized learning resources, all of which contribute to a more dynamic and inclusive Araling Panlipunan classroom.

Synthesis

The review of related literature and studies reveals a growing recognition of the potential of AI-enhanced tools in Araling Panlipunan instruction, both in the Philippines and internationally. Locally, studies indicate that AI applications such as ChatGPT, Google Bard, Canva Magic Write, and virtual simulation tools support differentiated instruction, foster learner-centered approaches, and make complex historical and social concepts more accessible and engaging (Renacido & Biray, 2025; Bagang et al., 2024). These tools enable teachers to provide interactive experiences such as virtual field trips, historical simulations, and personalized assessments, which align with the study's aim of understanding how AI can enhance the teaching of Araling Panlipunan in Philippine basic education. However, the literature also underscores persistent challenges in AI integration. Teachers often face limited digital skills, insufficient infrastructure, lack of training, and ethical concerns related to bias, data privacy, and misinformation (Farooqi et al., 2024; Sibug et al., 2024). Students may also become over-reliant on AI tools, potentially diminishing independent critical thinking and analytical skills (Gudelos, 2025). These challenges highlight the need for careful mediation and structured intervention strategies in classroom implementation.

International research reinforces these findings, illustrating that AI tools such as intelligent tutoring systems, adaptive platforms, and AI-powered content generation can enhance student engagement, personalize learning, and support formative assessment (Zhao, 2023; Kaswan et al., 2024; Kavitha et al., 2025). However, systemic issues such as inequities in access, inadequate teacher training, and the lack of culturally relevant content persist globally, emphasizing that successful AI integration requires both technological readiness and pedagogical alignment (Yan, 2024; Karataş et al., 2025). Scholars also stress the importance of ethical and culturally responsive frameworks for AI use in social studies education, ensuring that students develop critical thinking, civic awareness, and historical empathy (Näykki & Häkkinen, 2023; Balland et al., 2025).

Empirical studies further indicate that when properly guided, AI tools positively impact student performance and engagement. Filipino and international studies show that AI enhances lesson interactivity, supports student-centered learning, and provides teachers with efficiencies in content creation and assessment (Fabro et al., 2024; Yetişensoy & Karaduman, 2024; Polinar et al., 2025). Yet, without professional development, institutional support, and alignment with curriculum and ethical standards, AI usage remains limited and potentially problematic (Alejandro et al., 2024; Espartinez, 2025). Research also points to the promise of AI-assisted frameworks, such as human-based, conversational AI, intelligent tutoring systems, and inquiry-based models, which can be adapted to Araling Panlipunan to foster deep reasoning, critical inquiry, and inclusive learning experiences (Kong and Yang, 2024 & Bejarano, 2024).

Overall, the literature converges on several key insights relevant to the present study. First, AI tools have significant potential to enhance teaching and learning in Araling Panlipunan by promoting interactivity, personalization, and student engagement. Second, challenges related to teacher readiness, infrastructure, ethical considerations, and content accuracy must be addressed to ensure meaningful integration.

Third, structured intervention strategies and context-sensitive frameworks are essential for effective AI utilization, emphasizing professional development, culturally relevant content, and ethical guidance. These findings provide a foundation for the current phenomenological study, which seeks to capture the lived experiences of Social Science teachers using AI tools and to inform the development of a practical AI-assisted teaching framework for Philippine junior high school classrooms.

METHODS

Research Design

This study employed a descriptive phenomenological design, which sought to explore and describe the essence of the lived experiences of Social Science Teachers using AI-enhanced teaching tools. Through in-depth qualitative inquiry, the researcher aimed to understand how teachers interpret, navigate, and ascribe meaning to their encounters with AI-supported instructional practices

Selection of Co-Participants

The participants of this study were seven (7) Social Science teachers from Magsaysay National High School who have direct experience in using AI-enhanced teaching tools in their instructional practices. In phenomenological research, a small number of participants is considered appropriate because the goal is to obtain deep and rich descriptions of lived experiences rather than statistical generalization. According to Creswell (2021), phenomenological studies typically involve 5–10 participants, which allows the researcher to explore participants' narratives in depth while maintaining manageability in qualitative analysis.

Therefore, the seven (7) participants were considered sufficient for this study because phenomenological research prioritizes capturing the depth and richness of lived experiences of its participants rather than focusing on the size of the sample. In addition, all participants were ensured to fulfill the predetermined inclusion criteria set by the researcher, securing each participant offered direct, relevant, and sustained experiences regarding the phenomenon being studied. Hence, since all participants had direct experience of using AI particularly in teaching Araling Panlipunan, they then able to provide rich and meaningful insights helpful to fulfill information required for this phenomenological study.

Participants were selected through purposive sampling, which allowed the researcher to identify individuals who possess direct experience relevant to the phenomenon being investigated. To ensure that the participants can provide rich and meaningful insights into the use of AI-enhanced teaching tools, the following inclusion criteria were applied:

- a) The participant must be a currently employed Social Science teacher at Magsaysay National High School.
- b) The teacher must have at least three (3) years of teaching experience in secondary education to ensure sufficient pedagogical background and professional exposure.
- c) The teacher must have actual experience using Artificial Intelligence (AI) tools for instructional purposes such as lesson planning, content generation, assessment creation, or classroom instructional support.
- d) The teacher must report regular usage of AI tools (at least once per week) in preparing lessons, developing assessments, or supporting classroom instruction.
- e) The teacher must be willing to participate voluntarily and share personal experiences through in-depth interviews.

To verify that participants are actively using AI in their instructional practices, each teacher was required to submit an accomplished AI Declaration Form in accordance with the Department of Education (DepEd) guidelines on the responsible use of Artificial Intelligence in education. The form served as supporting documentation confirming that the participants utilize AI tools in preparing instructional materials such as lesson plans, assessments, and learning resources. This requirement strengthens the credibility of participant selection and provides documented evidence that AI is being used to enhance teaching practices. The accomplished forms were treated as confidential research records and used solely for verification purposes.

These criteria were selected to ensure that participants possess sufficient professional experience, familiarity with AI technologies, and meaningful engagement with AI-assisted teaching practices, which are essential in capturing rich phenomenological descriptions of the phenomenon under investigation.

Generation of Data

The data generation for this study undergone a systematic and ethical process with the use of a semi-structured interview guide developed by the researcher. The said instrument went through expert validation to ensure clarity, relevance, and alignment with the central research question prior to the data collection. The suggestions and recommendations of the validators were carefully considered and incorporated, resulting in a refined instrument before the conduct of the interviews.

Accordingly, in terms of the recruitment of the research participants, qualified Social Science teachers were identified and selected using purposive sampling based on predetermined criteria. Specifically, teachers who are currently teaching Araling Panlipunan, have actual experience in using AI-enhanced teaching tools, and are willing to share their narratives and insights. This sampling approach ensured that the selected participants possessed direct and relevant lived experiences related to the phenomenon under investigation.

Moreover, upon recruitment, informed consent forms were distributed and clearly explained to the participants to ensure voluntary participation and ethical compliance. Semi-structured interviews were scheduled at the participants' convenience and conducted to elicit in-depth narratives of their experiences. All interviews were audio-recorded with permission, transcribed verbatim, and supplemented with analytic memos written by the researcher to capture emerging insights. When necessary, interview details were verified with the participants to ensure accuracy and credibility of the data.

To ensure coherence between data collection and interpretation, the processes of data analysis and synthesis were integrated into the generation of data. As each interview was conducted, the researcher wrote analytic memos to capture initial insights, emotional tones, and emerging patterns from the participants' narratives. These initial reflections helped refine the succeeding interview questions, deepen probing, and allowed iterative understanding of the phenomenon.

This integration ensured that the collection of data was not isolated from meaning-making. Instead, analysis and synthesis began during the interview phase, allowing the researcher to recognize significant ideas early on and connected them to the unfolding themes of the study.

In terms of qualitative data analysis, the researcher employed Colaizzi's seven-step method to analyze the transcribed data, a well-established phenomenological approach designed to uncover the essence of participants' lived experiences (Praveena & Sasikumar, 2021). This method provided a systematic and rigorous process that enhanced the credibility and dependability of the findings by ensuring that the analysis remained grounded in and reflective of the participants' perspectives.

The first step involved repeatedly reading the interview transcripts to allow the researcher to become fully immersed in the data and develop a comprehensive understanding of the teachers' experiences with AI-enhanced teaching in Araling Panlipunan. This process enabled the researcher to capture the depth, richness, and nuances of the participants' narratives, including both explicit statements and implicit meanings conveyed through tone, emphasis, and pauses.

In the second step, significant statements related to the teachers' experiences, perceptions, strategies, successes, and challenges were extracted from the transcripts. These statements served as the foundational data for analysis, ensuring that the interpretations remained grounded in the participants' own words.

The third step focused on formulating meanings from the significant statements. This involved interpreting the essence of each statement and translating it into conceptual insights that reflected the participants' experiences in integrating AI tools into their pedagogical practices. Context, instructional strategies, and technological interactions were carefully considered to ensure accurate and faithful interpretation.

The fourth step entailed organizing the formulated meanings into themes and categories. Related ideas were clustered together to identify recurring patterns, similarities, and contrasts across participants' experiences. This thematic organization facilitated the identification of overarching dimensions of AI integration, such as pedagogical strategies, student engagement, technological challenges, and ethical considerations.

In the fifth step, the themes were integrated into a comprehensive description of the lived experiences of Social Science teachers. This narrative synthesis provided a coherent portrayal of how AI tools were utilized in instructional practice, the pedagogical insights gained, and the adjustments made to effectively bridge technology and teaching.

The sixth step involved member checking by returning the synthesized findings to the participants for validation. This process ensured that the interpretations accurately represented the teachers' experiences and allowed participants to clarify, elaborate, or correct any inaccuracies. Member checking strengthened the credibility and dependability of the study.

Finally, the seventh step consisted of synthesizing the findings into an essential structure that captured the core essence of the phenomenon under investigation. This step enabled the researcher to present a holistic understanding of how Social Science teachers integrate AI tools into their instructional practices, highlighting both the opportunities and challenges of bridging pedagogy and technology in Philippine basic education.

By employing Colaizzi's seven-step method, the study ensured a rigorous, systematic, and reflective approach to phenomenological data analysis. This process facilitated a rich and nuanced understanding of the participants' lived experiences and served as a foundational basis for developing an AI-enhanced teaching framework that is contextually relevant, ethically grounded, and responsive to the realities of Philippine basic education.

No Thematic Reflection

To guarantee the study's strict adherence to a descriptive phenomenological approach, the process of analyzing the data did not only focus on identifying and organizing themes that emerged directly from the participants' responses. Importantly, no thematic reflection took place; wherein, the findings of the study did only include results that are derived from the raw data without adding interpretation of underlying meanings, implications, or researcher insights.

No Literature Comparison

This research ensured that there was no literature comparison in the presentation of the results. Hence, the findings of the study were not compared or contrasted with previous studies or related literature. In this way, the study made sure that the results remained objective and data driven; allowing the participants' responses to stand independently and free from any external influence.

Ethical Considerations

This study adhered to the highest ethical standards, prioritizing participant privacy, confidentiality, and voluntary participation (Barrow et al., 2022; Bhandari, 2021). The researcher recognized the importance of respecting the rights, dignity, and autonomy of all participants. To ensure anonymity, pseudonyms or codes were assigned to each teacher participant, preventing any direct association between the collected data and their identities. All information gathered, including interview recordings, transcripts, and field notes, was securely stored in password-protected files and made accessible only to the researcher. The data were used solely for academic purposes and were not disclosed to any third parties.

Participation in the study was entirely voluntary, and participants were informed of their right to decline participation or withdraw at any stage without any negative consequences. Prior to participation, the researcher clearly explained the study's objectives, procedures, as well as potential risks and benefits to ensure informed consent. Proper attribution of prior research was strictly observed in accordance with APA 7th Edition standards, recognizing the intellectual contributions of other scholars and upholding academic integrity. By implementing these ethical safeguards, the study aimed to establish a respectful, transparent, and responsible research environment that fosters trust and ensures the credibility and dependability of the findings.

To ensure the trustworthiness of this qualitative study, the criteria of credibility and dependability were carefully addressed. Credibility was established through prolonged engagement with the participants, careful transcription of interviews, and member checking, allowing participants to verify that their narratives were accurately represented. Dependability was ensured by maintaining a detailed and systematic record of all research procedures, including data collection, transcription, and Colaizzi's seven-step analysis process. These practices provided a clear audit trail and enhanced the consistency and reliability of the study's findings, ensuring that the interpretations are both faithful to the participants' experiences and methodologically sound.

RESULTS AND DISCUSSION

Lived Experiences of Social Science Teachers in Using AI-Enhanced Teaching Tools.

Extracted Lived Experiences

The participants consistently described artificial intelligence as an instructional resource that enhanced different aspects of their teaching practice. Across the interviews, they repeatedly shared that AI reduced the burden of lesson preparation, provided assistance in developing instructional materials, encouraged greater student engagement during classroom instruction, and made complex Araling Panlipunan concepts easier for learners to understand. Although each participant emphasized different experiences, their narratives collectively illustrate how AI became an important instructional companion in their daily teaching responsibilities.

One of the most frequently shared experiences centered on the ability of AI to make lesson preparation faster and more organized. Participant 1 expressed this directly by stating, *"AI makes lesson preparation faster and more organized."* The participant narrated that preparing daily lessons previously required considerable time searching for references, organizing activities, and preparing instructional materials. With AI, however, many of these preliminary tasks became easier to accomplish because lesson outlines, discussion guides, and instructional ideas could be generated within a short period. Instead of spending several hours preparing every component of a lesson, the participant explained that more time could be devoted to reviewing and improving the instructional materials before classroom implementation.

Participant 7 shared a similar experience, saying, *"AI allows me to prepare lessons more efficiently and gives me new ideas for teaching."* According to the participant, AI not only reduced preparation time but also introduced fresh instructional ideas that could be incorporated into classroom lessons. The

participant explained that AI-generated suggestions frequently presented teaching approaches and activities that had not been previously considered, making lesson preparation more systematic while expanding the range of instructional options available for classroom use.

Beyond improving lesson preparation, the participants also described AI as a dependable instructional assistant that supported the development of learning materials. Participant 3 explained, *"AI helps me generate lesson plans, design quizzes, and suggest classroom activities."* The participant shared that AI became particularly helpful whenever instructional materials had to be prepared within a limited period. Instead of beginning every lesson plan from the very start, AI provided preliminary drafts that could be revised and aligned with the intended competencies. The participant further explained that AI-generated quizzes and classroom activities served as useful references that could be modified according to students' learning needs and the objectives of the lesson.

A comparable experience was shared by Participant 6, who remarked, *"AI tools help me generate lesson content, create quizzes, and suggest classroom activities."* According to the participant, AI served as an accessible instructional resource that could immediately provide examples, discussion questions, and assessment items whenever additional teaching materials were needed. This enabled the participant to prepare classroom resources more efficiently while maintaining flexibility in selecting activities that best matched the learners' abilities.

The participants likewise narrated that AI positively influenced students' participation during classroom instruction. Participant 4 observed, *"Students became more attentive during discussions."* The participant recalled that learners showed greater interest whenever AI-generated visual presentations, multimedia materials, and interactive learning activities were incorporated into classroom lessons. Students appeared more focused during discussions and demonstrated greater willingness to listen, respond, and participate in classroom conversations.

Similarly, Participant 6 shared, *"Students became more engaged and participated actively."* According to the participant, learners became increasingly involved in classroom activities because AI-assisted instructional materials presented lessons in more interactive and engaging ways. Instead of remaining passive during discussions, students volunteered answers, exchanged ideas with classmates, and contributed their opinions during learning activities.

Participant 7 further emphasized the motivational effect of AI-assisted instruction by stating, *"Students are more interested and motivated when AI-assisted activities are used."* The participant explained that students responded positively whenever lessons included AI-generated activities, visual presentations, and contextualized examples. Learners became more enthusiastic about participating because the instructional materials were more appealing and easier to relate to their own experiences. This increased level of interest encouraged students to remain actively involved throughout classroom discussions.

Another prominent experience described by the participants involved AI's ability to simplify complex concepts that students often found difficult to understand. Participant 1 explained, *"AI-generated timelines help students understand historical events more clearly."* According to the participant, presenting historical events through chronological timelines enabled learners to understand relationships between events more easily than relying solely on textbook discussions. Students could follow the sequence of events visually, making lessons more organized and less confusing.

Participant 4 also shared, *"AI-generated infographics make cultural concepts easier to understand."* The participant observed that visual representations simplified information by presenting important concepts through concise texts, illustrations, and diagrams. Instead of becoming overwhelmed by lengthy explanations, students were able to identify essential ideas quickly and participate more confidently in classroom discussions.

Likewise, Participant 3 explained, *"AI-generated examples help students relate lessons on globalization to real-life situations."* The participant narrated that AI-generated examples reflected familiar experiences and current events, enabling learners to connect abstract classroom concepts with situations

they encountered in everyday life. As students recognized these connections, they demonstrated greater understanding of the lesson and participated more actively in classroom discussions.

Taken together, the participants consistently portrayed AI as a valuable instructional resource that enhanced lesson preparation, supported the creation of instructional materials, encouraged greater student participation, and simplified difficult concepts for learners. Their narratives illustrate how AI became integrated into their everyday teaching experiences, enabling them to perform instructional responsibilities more effectively while creating learning experiences that were more engaging, organized, and responsive to the needs of their students.

Table 1. *Lived Experiences of Social Science Teachers in Using AI-Enhanced Teaching Tools*

Extracted Lived Experiences	Formulated Meanings	Emergent Themes
AI makes lesson preparation faster and more organized.	AI increases efficiency and productivity.	AI as an Efficiency Enhancer
AI helps generate lesson plans, quizzes, and activities.	AI functions as an instructional assistant.	AI as an Instructional Support Tool
Students become more interested and motivated.	AI promotes active participation.	AI for Student Engagement
AI helps simplify difficult concepts.	AI improves content accessibility.	AI for Conceptual Understanding

Challenges Encountered by Social Science Teachers in Integrating Ai-Enhanced Teaching Tools

Although artificial intelligence has emerged as a valuable instructional resource that supports lesson preparation, classroom engagement, and content delivery, its integration into Araling Panlipunan instruction is accompanied by various challenges that influence teachers' classroom practices. The participants' lived experiences revealed that adopting AI-enhanced teaching tools extends beyond simply utilizing digital technologies. Instead, teachers continually navigate issues related to technological infrastructure, access to digital resources, the reliability of AI-generated information, curriculum alignment, ethical considerations, professional competence, and the contextual appropriateness of AI-generated instructional materials. These challenges require teachers to exercise professional judgment, instructional flexibility, and critical decision-making to ensure that AI serves as an effective support for teaching and learning rather than becoming a source of instructional difficulties.

Analysis of the interview transcripts showed that the challenges encountered by the participants were not isolated experiences but recurring concerns shared across different teaching contexts. While the participants recognized the potential of AI to improve instructional efficiency and learner engagement, they consistently emphasized that successful classroom integration depended on their ability to evaluate AI-generated outputs, address technological constraints, modify instructional resources, and guide learners in the responsible use of AI technologies. Their narratives further demonstrate that teachers remain the primary decision-makers in determining the appropriateness, accuracy, and educational value of AI-assisted instructional materials.

To present these lived experiences systematically, the participants' significant statements were analyzed and clustered into formulated meanings, which were subsequently synthesized into emergent themes. Table 2 presents the significant statements, formulated meanings, and emergent themes that characterize the challenges encountered by Social Science teachers in integrating AI-enhanced teaching tools into their instructional practices.

Challenges Encountered

The participants consistently described that while artificial intelligence has become an effective instructional support tool, integrating AI-enhanced technologies into Araling Panlipunan teaching also introduced various challenges that affected lesson preparation, classroom implementation, and student

learning. Their narratives revealed that the difficulties they encountered extended beyond the technical operation of AI platforms. Instead, these experiences reflected the realities of teaching within environments where technological resources, infrastructure, curriculum requirements, learner characteristics, and ethical considerations continuously shaped how AI could be utilized in classroom instruction. Throughout the interviews, the participants explained that AI could not simply be incorporated into lessons without careful planning, continuous teacher intervention, and professional judgment. Rather than replacing teachers' instructional responsibilities, the use of AI often required additional work to ensure that every instructional material remained accurate, relevant, culturally appropriate, and aligned with curriculum standards.

A challenge repeatedly emphasized by almost all participants involved unstable internet connectivity and the limited availability of technological resources. Although AI-assisted platforms depend heavily on internet access to generate lesson plans, instructional materials, assessments, and multimedia resources, teachers explained that these technologies could not always be used consistently because of poor connectivity. Participant 1 shared, *"The main challenges are unstable internet connection and limited availability of devices in school."* The participant explained that even after preparing AI-assisted instructional activities, internet interruptions often prevented the planned activities from being implemented successfully during classroom instruction. Instead of maximizing digital learning experiences, the participant occasionally needed to abandon AI-assisted activities and return to printed instructional materials or traditional classroom discussions.

Similar experiences were narrated by Participant 2, who explained, *"The major challenge is slow internet connection, and sometimes there are not enough devices for students to use."* According to the participant, this situation became particularly difficult whenever AI-supported classroom activities required students to access digital platforms. Because not every learner possessed a gadget or reliable internet access, technology-based learning activities often had to be modified into paper-based or teacher-led alternatives. Rather than discouraging the participant from using AI, these experiences required greater flexibility in planning instructional activities that could accommodate varying levels of technological access.

Participant 3 likewise experienced similar limitations, explaining, *"One challenge is inconsistent internet connection, which sometimes limits my use of AI tools in class."* The participant recalled situations where internet interruptions occurred during actual classroom instruction, preventing access to AI-generated materials that had been prepared beforehand. Instead of relying completely on AI, the participant learned to prepare backup instructional resources to ensure that classroom learning continued even when technological problems occurred. Comparable experiences were shared by Participant 4, who stated, *"One challenge is limited internet access and sometimes I cannot use AI tools during class time."* Participants 5, 6, and 7 also identified unstable internet connection and insufficient technological resources as persistent barriers to maximizing AI integration. These narratives demonstrate that technological infrastructure remains one of the most significant external factors influencing teachers' ability to consistently implement AI-enhanced instruction.

The participants likewise described unequal access to technology as another challenge affecting AI implementation. While teachers could prepare AI-assisted instructional materials, they explained that learners did not always possess equal opportunities to participate in technology-supported activities because of differences in device ownership and internet availability. Participant 2 emphasized that *"sometimes there are not enough devices for students to use,"* making it difficult to conduct activities that required learners to interact directly with AI-generated resources. Participant 1 similarly referred to the *"limited availability of devices in school,"* explaining that this situation reduced opportunities for students to fully experience AI-assisted learning activities. These experiences required teachers to redesign classroom tasks, simplify digital activities, or prepare alternative learning materials so that students without access to technology would not be disadvantaged. The participants therefore recognized that equitable access to digital resources remains an important consideration when integrating AI into classroom instruction.

Another major challenge consistently discussed by the participants involved the reliability and accuracy of AI-generated content. Since Araling Panlipunan emphasizes factual accuracy, historical interpretation, and contextual understanding, participants explained that they could not immediately trust every response generated by AI. Participant 1 explained, *"Yes, sometimes AI-generated information is inaccurate, especially in historical details."* The participant recalled, *"There was a case where incorrect historical dates were generated, so I had to verify and correct them before using the material."* Because of this experience, the participant developed the practice of reviewing every AI-generated lesson before presenting it to learners.

Participant 2 experienced a similar situation, stating, *"Sometimes the information provided by AI is too general or not fully accurate."* The participant further explained, *"There was a time when AI gave incomplete explanations about a topic, so I had to add more details myself."* Instead of relying entirely on AI-generated explanations, the participant supplemented the content using textbooks, reference materials, and personal teaching experience to provide students with more complete discussions. Likewise, Participant 3 shared that *"there are times when AI provides inaccurate or outdated information,"* recalling an experience where *"AI provided incorrect explanations about historical events, so I had to revise the content."*

Comparable experiences were narrated by Participant 4, who explained, *"Sometimes the AI gives oversimplified explanations that need correction."* The participant further shared, *"There were cases where the explanations lacked detail, so I had to add more information myself."* Participants 5, 6, and 7 likewise described encountering inaccurate, incomplete, outdated, or overly generalized information generated by AI. These repeated experiences demonstrate that participants consistently viewed AI-generated content as a preliminary instructional resource rather than a final teaching material. Before any AI-generated information reached students, teachers devoted additional time to reviewing, correcting, and validating every instructional output.

The participants also encountered difficulties in ensuring that AI-generated instructional resources aligned with curriculum standards and prescribed learning competencies. They explained that although AI could quickly generate lesson plans, classroom activities, assessments, and instructional materials, these outputs did not always correspond with the competencies required by the curriculum. Participant 1 explained, *"Sometimes the AI-generated content is not aligned with the curriculum, so I need to revise it."* Similarly, Participant 2 stated, *"Some AI-generated materials do not match the required competencies, so I need to modify them."* Participants 3, 4, 5, 6, and 7 expressed comparable experiences, consistently explaining that AI-generated materials required editing before they could be integrated into classroom instruction. These revisions often involved reorganizing lesson objectives, replacing inappropriate examples, modifying classroom activities, and ensuring that assessment questions measured the intended competencies. Rather than reducing teachers' workload completely, AI frequently introduced an additional stage of instructional preparation devoted to curriculum alignment and contextualization.

Ethical concerns likewise emerged as an important challenge encountered by the participants. As AI became increasingly accessible to learners, teachers expressed concern that some students might rely excessively on AI-generated answers without developing their own understanding. Participant 1 explained, *"I remind students to use AI responsibly and not depend on it too much. I also emphasize checking sources."* Participant 2 similarly shared, *"I always remind students to not simply copy AI outputs and to understand the content."* Participant 3 stated that the participant *"encourage[s] them to verify information before accepting it,"* while Participant 4 explained, *"I teach my students not to depend only on AI and to always understand the lesson."* Participant 5 emphasized academic honesty by encouraging learners to complete their own work independently, while Participants 6 and 7 likewise reminded students to use AI responsibly and avoid complete dependence on technology. These narratives indicate that participants considered ethical guidance an important component of AI integration, recognizing that technology should strengthen learning rather than replace critical thinking and independent academic effort.

The participants further described their own professional preparedness as another challenge influencing AI integration. Although all participants had already begun using AI tools, many explained that learning to maximize AI required continuous exploration, experimentation, and professional development. Participant 1 remarked, *"Teachers need hands-on training and continuous support in using AI tools effectively."* Participant 2 similarly emphasized the need for *"proper training on how to use AI tools effectively,"* while Participant 3 recommended *"continuous training and support in using AI responsibly."* Participant 4 highlighted the need for training *"on how to maximize AI tools properly,"* whereas Participants 5, 6, and 7 likewise expressed the need for continuous technical support, additional professional learning opportunities, and institutional assistance. These experiences suggest that participants viewed AI integration as a continuing learning process rather than a skill that could be mastered immediately. They recognized that ongoing capacity building would strengthen teachers' confidence, improve instructional decision-making, and support more effective classroom integration of AI technologies.

Finally, several participants observed that AI-generated instructional materials occasionally lacked sufficient local context and cultural relevance for Filipino learners. Although AI could generate examples quickly, participants explained that some scenarios, illustrations, and explanations reflected foreign contexts or generalized situations that were less meaningful to their students. Consequently, teachers consistently revised AI-generated outputs by incorporating local examples, familiar community situations, and culturally relevant instructional materials before classroom implementation. These experiences demonstrate that teachers remained responsible for ensuring that AI-supported instruction reflected the realities, experiences, language, and cultural background of their learners rather than relying exclusively on generalized AI-generated content.

In general, the participants' narratives portray AI integration as a dynamic instructional process that extends far beyond simply adopting new technology. Their lived experiences demonstrate that effective AI integration requires teachers to overcome technological limitations, respond to unequal access to digital resources, validate instructional content, ensure curriculum alignment, promote responsible AI use, continuously develop their professional competence, and contextualize AI-generated materials according to the realities of Filipino classrooms. Although these challenges demanded additional effort, the participants consistently remained committed to integrating AI into their instructional practices while ensuring that technology continued to serve as a tool that supports, rather than replaces, effective teaching and meaningful learning.

Table 2. Challenges Encountered by Social Science Teachers in Integrating AI Enhanced Teaching Tools

Challenges Encountered	Formulated Meanings	Emergent Themes
"Unstable internet connection affects the use of AI tools during instruction."	Technological limitations hinder effective AI integration in classroom teaching.	Technological and Infrastructure Barriers
"Some students do not have gadgets or internet access at home."	Inequitable access to technology affects the implementation of AI-supported activities.	Digital Access and Equity Concerns
"AI sometimes provides inaccurate historical information and outdated facts."	AI-generated content requires verification and validation before use.	Reliability and Accuracy Concerns
"Some generated materials do not match the MELCs and curriculum standards."	AI outputs require modification and contextualization to align with learning competencies.	Curriculum Alignment and Teacher Adaptation
"Students sometimes rely too much on AI-generated answers."	Excessive dependence on AI may weaken critical thinking and independent learning.	Ethical and Responsible AI Utilization
"Many teachers still lack advanced knowledge of AI tools."	Continuous professional development is necessary for effective AI integration.	Capacity Building and Professional Development Needs

"AI-generated activities sometimes lack local context and cultural relevance."	Teachers must contextualize AI outputs to ensure meaningful and culturally responsive instruction.	Contextualization and Cultural Relevance Challenges
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Formulated Meanings Derived from the Lived Experiences and Challenges Encountered by Social Science Teachers in Using AI-Enhanced Teaching Tools

The integration of artificial intelligence into Araling Panlipunan instruction has reshaped teachers' instructional experiences by introducing new opportunities while simultaneously presenting challenges that influence classroom practice. As teachers incorporate AI-enhanced teaching tools into lesson preparation, instructional delivery, assessment, and learner engagement, they continuously develop personal understandings of how these technologies affect their professional roles and instructional responsibilities. These lived experiences extend beyond the functional use of AI, reflecting teachers' perceptions of its contribution to teaching effectiveness, learner engagement, instructional decision-making, and the complexities associated with its responsible and meaningful integration in the classroom.

The participants' narratives reveal that the use of AI-enhanced teaching tools is characterized by both enabling and constraining experiences. On one hand, AI supports instructional planning, facilitates the preparation of learning resources, and enhances classroom engagement. On the other hand, teachers encounter challenges related to technological limitations, content reliability, curriculum alignment, ethical considerations, and the need to continually adapt AI-generated resources to the realities of the Araling Panlipunan classroom. These experiences illustrate that AI integration is not solely a technological innovation but also a pedagogical experience that requires teachers to balance technological opportunities with professional judgment and instructional expertise.

The formulated meanings presented in this section capture the essential meanings embedded within the participants' lived experiences and the challenges they encountered while integrating AI-enhanced teaching tools into their instructional practices. These meanings represent the collective understanding of the participants regarding the role of AI in supporting teaching and learning, the realities they faced during its implementation, and the professional responsibilities they assumed to ensure that AI contributes to meaningful, ethical, and learner-centered instruction. Collectively, these formulated meanings provide a comprehensive understanding of the phenomenon and serve as the conceptual foundation for the emergent themes presented in the succeeding section.

Formulated Meanings on the Lived Experiences of Social Science Teachers Using AI-Enhanced Teaching Tools

The analysis of the participants' significant statements resulted in four formulated meanings that describe the lived experiences of Social Science teachers in integrating AI-enhanced teaching tools into their instructional practices. Following the phenomenological approach of Colaizzi, each significant statement was carefully examined to uncover its underlying meaning before similar meanings were clustered together. This process made it possible to identify the common experiences shared by the participants despite differences in their teaching experience, school contexts, and familiarity with artificial intelligence.

The formulated meanings represent more than a summary of the participants' responses. They explain how the participants understood and gave meaning to their experiences of using AI in the classroom. Throughout the interviews, the participants consistently described AI as a teaching resource that supported different aspects of their professional practice while helping them respond to the changing demands of classroom instruction. Their narratives revealed that AI influenced not only the way they prepared lessons but also how they delivered instruction, engaged learners, and presented learning content.

The participants' shared experiences revealed four major formulated meanings: (1) AI increases efficiency and productivity, (2) AI functions as an instructional assistant, (3) AI promotes active

participation, and (4) AI improves content accessibility. Each formulated meaning reflects a different dimension of the participants' experiences and provides a deeper understanding of how AI has influenced teaching and learning in Araling Panlipunan. These meanings also served as the basis for the development of the emergent themes discussed in the succeeding sections.

Formulated Meanings

1. AI Increases Efficiency and Productivity

The participants consistently described AI-enhanced teaching tools as technologies that significantly improve instructional efficiency and professional productivity. Most participants explained that AI reduced the amount of time required to prepare lesson plans, develop learning materials, create assessments, and organize instructional resources. Instead of manually performing repetitive instructional tasks, teachers utilized AI-generated outputs as preliminary instructional resources that could be refined according to their classroom needs.

Participant 1 shared,

"AI makes lesson preparation faster and more organized."

Similarly, Participant 7 stated,

"AI allows me to prepare lessons more efficiently and gives me new ideas for teaching."

These narratives indicate that AI has become an important productivity-enhancing resource that enables teachers to accomplish instructional responsibilities more efficiently while maintaining the quality of classroom instruction.

Analysis and Interpretation

The accounts shared by the participants consistently portray artificial intelligence as a practical resource that enhances teachers' efficiency by streamlining instructional preparation and reducing the time devoted to routine academic tasks. Rather than replacing teachers' professional responsibilities, AI was perceived as a supportive technology that simplified lesson planning, instructional material development, and assessment preparation. By automating preliminary tasks, teachers were able to redirect their efforts toward instructional improvement and learner support.

Participant 1 described this experience by stating, *"AI makes lesson preparation faster and more organized."* Likewise, Participant 7 explained, *"AI allows me to prepare lessons more efficiently and gives me new ideas for teaching."* These responses demonstrate that AI has become an effective instructional aid that allows teachers to accomplish essential teaching responsibilities more systematically while preserving the quality of classroom instruction.

The participants' experiences reveal that one of the most immediate benefits of AI lies in its ability to lessen the burden of repetitive instructional work. Lesson preparation traditionally requires teachers to search for references, organize learning activities, prepare assessments, and develop instructional resources before classroom implementation. Such responsibilities consume considerable time, particularly when teachers simultaneously manage administrative duties and learner support. The introduction of AI-assisted technologies enabled participants to complete these preliminary tasks more efficiently by producing initial drafts that served as foundations for further refinement.

Instead of beginning every instructional material from scratch, participants described using AI-generated lesson outlines, discussion prompts, assessment items, and classroom activities as starting points. These preliminary outputs reduced the amount of time needed to organize instructional content while allowing teachers to concentrate on refining materials according to curriculum standards and learners' needs. Consequently, AI functioned not merely as a generator of content but as a mechanism that accelerated the early stages of instructional design without diminishing teachers' active involvement in the process.

An equally important insight emerging from the participants' narratives is that the time saved through AI was redirected toward instructional responsibilities that demanded greater professional expertise. Rather than simply completing work more quickly, teachers explained that the reduced preparation time allowed them to design enrichment activities, monitor learners' progress more closely, provide individualized feedback, and improve classroom delivery. In this respect, productivity was measured not only by speed but also by the capacity to devote greater attention to teaching practices that directly influence student learning.

The findings further indicate that AI contributed to a more organized approach to instructional planning. Preparing coherent lessons requires teachers to align learning objectives, instructional procedures, learning resources, and assessment strategies within a logical sequence. Participants observed that AI-assisted tools generated structured lesson frameworks that could easily be adjusted to suit prescribed competencies and intended learning outcomes. Having these organized templates enabled teachers to review, revise, and improve their instructional plans before classroom implementation, thereby increasing their confidence and preparedness.

Beyond improving organization, participants also associated AI with greater instructional creativity. Several teachers explained that AI introduced unfamiliar teaching strategies, examples, and classroom activities that expanded their repertoire of instructional approaches. Exposure to diverse ideas encouraged them to move beyond routine teaching practices and explore alternative methods of presenting lessons. Rather than limiting originality, AI stimulated creative thinking by offering multiple possibilities that teachers could selectively adapt according to classroom realities.

The participants likewise emphasized that instructional efficiency should be viewed from a broader perspective. Their experiences suggest that efficiency is not simply the ability to complete tasks within a shorter period but the opportunity to allocate more time to meaningful educational interactions. As repetitive preparation became less demanding, teachers devoted more attention to classroom discussions, learner engagement, formative assessment, and responsive instruction. These aspects of teaching require professional judgment, empathy, and interpersonal communication—qualities that technology alone cannot provide.

Although AI substantially reduced routine preparation, participants consistently maintained that professional responsibility remained with the teacher. Every AI-generated lesson, activity, or assessment underwent careful evaluation before classroom implementation. Teachers verified factual accuracy, ensured alignment with curriculum competencies, revised inappropriate content, and contextualized instructional materials to match the characteristics of Filipino learners. This careful review highlights that AI functioned as a support mechanism rather than an autonomous instructional decision-maker.

The participants' accounts reinforce the understanding that technological efficiency becomes meaningful only when combined with professional expertise. AI may accelerate instructional preparation, but the effectiveness of classroom instruction ultimately depends on teachers' capacity to evaluate, modify, and appropriately implement the generated materials. Technology provided convenience, yet educational quality continued to rely on informed pedagogical decisions.

These observations correspond with the findings of Zhao (2023), who argued that AI enhances teachers' professional productivity by minimizing time spent on repetitive instructional tasks while allowing educators to devote greater attention to learner-centered responsibilities. Likewise, Qazi et al. (2024) reported that AI-supported educational systems streamline lesson preparation, instructional material development, and assessment design, enabling teachers to focus on meaningful classroom engagement instead of repetitive administrative work. Supporting these perspectives, Mazari (2025) emphasized that AI facilitates the efficient development of instructional resources while preserving educational quality because teachers retain responsibility for adapting generated materials to curriculum requirements and learner contexts.

Collectively, the findings demonstrate that AI contributes to instructional efficiency by simplifying routine preparation, strengthening lesson organization, encouraging pedagogical creativity, and allowing teachers to invest more time in learner-centered instruction. More importantly, the participants' experiences affirm that the value of AI does not stem solely from technological capability but from teachers' deliberate and reflective use of these tools. Professional judgment remained the decisive factor that transformed AI-generated resources into meaningful learning experiences, thereby preserving the teacher's indispensable role in planning, implementing, and continuously improving classroom instruction.

2. AI Functions as an Instructional Assistant

Another important meaning that emerged from the participants' experiences is that AI functions as an instructional assistant throughout the teaching process. Beyond reducing preparation time, the participants explained that AI became a dependable resource that helped them organize lessons, prepare classroom activities, develop quizzes, formulate discussion questions, and create instructional materials. Instead of completing every teaching task independently, they described AI as a companion that supported them from lesson planning to classroom implementation.

Participant 3 explained,

"AI helps me generate lesson plans, design quizzes, and suggest classroom activities."

Participant 6 likewise stated,

"AI tools help me generate lesson content, create quizzes, and suggest classroom activities."

These statements show that the participants viewed AI as more than a source of information. They experienced it as an instructional resource that helped them prepare lessons more effectively while allowing them to focus on delivering quality instruction.

Analysis and Interpretation

Beyond improving work efficiency, the participants' narratives reveal that artificial intelligence has become an integral instructional support system that assists teachers throughout the different stages of the teaching process. Rather than being used solely for generating information, AI was regarded as a dependable instructional partner that facilitated lesson organization, classroom activity design, assessment development, and the preparation of learning resources. Its contribution extended beyond saving time, as it also helped teachers make more informed instructional decisions while maintaining their professional autonomy.

Participant 3 expressed this perspective by stating, *"AI helps me generate lesson plans, design quizzes, and suggest classroom activities."* Similarly, Participant 6 remarked, *"AI tools help me generate lesson content, create quizzes, and suggest classroom activities."* These experiences indicate that teachers viewed AI as an accessible instructional resource capable of supporting various aspects of classroom preparation without assuming the role of the teacher.

The participants explained that successful classroom instruction depends on careful planning long before teaching begins. Designing meaningful lessons requires teachers to formulate appropriate learning objectives, organize engaging classroom experiences, prepare assessment tools, and ensure that instructional materials are aligned with curriculum standards. Accomplishing these interconnected responsibilities often demands considerable effort and creativity. Within this context, AI emerged as a practical assistant that provided immediate instructional support whenever teachers encountered challenges during lesson preparation.

Unlike conventional educational references that typically present fixed information, AI offered flexible and dynamic responses based on the instructional needs identified by teachers. Participants noted that when they searched for classroom activities, discussion prompts, or assessment questions, AI frequently presented multiple alternatives instead of a single recommendation. This variety enabled teachers to compare different instructional options and select those that best suited the competencies, learning

outcomes, and characteristics of their students. As a result, lesson preparation became a more reflective process in which teachers exercised professional judgment while benefiting from expanded instructional possibilities.

Another significant insight emerging from the participants' accounts is that AI became particularly valuable whenever teachers experienced difficulty developing instructional materials. Situations occasionally arose in which participants struggled to formulate discussion questions, create engaging classroom activities, or prepare assessments that effectively measured intended competencies. During these instances, AI functioned as an immediate source of professional assistance by offering ideas that stimulated further planning. Rather than supplying ready-made solutions, AI broadened teachers' perspectives and inspired them to refine instructional plans using their own expertise and classroom experience.

The participants likewise observed that AI contributed to the development of more innovative teaching practices. Exposure to diverse instructional suggestions encouraged teachers to experiment with unfamiliar approaches that promoted collaboration, inquiry, and critical thinking. Several participants explained that AI-generated activities introduced strategies they had not previously considered, motivating them to diversify classroom instruction instead of relying on repetitive teaching routines. This continuous exposure to alternative pedagogical ideas fostered professional growth by encouraging teachers to evaluate, adapt, and improve their instructional practices.

Another recurring observation involved the role of AI in improving the organization of instructional materials. Participants described how lesson objectives, learning activities, instructional resources, and assessment tasks could be arranged more systematically with AI assistance. Having a well-structured instructional sequence allowed teachers to manage classroom time more effectively, minimize disruptions during lesson implementation, and focus their attention on facilitating meaningful discussions. Consequently, AI contributed not only to instructional preparation but also to smoother classroom management during actual teaching.

Despite these advantages, the participants consistently emphasized that instructional authority remained entirely with the teacher. AI-generated lesson plans, quizzes, and learning activities were never adopted without careful evaluation. Every instructional resource underwent thorough review to verify factual accuracy, ensure alignment with curriculum standards, and determine its suitability for the learners' developmental level and local context. Participants stressed that AI merely generated possibilities, whereas final instructional decisions required professional expertise and pedagogical judgment.

The narratives further demonstrate that participants clearly recognized the limitations of AI within classroom instruction. While technology was capable of producing instructional materials efficiently, it could not understand learners' emotions, classroom interactions, cultural backgrounds, or individual learning difficulties in the same manner as experienced teachers. Decisions involving differentiated instruction, learner motivation, behavioral concerns, and classroom relationships continued to rely on the teacher's understanding of the unique needs of every class. This distinction reinforced the participants' belief that AI complements rather than replaces human instruction.

Furthermore, the participants reflected that continuous interaction with AI encouraged ongoing professional learning. Exploring AI-generated lesson ideas exposed teachers to new instructional techniques, alternative explanations, and diverse classroom strategies that enriched their pedagogical knowledge. Instead of becoming dependent on technology, participants described becoming more analytical as they compared AI-generated suggestions with their own teaching experiences before deciding which ideas were appropriate for implementation. This process strengthened reflective practice and promoted continuous instructional improvement.

The participants' experiences align with the observations of Sánchez (2024), who explained that AI expands instructional possibilities by assisting educators in designing learning activities, instructional materials, and innovative teaching strategies while allowing teachers to retain full control over educational decision-making. This is further supported by Falcis & Juaneza (2026) who emphasized the benefits of AI

in assisting teachers with the creation of instructional contents and teaching strategies, ultimately highlighting its contribution to quality instruction.

Complementing these findings, Kaswan et al. (2024) emphasized that AI-powered educational technologies strengthen instructional design by broadening teachers' access to flexible teaching strategies and educational resources that can be modified according to learners' needs and curriculum expectations.

Inclusively, the participants' accounts demonstrate that AI functions as an instructional assistant by providing continuous support throughout lesson planning, instructional preparation, classroom implementation, and assessment development. Nevertheless, these experiences also affirm that technology remained subordinate to the teacher's professional expertise. AI supplied ideas, instructional resources, and organizational support, yet meaningful learning continued to depend on teachers' capacity to interpret, evaluate, contextualize, and effectively implement these resources within authentic classroom environments. In this way, AI strengthened instructional practice while preserving the central role of teachers as the primary architects of meaningful educational experiences.

3. AI Promotes Active Participation

The third formulated meaning that emerged from the participants' lived experiences highlights the influence of AI in encouraging students to become more actively involved in classroom learning. While discussing their experiences, the participants consistently emphasized that the integration of AI-enhanced teaching tools changed the way students participated during Araling Panlipunan lessons. Instead of remaining passive listeners, students became more attentive, interested, and willing to share their ideas whenever AI-generated instructional materials were incorporated into classroom discussions.

Participant 4 remarked,

"Students became more attentive during discussions."

Participant 6 explained,

"Students became more engaged and participated actively."

Participant 7 further stated,

"Students are more interested and motivated when AI-assisted activities are used."

These responses suggest that AI-enhanced teaching tools contributed to creating classroom environments where students became active participants in the learning process rather than merely receiving information from their teachers.

Analysis and Interpretation

The participants' narratives further reveal that the integration of artificial intelligence into classroom instruction influenced not only teachers' instructional practices but also students' level of participation during learning activities. Their experiences consistently indicate that AI-enhanced teaching resources created learning environments where students became more attentive, motivated, and actively involved in classroom discussions. Instead of assuming passive roles during instruction, learners demonstrated greater willingness to interact with both the lesson content and their classmates, suggesting that AI contributed to a more engaging learning experience.

Participant 4 observed, *"Students became more attentive during discussions."* Likewise, Participant 6 shared, *"Students became more engaged and participated actively."* Participant 7 further explained, *"Students are more interested and motivated when AI-assisted activities are used."* Collectively, these responses suggest that AI-supported instructional materials encouraged students to become active contributors to classroom learning rather than simply receiving information from their teachers.

The participants described noticeable changes in learners' classroom behavior after incorporating AI-generated instructional resources into Araling Panlipunan lessons. Students who had previously shown limited interest in classroom discussions became more responsive whenever teachers introduced visual presentations, interactive activities, contextualized examples, and multimedia resources produced with the

assistance of AI. Rather than waiting for explanations from the teacher, learners increasingly asked questions, volunteered answers, and contributed ideas throughout classroom discussions. These observations suggest that AI-enhanced resources created conditions that encouraged learners to assume a more participatory role in constructing knowledge.

Several participants attributed this improvement in engagement to the ability of AI to present complex subject matter in more relatable ways. Araling Panlipunan often requires students to understand historical developments, political systems, economic principles, and social issues that may appear distant from their daily experiences. According to the participants, AI-generated examples, current events, and contextualized scenarios helped bridge this gap by connecting academic concepts to familiar situations. As students recognized these real-world connections, they became more interested in classroom discussions and demonstrated greater enthusiasm for participating in learning activities.

The narratives also indicate that AI contributed to strengthening students' confidence when expressing their ideas. Participants explained that visual representations, simplified explanations, timelines, and organized instructional materials allowed learners to develop a clearer understanding of lesson concepts before participating in discussions. Because students felt more prepared, they became increasingly willing to answer questions, explain concepts, and share personal viewpoints. Consequently, classroom participation expanded beyond a small group of highly active learners, creating more inclusive opportunities for student engagement.

Beyond individual participation, participants observed improvements in collaborative learning. AI-supported instructional materials frequently incorporated discussion prompts, inquiry-based activities, and problem-solving exercises that encouraged students to interact with one another. Rather than relying exclusively on teacher-centered instruction, learners engaged in conversations, compared perspectives, defended their opinions, and worked collectively to analyze different issues. These collaborative experiences transformed classroom discussions into dynamic exchanges where students actively contributed to the learning process.

Another meaningful pattern emerging from the participants' experiences is the sustained interest demonstrated by learners throughout the lesson. Maintaining students' attention during discussions involving historical events, governance, economics, or social issues can be challenging, particularly when instruction relies heavily on traditional lecture methods. Participants explained that AI introduced greater instructional variety through multimedia presentations, contextualized visuals, and interactive learning activities, preventing lessons from becoming repetitive. This diversity of instructional approaches helped maintain learners' curiosity and encouraged continuous participation from the beginning until the conclusion of classroom discussions.

The participants further recognized that meaningful participation extended beyond simply responding to teachers' questions. Students gradually demonstrated higher-order learning behaviors by interpreting information, analyzing situations, connecting classroom concepts with contemporary issues, and expressing reasoned opinions based on evidence presented during instruction. Instead of memorizing isolated facts, learners became more capable of applying concepts to authentic situations, reflecting a deeper level of cognitive engagement fostered through thoughtfully integrated AI-supported learning experiences.

Despite these positive outcomes, participants consistently emphasized that technology alone did not produce active participation. They explained that meaningful engagement depended largely on how teachers designed learning experiences around AI-generated materials. Simply presenting AI-assisted content was insufficient to encourage interaction unless teachers deliberately facilitated discussions, asked probing questions, organized collaborative activities, and created opportunities for every learner to contribute. Thus, AI served as an instructional catalyst, while effective classroom facilitation remained the teacher's primary responsibility.

The participants' experiences are consistent with the findings of Renacido and Biray (2025), who reported that AI-supported learning environments enhance learner engagement by creating more interactive

and relevant educational experiences that stimulate student motivation and participation. Similarly, Sánchez (2024) explained that AI promotes collaborative learning and inquiry by providing instructional materials that encourage classroom interaction rather than passive information delivery. Supporting these perspectives, Kaswan et al. (2024) concluded that AI-powered educational technologies foster greater learner engagement by offering interactive and personalized learning experiences that strengthen communication between teachers and students while encouraging active classroom involvement.

Taken together, the participants' accounts demonstrate that AI promotes active participation by creating instructional experiences that capture learners' attention, strengthen their confidence, and encourage meaningful interaction throughout classroom activities. Through contextualized examples, multimedia resources, collaborative tasks, and interactive discussions, AI supported the development of classrooms where students became active participants in knowledge construction. Nevertheless, the findings also underscore that sustained engagement resulted not from technology itself but from teachers' ability to integrate AI purposefully into instructional strategies that cultivated curiosity, critical thinking, collaboration, and meaningful participation in the learning process.

4. AI Improves Content Accessibility

The fourth formulated meaning that emerged from the participants' lived experiences highlights the role of AI in making instructional content easier for students to understand. Throughout the interviews, the participants consistently described AI as a valuable instructional resource that helped simplify complex Araling Panlipunan concepts through timelines, infographics, summaries, visual representations, and contextualized examples. These AI-generated materials enabled learners to understand lessons more clearly and helped teachers explain concepts that were often difficult to discuss using traditional instructional methods.

Participant 1 explained that AI-generated timelines helped students understand historical events more clearly.

Participant 4 shared that AI-generated infographics made cultural concepts easier to understand.

Participant 3 likewise noted that AI-generated examples helped students relate lessons on globalization to real-life situations.

These experiences suggest that AI enabled teachers to transform complex concepts into learning experiences that were easier for students to understand while responding to their different learning needs.

Analysis and Interpretation

Another significant insight that emerged from the participants' experiences is the role of artificial intelligence in making instructional content more accessible and comprehensible for learners. The participants consistently described AI as a valuable instructional aid that transformed abstract and information-rich topics into learning materials that students could understand more easily. Through the generation of timelines, infographics, summaries, visual illustrations, and contextualized examples, AI enabled teachers to present Araling Panlipunan concepts in ways that accommodated students' varying levels of understanding while promoting meaningful learning.

Participant 1 explained that AI-generated timelines enabled students to understand historical events more clearly. Similarly, Participant 4 shared that AI-produced infographics made cultural concepts easier to explain and comprehend. Participant 3 also emphasized that AI-generated examples allowed students to relate discussions on globalization to situations they encountered in everyday life. These accounts illustrate how AI assisted teachers in translating complex academic content into instructional materials that were more understandable and relevant to learners' experiences.

The participants recognized that teaching Araling Panlipunan often involves presenting concepts that require students to examine historical developments, political structures, economic relationships, geographical patterns, and cultural perspectives. These topics frequently demand abstract thinking and the

ability to establish connections among multiple ideas. According to the participants, AI-supported instructional tools simplified this challenge by reorganizing information into structured and visually engaging formats that enabled students to process concepts more effectively. Rather than confronting large volumes of information all at once, learners encountered content that was logically sequenced and easier to interpret.

A recurring observation among the participants was the importance of contextualizing instructional content. They explained that AI-generated examples frequently reflected contemporary issues, familiar situations, and community experiences that students could readily recognize. Connecting classroom lessons with real-life contexts helped learners appreciate the relevance of abstract concepts and encouraged them to interpret information more meaningfully. Instead of viewing Araling Panlipunan as a collection of isolated facts, students gradually understood how historical events, social issues, and civic responsibilities related to their own lives and communities.

The narratives likewise demonstrate that AI supported diverse learning preferences by providing multiple forms of instructional representation. Participants observed that while some students understood lessons more effectively through visual presentations, others benefited from concise summaries, practical illustrations, or simplified explanations. AI enabled teachers to prepare these varied instructional materials within a relatively short period, allowing them to respond more effectively to the diverse learning characteristics present in their classrooms. Consequently, instructional delivery became more flexible without requiring teachers to devote excessive time to developing multiple versions of the same lesson.

Another important pattern emerging from the participants' experiences is the contribution of AI to differentiated instruction. Teachers explained that learners progressed at different rates and often required varying levels of instructional support. Some students needed additional explanations before mastering a concept, whereas others benefited from enrichment activities that extended their learning. AI-assisted resources provided teachers with adaptable instructional materials that could be modified according to learners' academic readiness, enabling them to address individual learning needs more effectively while maintaining alignment with curriculum expectations.

The participants further observed that improved accessibility positively influenced the quality of classroom interaction. As students developed a clearer understanding of lesson content, they became more willing to participate in discussions, ask questions, and explain concepts using their own words. Rather than relying solely on memorized information, learners demonstrated greater confidence in analyzing issues, interpreting historical events, and connecting classroom discussions to contemporary social realities. These experiences suggest that making instructional content more accessible also strengthened learners' ability to engage in meaningful academic discourse.

Despite acknowledging these advantages, participants consistently emphasized that AI alone could not guarantee meaningful understanding. They explained that every AI-generated instructional material required careful evaluation before being introduced into the classroom. Teachers verified factual accuracy, ensured consistency with prescribed learning competencies, revised explanations that lacked clarity, and adapted examples to reflect the cultural and educational context of Filipino learners. This process underscores the continuing importance of teachers' professional judgment in ensuring that technology-supported instruction remains accurate, relevant, and educationally appropriate.

Moreover, the participants viewed accessibility as extending beyond the simplification of information. They believed that effective instruction should empower students not only to comprehend concepts but also to analyze, interpret, and apply acquired knowledge in different contexts. AI-supported resources contributed to this goal by presenting information through multiple representations that promoted deeper conceptual understanding rather than superficial memorization. Consequently, students became more capable of relating classroom learning to authentic experiences and demonstrating meaningful understanding of complex societal issues.

These findings correspond with the work of Mazari (2025), who explained that AI enhances conceptual understanding by providing adaptive instructional resources capable of responding to learners' diverse educational needs through multiple representations of information. In addition, the human-centered learning and teaching framework using generative AI for K–12 education of Kong and Yang (2024) also highlighted the capability of AI in assisting the educational system by placing teachers and students at the center without AI tool replacing human interaction. Supporting these observations, Kaswan et al. (2024) concluded that AI-powered educational technologies improve content accessibility by allowing educators to personalize learning resources according to learners' abilities, interests, and instructional requirements, thereby fostering deeper understanding and more meaningful learning experiences.

Ultimately, the participants' narratives demonstrate that AI improves content accessibility by enabling teachers to transform complex Araling Panlipunan concepts into organized, contextualized, and learner-friendly instructional resources. Through visual representations, summaries, timelines, practical examples, and differentiated learning materials, AI supported teachers in making instruction more understandable and responsive to learner diversity. Nevertheless, the findings affirm that meaningful accessibility depended not solely on technological capability but on teachers' expertise in evaluating, refining, and contextualizing AI-generated resources to ensure that learning remained accurate, relevant, and intellectually meaningful. In this way, AI complemented teachers' instructional practice while reinforcing their indispensable role in guiding students toward deeper comprehension and authentic learning.

Formulated Meanings on the Challenges Encountered by Social Science Teachers Using AI-Enhanced Teaching Tools

The analysis of the participants' significant statements resulted in seven formulated meanings that describe the challenges encountered by Social Science teachers in integrating AI-enhanced teaching tools into their instructional practices. Following the phenomenological approach of Colaizzi, each significant statement was carefully examined to uncover its underlying meaning before similar meanings were clustered together. This analytical process made it possible to identify the common challenges experienced by the participants despite differences in their teaching experience, grade level assignments, school contexts, and extent of AI utilization.

The formulated meanings represent more than a summary of the participants' responses. They explain how the participants understood and gave meaning to the challenges they encountered while integrating AI-enhanced teaching tools into their instructional practices. Throughout the interviews, the participants consistently described that although AI has become a valuable instructional resource, its effective implementation is influenced by various technological, pedagogical, ethical, and contextual concerns. Their narratives revealed that teachers continuously addressed limitations related to internet connectivity, unequal access to digital technologies, the accuracy and reliability of AI-generated content, curriculum alignment, students' responsible use of AI, professional competence, and the need to contextualize AI-generated instructional materials according to the realities of the Araling Panlipunan classroom.

The participants' shared experiences revealed seven major formulated meanings: (1) technological limitations hinder effective AI integration in classroom teaching; (2) inequitable access to technology affects the implementation of AI-supported activities; (3) AI-generated content requires verification and validation before use; (4) AI outputs require modification and contextualization to align with learning competencies; (5) excessive dependence on AI may weaken critical thinking and independent learning; (6) continuous professional development is necessary for effective AI integration; and (7) teachers must contextualize AI outputs to ensure meaningful and culturally responsive instruction. Each formulated meaning represents a distinct dimension of the challenges encountered by the participants and provides a deeper understanding of the realities they experienced while integrating AI-enhanced teaching tools into

Araling Panlipunan instruction. These formulated meanings likewise served as the foundation for the development of the emergent themes presented in the succeeding section.

1. Technological Limitations Hinder Effective AI Integration in Classroom Teaching

The participants consistently described technological limitations as one of the most immediate challenges affecting their use of AI-enhanced teaching tools in Araling Panlipunan instruction. Their narratives revealed that although AI offers valuable support in lesson preparation, assessment development, and instructional delivery, its effectiveness largely depends on the availability of stable technological infrastructure. Throughout the interviews, the participants repeatedly shared that unstable internet connectivity and limited access to technological resources frequently interrupted both lesson preparation and classroom implementation, preventing them from fully utilizing AI-assisted instructional activities.

Participant 1 explained, *"The main challenges are unstable internet connection and limited availability of devices in school."* According to the participant, AI-assisted instructional activities often required internet connectivity to access lesson materials, generate additional content, or utilize online applications during classroom discussions. However, unstable internet access frequently interrupted these activities, forcing the participant to shift to alternative teaching strategies that did not require digital technology. The participant also explained that the limited number of available devices prevented some planned AI-supported activities from being implemented successfully.

Similarly, Participant 2 described a comparable experience by stating, *"The major challenge is slow internet connection, and sometimes there are not enough devices for students to use."* The participant explained that classroom activities requiring students to access AI-supported platforms became difficult because not every learner had equal access to digital devices. Consequently, some learning activities needed to be redesigned to ensure that all students could participate despite these technological limitations. Instead of conducting individual AI-assisted tasks, the participant occasionally resorted to collaborative activities or teacher-led discussions to accommodate students with limited access to technology.

The same concern was expressed by Participant 3, who shared, *"One challenge is inconsistent internet connection, which sometimes limits my use of AI tools in class."* The participant recalled situations where internet interruptions occurred while presenting AI-generated instructional materials, resulting in delays and interruptions during classroom instruction. Because of these experiences, the participant developed the habit of preparing printed instructional materials and offline learning resources before every lesson to minimize disruptions caused by connectivity problems.

Participant 4 likewise experienced similar difficulties, stating, *"One challenge is limited internet access and sometimes I cannot use AI tools during class time."* The participant explained that although AI-generated presentations and instructional resources had already been prepared, limited internet access prevented the use of certain online features designed to increase classroom interaction. Instead of depending solely on AI-assisted instruction, the participant blended traditional instructional methods with available digital resources whenever technological limitations occurred.

Comparable experiences were narrated by Participants 5, 6, and 7. Participant 5 explained, *"Limited internet access and lack of proper devices are common problems."* Participant 6 similarly stated, *"Limited internet connection is a common problem, especially during actual lesson time."* Participant 7 also emphasized, *"One challenge is the lack of stable internet connection, which sometimes limits my ability to use AI tools effectively."* Although the participants differed in their teaching contexts and levels of AI utilization, they consistently described unstable connectivity and inadequate technological resources as recurring barriers that reduced opportunities to maximize AI during classroom instruction.

The participants further explained that these technological limitations influenced not only classroom instruction but also lesson preparation. AI-enhanced teaching tools often require continuous internet access to generate lesson plans, instructional materials, assessment items, multimedia presentations, and classroom activities. Whenever internet connectivity became unstable, teachers

experienced delays in accessing AI platforms or completing instructional resources within their planned schedules. Some participants described postponing lesson preparation until internet access improved, while others prepared alternative instructional materials in anticipation of possible technological disruptions.

Beyond connectivity, the participants also recognized that limited technological resources affected students' opportunities to engage in AI-supported learning experiences. Several participants observed that unequal access to gadgets and digital devices restricted students' participation in technology-based classroom activities. As a result, teachers continuously adjusted their instructional approaches to ensure that learners without adequate technological resources were not excluded from classroom participation. These adjustments required additional planning and flexibility, demonstrating that effective AI integration depended not only on teachers' willingness to use technology but also on the availability of sufficient educational resources.

Collectively, the participants' experiences illustrate that technological limitations remain one of the primary barriers to the effective integration of AI-enhanced teaching tools in Araling Panlipunan instruction. While AI provides significant instructional opportunities, its successful classroom implementation continues to rely heavily on stable internet connectivity, adequate technological infrastructure, and sufficient access to digital devices. These lived experiences underscore that technological readiness remains a fundamental requirement for maximizing the educational potential of AI while ensuring equitable and uninterrupted learning opportunities for all students.

Analysis and Interpretation

The participants' experiences indicate that technological infrastructure remains one of the primary factors influencing the effective integration of AI-enhanced teaching tools in Araling Panlipunan instruction. Although the participants acknowledged the instructional advantages of AI, they consistently explained that unstable internet connectivity and the limited availability of technological resources prevented them from maximizing its use during lesson preparation and classroom implementation. These findings suggest that the effectiveness of AI-enhanced instruction depends not only on teachers' willingness to adopt the technology but also on the availability of adequate digital infrastructure that supports continuous and uninterrupted classroom use.

The participants' narratives further demonstrate that technological limitations directly affect teachers' instructional planning and decision-making. Because AI applications rely heavily on internet connectivity, interruptions in network access frequently required teachers to modify instructional activities, prepare alternative learning materials, or return to conventional teaching strategies. Consequently, teachers exercised flexibility and adaptability to ensure that learning objectives were achieved despite technological constraints. These experiences reveal that the successful integration of AI extends beyond the availability of digital tools and requires an educational environment that provides reliable technological support.

The findings likewise reveal that inadequate technological resources influence students' opportunities to participate in AI-assisted learning activities. Participants explained that limited access to gadgets and internet connectivity reduced learners' ability to engage fully in technology-supported instruction. As a result, teachers adjusted classroom activities and adopted alternative instructional approaches to accommodate learners who experienced technological constraints. These experiences underscore the importance of providing equitable access to digital resources to ensure that all learners benefit from AI-enhanced instruction regardless of their technological circumstances.

The present findings support the study of Kaswan et al. (2024), which emphasized that the successful integration of AI in education depends largely on adequate technological infrastructure, reliable internet connectivity, and sufficient institutional support. Their study explained that technological limitations reduce teachers' ability to maximize AI applications despite recognizing their instructional value. This observation corresponds closely with the participants' experiences, as they consistently

identified unstable internet connectivity and limited technological resources as barriers that restricted the effective implementation of AI-enhanced teaching tools.

Similarly, Renacido and Biray (2025) reported that although AI technologies have considerable potential to improve instructional delivery and learner engagement, inadequate technological infrastructure remains a significant obstacle to their effective implementation in Philippine classrooms. They emphasized that reliable internet access and sufficient technological resources are necessary for teachers to integrate AI consistently into instructional practice. This finding reflects the participants' experiences of preparing AI-assisted lessons but encountering difficulties in implementing them because of unstable connectivity and limited digital resources.

Moreover, Qazi et al. (2024) explained that the effectiveness of AI-supported educational technologies depends not only on the capabilities of the technology itself but also on the availability of institutional resources that enable teachers to use AI efficiently. According to their study, inadequate infrastructure reduces the practical benefits of AI because teachers are frequently required to adjust lesson implementation in response to technological limitations. This observation is evident in the participants' experiences, as they consistently prepared alternative instructional materials and modified classroom activities whenever internet connectivity or technological resources became insufficient.

The findings demonstrate that technological limitations remain a significant challenge affecting the integration of AI-enhanced teaching tools in Araling Panlipunan instruction. While the participants recognized the instructional value of AI, their experiences reveal that unreliable internet connectivity and inadequate technological resources restricted its consistent classroom implementation. These findings affirm that strengthening technological infrastructure and ensuring equitable access to digital resources are essential conditions for maximizing the educational benefits of AI and supporting meaningful technology integration in teaching.

2. Inequitable Access to Technology Affects the Implementation of AI-Supported Activities

The participants consistently described unequal access to technological resources as a significant challenge in integrating AI-enhanced teaching tools into Araling Panlipunan instruction. Although they recognized that AI has the potential to enrich learning experiences through interactive activities, digital resources, and personalized instruction, they explained that these opportunities could not always be provided equally to all learners. Their narratives revealed that differences in students' access to digital devices and reliable internet connectivity influenced the implementation of AI-supported classroom activities and required teachers to continuously adjust their instructional approaches to accommodate varying learning conditions.

Participant 2 explained, *"The major challenge is slow internet connection, and sometimes there are not enough devices for students to use."* The participant narrated that AI-supported classroom activities often required students to access digital platforms independently. However, because several learners shared devices or did not have access to gadgets, the planned activities could not always be implemented as intended. Instead of requiring every learner to use AI individually, the participant modified classroom activities by organizing collaborative learning tasks and group discussions that allowed students to participate despite the limited availability of technological resources.

Similarly, Participant 1 stated, *"The main challenges are unstable internet connection and limited availability of devices in school."* The participant explained that the shortage of available devices reduced opportunities for learners to experience AI-assisted learning directly. During classroom implementation, only a limited number of students could access AI-generated instructional materials simultaneously, requiring the teacher to adjust learning activities so that all students remained engaged regardless of their technological access.

Participant 5 likewise shared, *"Limited internet access and lack of proper devices are common problems."* According to the participant, unequal access to technological resources frequently affected

students' participation in AI-supported learning activities. Some learners were able to complete technology-assisted tasks immediately, while others experienced delays because they lacked appropriate devices or reliable internet access. These differences required the participant to provide alternative activities to ensure that learning objectives were achieved by all students.

Participant 6 also described similar experiences, explaining, *"Limited internet connection is a common problem, especially during actual lesson time."* The participant narrated that even when AI-generated instructional materials had already been prepared, students' inability to access online resources restricted opportunities for interactive learning activities. Consequently, classroom instruction frequently shifted from technology-assisted learning to teacher-led discussions and printed instructional materials whenever technological limitations affected student participation.

Participant 7 further emphasized that unequal technological access influenced the consistency of AI integration by stating, *"One challenge is the lack of stable internet connection, which sometimes limits my ability to use AI tools effectively."* The participant explained that although AI offered innovative opportunities for instruction, students could not always benefit equally because access to internet connectivity varied among learners. As a result, classroom activities had to be redesigned to accommodate students who experienced technological constraints while ensuring that no learner was excluded from classroom participation.

Throughout the interviews, the participants consistently emphasized that unequal access to technology extended beyond the availability of internet connectivity. They explained that access to digital devices, technological facilities, and online learning resources also influenced students' ability to participate actively in AI-assisted instruction. Because of these differences, teachers assumed the responsibility of designing flexible instructional activities that remained accessible to learners regardless of their technological circumstances. They frequently prepared printed learning materials, modified digital activities into collaborative tasks, and developed alternative instructional strategies that promoted inclusive participation without depending entirely on AI-supported platforms.

The participants further shared that addressing digital inequality required continuous instructional adjustment rather than simply abandoning AI-assisted teaching. Instead of viewing unequal access as a reason to discontinue AI integration, they described adapting their teaching strategies to ensure that technology complemented, rather than restricted, students' learning experiences. Their narratives demonstrate that while AI has considerable potential to enhance instruction, equitable access to technological resources remains an essential condition for ensuring that all learners benefit meaningfully from AI-supported educational activities.

Analysis and Interpretation

The participants' narratives demonstrate that inequitable access to technology remains a significant challenge affecting the implementation of AI-supported activities in Araling Panlipunan instruction. Although the participants recognized the potential of AI to promote interactive learning and improve classroom engagement, they consistently explained that these opportunities could not be fully realized because not all students had equal access to digital devices and reliable internet connectivity. Their experiences indicate that successful AI integration depends not only on the availability of AI technologies but also on learners' ability to access the digital resources necessary for active participation in technology-enhanced instruction.

The findings further reveal that disparities in technological access directly influence teachers' instructional planning and classroom implementation. Because some learners lacked gadgets or stable internet connections, participants frequently modified AI-assisted activities, prepared alternative learning tasks, and implemented collaborative instructional strategies to ensure that every student remained engaged in the learning process. Rather than relying exclusively on AI-based activities, teachers demonstrated flexibility by combining technology-assisted instruction with conventional teaching approaches that

accommodated the diverse technological circumstances of their learners. These experiences underscore the teachers' commitment to providing inclusive learning opportunities despite existing digital inequalities.

Moreover, the participants' experiences suggest that digital inequity extends beyond the physical availability of devices. Limited technological access also affected students' opportunities to develop digital literacy, participate in collaborative AI-assisted learning activities, and experience the full educational benefits of emerging technologies. Consequently, teachers assumed additional responsibilities in creating learning environments that minimized the effects of unequal technological access while maintaining instructional quality. Their narratives illustrate that inclusive AI integration requires careful planning and continuous adaptation to ensure that technological limitations do not become barriers to meaningful learning.

The present findings are supported by Kaswan et al. (2024), who emphasized that equitable access to digital infrastructure is fundamental to the successful implementation of artificial intelligence in education. Their study explained that although AI offers innovative opportunities to enhance teaching and learning, unequal access to technological resources continues to widen educational disparities and limits learners' ability to benefit from AI-supported instruction. This finding is consistent with the participants' experiences, as they repeatedly described modifying classroom activities because not all students possessed the technological resources needed to participate fully in AI-assisted learning.

Similarly, Renacido and Biray (2025) reported that one of the persistent challenges in integrating AI within Philippine basic education is the unequal availability of digital devices and internet connectivity among learners. Their study highlighted that these disparities reduce students' participation in AI-enhanced learning activities and require teachers to employ alternative instructional strategies to ensure equitable learning opportunities. This observation mirrors the participants' experiences of redesigning instructional activities and preparing non-digital alternatives to accommodate learners with limited technological access.

Likewise, Qazi et al. (2024) emphasized that the educational effectiveness of AI depends on inclusive technological access that enables both teachers and students to participate actively in digital learning environments. According to their study, educational institutions must address digital inequalities to maximize the instructional potential of AI and prevent existing technological gaps from limiting educational outcomes. The participants' experiences support this perspective, demonstrating that teachers continuously adjusted their instructional practices to reduce the impact of unequal technological access on students' learning experiences.

The findings indicate that inequitable access to technology remains a substantial challenge affecting the implementation of AI-supported activities in Araling Panlipunan instruction. Although the participants demonstrated creativity and instructional flexibility in addressing these limitations, their experiences underscore that equitable access to digital resources is essential for ensuring that AI-enhanced teaching promotes inclusive participation and meaningful learning for all students. The findings further suggest that strengthening digital infrastructure and improving learners' access to technological resources are necessary to maximize the educational benefits of AI while reducing inequalities in technology-supported instruction.

3. AI-Generated Content Requires Verification and Validation Before Use

The participants consistently described the accuracy and reliability of AI-generated content as one of the most significant challenges they encountered when integrating AI-enhanced teaching tools into Araling Panlipunan instruction. While they acknowledged that AI could generate lesson plans, instructional materials, assessment items, and learning resources within a short period, they emphasized that these outputs could not be used immediately without careful examination. Throughout the interviews, the participants explained that AI occasionally produced inaccurate historical information, incomplete explanations, outdated facts, and oversimplified discussions that required teachers to verify every generated output before presenting it to learners.

Participant 1 explained, *"Yes, sometimes AI-generated information is inaccurate, especially in historical details."* The participant further recalled, *"There was a case where incorrect historical dates were generated, so I had to verify and correct them before using the material."* According to the participant, historical accuracy is essential in Araling Panlipunan because even minor factual errors may lead to misconceptions among learners. As a result, the participant developed the practice of comparing AI-generated information with textbooks, curriculum guides, and other credible references before integrating it into classroom instruction.

Participant 2 shared a similar experience, stating, *"Sometimes the information provided by AI is too general or not fully accurate."* The participant added, *"There was a time when AI gave incomplete explanations about a topic, so I had to add more details myself."* The participant explained that AI-generated discussions occasionally lacked the depth necessary for classroom instruction, particularly when discussing historical events and civic concepts that required comprehensive explanations. Instead of relying solely on AI, the participant supplemented the generated content with additional references to ensure that students received complete and accurate information.

Participant 3 likewise narrated, *"Yes, there are times when AI provides inaccurate or outdated information."* Recalling a specific experience, the participant explained, *"There was a case when AI provided incorrect explanations about historical events, so I had to revise the content."* According to the participant, historical topics require precise information because inaccuracies may affect students' understanding of important events and their significance. Consequently, every AI-generated instructional material underwent careful review before classroom implementation.

Similar concerns were expressed by Participant 4, who remarked, *"Yes, sometimes the AI gives oversimplified explanations that need correction."* The participant further explained, *"There were cases where the explanations lacked detail, so I had to add more information myself."* The participant observed that although AI simplified complex concepts, excessive simplification sometimes resulted in the omission of important details necessary for students to understand the lesson comprehensively. Therefore, the participant consistently revised AI-generated explanations to ensure that essential concepts remained complete and accurate.

Participant 5 also encountered comparable situations, stating, *"Yes, there are times when AI gives incorrect or outdated information."* The participant recalled, *"Some historical details were incorrect, so I had to correct them manually."* According to the participant, manually reviewing AI-generated instructional materials became a routine part of lesson preparation because relying entirely on AI could compromise the quality of classroom instruction.

Likewise, Participant 6 explained, *"Yes, sometimes AI-generated content is too general or lacks detail."* The participant observed that although AI efficiently generated instructional materials, many outputs required further elaboration before they became appropriate for students' learning needs. Instead of accepting AI-generated responses without modification, the participant revised examples, added explanations, and incorporated additional learning resources to improve instructional quality.

Participant 7 similarly stated, *"Yes, sometimes the information is not completely accurate, so I have to review it carefully."* The participant further shared, *"There were instances when details about historical events were incomplete or slightly incorrect."* According to the participant, careful verification became an essential responsibility because teachers remained accountable for ensuring that every learning material presented to students reflected accurate historical information and curriculum standards.

Throughout the interviews, the participants consistently emphasized that AI served as a valuable instructional support tool rather than an independent source of classroom content. They explained that every AI-generated lesson plan, discussion, activity, assessment, and learning material required careful verification before implementation. Instead of viewing AI-generated outputs as finished instructional resources, they regarded them as preliminary drafts that required professional evaluation, revision, and validation. Their experiences demonstrate that while AI significantly improves instructional efficiency,

teachers continue to play the central role in safeguarding the accuracy, credibility, and educational quality of classroom instruction.

Analysis and Interpretation

The participants' narratives indicate that the reliability of AI-generated content remains a critical concern in integrating AI-enhanced teaching tools into Araling Panlipunan instruction. Although the participants acknowledged that AI significantly reduced the time required to prepare instructional materials, they consistently emphasized that the generated outputs could not be accepted without careful verification. Their experiences revealed that AI occasionally produced inaccurate historical information, incomplete explanations, outdated facts, and oversimplified discussions, requiring teachers to validate every instructional material before presenting it to learners. These findings suggest that while AI enhances instructional efficiency, it does not eliminate the teacher's responsibility to ensure the accuracy and credibility of learning resources.

The participants' experiences further demonstrate that verification has become an integral component of AI-assisted lesson preparation. Because Araling Panlipunan is a discipline that emphasizes historical accuracy, civic understanding, geographical concepts, and evidence-based knowledge, participants recognized that even minor factual inaccuracies could lead to misconceptions among students. Consequently, they consistently compared AI-generated information with textbooks, curriculum guides, scholarly references, and other reliable educational resources before integrating the content into classroom instruction. Their narratives illustrate that AI functions primarily as a preliminary instructional aid rather than as an authoritative source of academic information.

Moreover, the participants emphasized that AI-generated instructional materials frequently required enrichment before they became appropriate for classroom use. They explained that some AI-generated discussions lacked sufficient depth, omitted important details, or simplified complex concepts to the extent that essential learning points were lost. As a result, teachers expanded explanations, incorporated additional examples, and supplemented AI-generated outputs with relevant instructional resources to provide students with more comprehensive and meaningful learning experiences. These findings highlight that teachers remain the primary architects of instruction, exercising professional judgment to determine the quality and appropriateness of AI-generated content.

The findings of the present study support Alafnan et al. (2023), who reported that although generative AI applications provide immediate access to educational content, the information they generate is not always accurate or reliable. Their study emphasized that AI systems may produce factual inaccuracies, fabricated references, and incomplete explanations, making human verification essential before educational use. This observation closely reflects the participants' experiences, as they consistently described reviewing, correcting, and validating AI-generated instructional materials before incorporating them into classroom teaching.

Similarly, Lo (2023) explained that while AI-powered tools offer considerable benefits in supporting instructional planning and content generation, educators should not rely exclusively on AI-generated responses because these systems may generate misleading or inaccurate information. The study emphasized that teachers must critically evaluate AI-generated outputs to ensure factual correctness, educational relevance, and alignment with instructional objectives. This finding corresponds with the participants' experiences of verifying historical information, correcting factual inaccuracies, and revising AI-generated explanations before classroom implementation.

The findings are likewise consistent with Kasneci et al. (2023), who argued that the educational application of artificial intelligence requires continuous human oversight because AI-generated content may contain errors, biases, or incomplete information. According to their study, teachers play a vital role in evaluating the credibility of AI-generated resources and ensuring that instructional materials remain academically accurate and pedagogically appropriate. The participants' narratives strongly support this

perspective, as they repeatedly emphasized that every AI-generated lesson, assessment, or learning material required careful validation before being introduced to students.

Furthermore, Crompton and Burke (2023) emphasized that although AI technologies can improve instructional efficiency, teachers remain responsible for maintaining educational quality through careful review and adaptation of AI-generated materials. Their review highlighted that successful AI integration depends not only on technological capabilities but also on educators' critical evaluation and professional expertise. This observation is reflected in the participants' experiences, as they consistently viewed AI as a supportive instructional tool rather than a substitute for professional knowledge and pedagogical decision-making.

Finally, the findings indicate that verifying and validating AI-generated content has become an indispensable responsibility for Social Science teachers. While AI significantly facilitates the preparation of instructional resources, the participants' experiences demonstrate that the technology cannot replace teachers' professional expertise in ensuring factual accuracy, instructional quality, and curriculum relevance. These findings reinforce the literature emphasizing that effective AI integration requires educators to exercise critical evaluation and responsible decision-making to maximize the instructional benefits of AI while minimizing the risks associated with inaccurate or unreliable information.

4. AI Outputs Require Modification and Contextualization to Align with Learning Competencies

The participants consistently described that although AI-enhanced teaching tools efficiently generate instructional materials, these outputs do not always correspond with the prescribed curriculum standards and learning competencies required in Araling Panlipunan instruction. Throughout the interviews, the participants explained that AI-generated lesson plans, learning activities, assessment tasks, and instructional content frequently required revision before they could be implemented in the classroom. Rather than using AI-generated materials exactly as they were produced, the participants emphasized the need to modify, reorganize, and contextualize every instructional resource to ensure alignment with the Most Essential Learning Competencies (MELCs), curriculum standards, and the specific learning needs of their students.

Participant 1 explained, *"Sometimes the AI-generated content is not aligned with the curriculum, so I need to revise it."* The participant narrated that although AI generated complete lesson materials within a short period, several portions of the content did not fully correspond with the intended learning competencies. Consequently, the participant carefully reviewed the generated lesson, reorganized the discussion sequence, and revised instructional activities before integrating them into classroom instruction. According to the participant, ensuring alignment with the curriculum remained an essential responsibility that could not be delegated to AI.

Participant 2 shared a similar experience by stating, *"Some AI-generated materials do not match the required competencies, so I need to modify them."* The participant explained that AI occasionally generated activities that were either too advanced or insufficiently aligned with the prescribed learning outcomes. As a result, classroom activities, discussion questions, and assessment tasks were modified to ensure that they addressed the competencies required for the lesson. The participant emphasized that AI served as a starting point for instructional preparation rather than a finished lesson that could immediately be implemented.

Likewise, Participant 3 remarked, *"Some AI-generated materials do not match the curriculum standards, so I need to revise them."* According to the participant, AI-generated instructional resources often contained relevant information but required adjustments in organization, content, and learning activities to ensure consistency with curriculum expectations. The participant explained that lesson objectives, examples, and classroom exercises were regularly revised before they were presented to learners.

Participant 4 also experienced similar challenges, explaining, *"Some AI materials are not aligned with competencies, so I adjust them to fit the curriculum."* The participant narrated that while AI generated creative classroom activities, these activities occasionally focused on objectives that differed from the intended competency. Consequently, the participant revised the learning tasks, modified classroom examples, and reorganized instructional procedures to maintain alignment with the curriculum requirements.

Comparable experiences were described by Participant 5, who stated, *"It is difficult to match AI-generated content with specific curriculum standards."* According to the participant, AI-generated instructional materials frequently required careful review because some activities emphasized concepts beyond the expected learning outcomes. The participant therefore evaluated every instructional resource before integrating it into classroom instruction to ensure that learners achieved the intended competencies.

Participant 6 likewise explained, *"I modify AI-generated outputs and combine them with my own materials."* The participant shared that instead of relying exclusively on AI-generated lessons, personal instructional resources, classroom experiences, and locally developed learning materials were incorporated to strengthen curriculum alignment and improve the overall quality of instruction.

Similarly, Participant 7 narrated, *"I edit and improve AI outputs to make sure they fit my lesson and my students' needs."* According to the participant, AI-generated materials served primarily as preliminary instructional drafts that required continuous refinement before classroom implementation. Lesson content, examples, assessment questions, and instructional activities were revised to ensure that they reflected both curriculum expectations and learners' varying academic abilities.

Throughout the interviews, the participants consistently emphasized that curriculum alignment remained a professional responsibility that required continuous teacher intervention. Although AI significantly reduced the time needed to prepare instructional materials, the participants explained that meaningful classroom instruction depended on their ability to evaluate AI-generated resources, revise lesson content, contextualize classroom examples, and ensure that every instructional material corresponded with the prescribed competencies. Their experiences demonstrate that AI functions as a supportive instructional resource, while teachers remain responsible for transforming AI-generated outputs into curriculum-responsive learning materials that address the diverse needs of their students.

Analysis and Interpretation

The participants' experiences indicate that one of the major challenges in integrating AI-enhanced teaching tools lies in ensuring that AI-generated instructional materials align with curriculum standards and prescribed learning competencies. Although AI can rapidly produce lesson plans, classroom activities, and assessment materials, the participants consistently explained that these outputs often required substantial modification before they became appropriate for classroom instruction. Their narratives suggest that AI-generated resources are not inherently curriculum-responsive and therefore require teachers' professional expertise to ensure instructional relevance and compliance with educational standards.

The findings further reveal that curriculum alignment remains a teacher-centered responsibility despite the increasing use of AI technologies. The participants consistently revised lesson objectives, reorganized instructional content, modified assessment tasks, and adapted classroom activities to ensure that AI-generated materials addressed the competencies expected in Araling Panlipunan. These experiences demonstrate that AI cannot independently determine the curricular requirements of specific educational contexts. Instead, teachers continue to serve as instructional decision-makers who evaluate whether AI-generated resources contribute meaningfully to the intended learning outcomes.

The participants also emphasized that contextualization is an essential component of curriculum alignment. Beyond matching competencies, they explained that AI-generated materials frequently required the inclusion of local examples, culturally relevant situations, and learner-centered activities that reflected students' experiences. Consequently, teachers continuously adapted AI-generated resources to ensure that

classroom instruction remained meaningful, relevant, and responsive to the realities of Filipino learners. These experiences indicate that effective AI integration involves not only technological competence but also deep pedagogical knowledge of curriculum implementation.

The present findings support Lo (2023), who emphasized that while generative AI can assist teachers in developing instructional materials, educators remain responsible for evaluating and adapting AI-generated outputs to ensure alignment with curriculum objectives and learners' educational needs. The study explained that AI-generated resources should serve as instructional support rather than complete teaching materials, as they frequently require modification to satisfy specific curricular expectations. This observation is consistent with the participants' experiences of revising lesson plans, instructional activities, and assessments before classroom implementation.

Similarly, Kasneci et al. (2023) argued that AI-generated educational content should always be reviewed by teachers to ensure its pedagogical appropriateness and alignment with instructional goals. Their study emphasized that AI systems lack contextual awareness of specific curriculum standards and therefore depend on educators to determine the relevance and suitability of generated materials. This perspective reflects the participants' consistent practice of evaluating and modifying AI-generated resources to meet the competencies prescribed in Araling Panlipunan.

The findings are likewise supported by Crompton and Burke (2023), who explained that teachers continue to play a central role in adapting AI-generated instructional resources to the needs of learners and curriculum requirements. According to their review, successful AI integration depends on teachers' ability to contextualize technological outputs, integrate appropriate instructional strategies, and ensure that learning experiences remain meaningful within specific educational settings. This observation mirrors the participants' experiences of incorporating local examples, revising instructional materials, and aligning AI-generated content with curriculum standards before classroom implementation.

In general, the findings demonstrate that curriculum alignment and contextualization remain indispensable responsibilities of teachers despite the increasing availability of AI-enhanced teaching tools. While AI contributes significantly to instructional efficiency, the participants' experiences indicate that meaningful teaching continues to depend on teachers' professional judgment in evaluating, modifying, and contextualizing AI-generated instructional materials. These findings reinforce the literature emphasizing that AI serves as a pedagogical support tool whose effectiveness depends on teachers' expertise in translating technological outputs into curriculum-aligned and learner-centered instruction.

5. Excessive Dependence on AI May Weaken Critical Thinking and Independent Learning

The participants consistently expressed concern that while artificial intelligence offers valuable instructional support, its increasing accessibility may encourage some learners to become overly dependent on AI-generated responses. Throughout the interviews, they observed that students occasionally relied on AI to complete assignments, answer classroom activities, and generate written outputs without exerting sufficient effort to understand, analyze, or evaluate the information. The participants emphasized that although AI can facilitate learning, excessive dependence on the technology may reduce students' opportunities to develop higher-order thinking skills, independent reasoning, and academic responsibility.

Participant 1 explained, *"I remind students to use AI responsibly and not depend on it too much. I also emphasize checking sources."* The participant shared that students should understand that AI is intended to support learning rather than replace their own thinking. According to the participant, learners were constantly reminded to verify information generated by AI using reliable references because unquestioningly accepting AI-generated responses could lead to misconceptions and inaccurate understanding of lesson concepts.

Participant 2 described a similar experience, stating, *"I always remind students to not simply copy AI outputs and to understand the content."* The participant explained that some learners appeared more interested in obtaining immediate answers than in understanding the concepts behind those answers.

Because of this observation, classroom discussions were designed to encourage students to explain ideas in their own words, defend their responses, and demonstrate genuine comprehension instead of merely presenting AI-generated outputs.

Likewise, Participant 3 emphasized the importance of responsible AI use by explaining, *"I make sure to teach students about proper AI use and encourage them to verify information before accepting it."* According to the participant, AI should serve as a supplementary learning resource that stimulates curiosity rather than replacing students' independent inquiry. The participant consistently encouraged learners to compare AI-generated information with textbooks, classroom discussions, and other credible learning resources before drawing conclusions.

Participant 4 also observed similar situations, stating, *"I teach my students not to depend only on AI and to always understand the lesson."* The participant explained that although AI simplifies many learning tasks, students still need to analyze historical events, interpret evidence, and formulate their own conclusions. To strengthen these skills, the participant regularly incorporated classroom activities that required learners to express personal insights and justify their answers through discussion and reflection.

Participant 5 likewise emphasized academic integrity, explaining that students should use AI as a learning aid rather than as a substitute for their own academic work. The participant observed that maintaining honesty in completing assignments remained essential despite the increasing availability of AI technologies. Consequently, learners were encouraged to demonstrate originality by producing outputs that reflected their own understanding while using AI only as a supplementary reference.

Participant 6 shared a comparable experience, explaining that students were continually reminded to *"use AI properly"* and not become entirely dependent on AI-generated responses. According to the participant, meaningful learning occurs when students actively process information, evaluate evidence, and construct their own understanding instead of simply accepting AI-generated answers without reflection.

Correspondingly, Participant 7 explained that students were encouraged *"not to rely on AI entirely and to use AI responsibly."* The participant observed that AI could become an effective learning companion only when learners remained actively involved in analyzing information and solving problems independently. Therefore, classroom activities were intentionally designed to require students to interpret information, formulate arguments, and participate actively in discussions instead of relying exclusively on AI-generated responses.

Throughout the interviews, the participants consistently emphasized that responsible AI integration involves balancing technological assistance with the continued development of students' critical thinking and independent learning skills. Rather than discouraging the use of AI, they promoted its responsible utilization by teaching learners how to evaluate information critically, verify sources, and use AI as a complementary educational tool. Their narratives demonstrate that teachers remain committed to ensuring that AI enhances learning while preserving students' intellectual independence, analytical thinking, and academic integrity.

Analysis and Interpretation

The present findings are consistent with the study of AlAfnan et al. (2023), who emphasized that while generative AI has transformed educational practices by providing immediate access to information and learning support, its unrestricted use may encourage learners to rely on AI-generated responses rather than engaging in independent thinking. Their study stressed that educators play an essential role in guiding students to evaluate AI-generated information critically and to use AI as a supplementary learning tool instead of a replacement for personal analysis and intellectual effort. This finding reflects the participants' experiences of continuously reminding students to verify information, understand lesson concepts, and avoid depending entirely on AI-generated outputs.

Similarly, Sánchez (2024) explained that the educational value of artificial intelligence depends largely on how teachers facilitate its responsible integration into classroom instruction. The study

emphasized that AI should be used to strengthen inquiry, collaboration, and critical thinking rather than simply providing ready-made answers for learners. Sánchez further noted that teachers remain responsible for designing learning experiences that encourage learners to analyze information, formulate their own conclusions, and engage actively in classroom discussions. These observations closely correspond with the participants' experiences of requiring students to explain ideas, justify their responses, and participate meaningfully in classroom activities despite the availability of AI technologies.

Likewise, Falcis & Juaneza (2026) emphasized that artificial intelligence can serve as an instructional assistant that supports teachers in lesson planning, content enrichment, teaching strategies, and the development of learning resources. However, their study highlighted that AI should complement rather than replace teachers' professional judgment, creativity, ethical discernment, and contextual understanding. The authors further emphasized the importance of teachers' active role in guiding students toward the responsible and meaningful use of AI. This perspective is evident in the participants' experiences, as they consistently guided students to use AI responsibly while maintaining academic honesty, independent learning, and critical thinking throughout the learning process.

Overall, the results indicate that excessive dependence on AI presents an important instructional concern that requires continuous teacher guidance and ethical classroom practices. Although AI provides valuable educational support, the participants' experiences demonstrate that meaningful learning continues to depend on students' ability to evaluate information critically, construct their own understanding, and participate actively in learning activities. These findings reinforce the literature suggesting that AI achieves its greatest educational value when it enhances—not replaces—students' intellectual engagement and teachers' instructional guidance.

6. Continuous Professional Development is Necessary for Effective AI Integration

The participants consistently recognized that although AI-enhanced teaching tools provide numerous instructional benefits, their effective integration depends largely on teachers' knowledge, skills, and confidence in using these technologies. Throughout the interviews, the participants acknowledged that many teachers are still in the process of learning how to utilize AI appropriately in classroom instruction. They explained that while some educators have become familiar with basic AI applications, others continue to experience difficulties in selecting appropriate AI tools, evaluating AI-generated outputs, and integrating these technologies into curriculum-based instruction. As a result, the participants emphasized the need for continuous professional development to strengthen teachers' competence in AI-assisted teaching.

Participant 1 explained, *"Teachers need continuous training and support in using AI responsibly."* The participant emphasized that AI technologies continue to evolve rapidly, making it necessary for teachers to update their knowledge regularly. According to the participant, professional development programs should not only introduce AI tools but should also focus on responsible AI utilization, content validation, and effective classroom integration.

Similarly, Participant 2 stated, *"Teachers need hands-on training and continuous support in using AI tools effectively."* The participant explained that although AI platforms are becoming more accessible, many teachers remain uncertain about how to maximize their instructional potential. Practical workshops and mentoring opportunities, according to the participant, would enable teachers to become more confident in integrating AI into lesson planning, assessment, and classroom instruction.

Participant 3 also highlighted the importance of professional learning by sharing, *"Trainings and access to internet and devices help us integrate AI tools more effectively."* The participant explained that learning about AI through seminars and training sessions improved understanding of different AI applications and provided opportunities to exchange instructional strategies with fellow educators. Such experiences strengthened confidence in using AI while encouraging teachers to adopt innovative instructional practices.

Participant 4 expressed a similar perspective, stating, *"Some trainings and basic resources are provided, but more support would be helpful."* The participant explained that introductory seminars created awareness of AI technologies, yet additional specialized training was necessary to address more advanced instructional applications. According to the participant, continuous learning opportunities would help teachers remain updated as AI technologies continue to evolve.

Likewise, Participant 5 explained, *"Training programs help, but more resources are needed."* The participant observed that while professional development activities introduced teachers to different AI tools, sustained institutional support remained necessary to strengthen teachers' confidence and competence in applying AI within diverse classroom situations.

Participant 6 also emphasized the need for continuous learning, stating, *"Teachers need continuous training and technical support."* The participant explained that technological innovations develop rapidly, requiring educators to update both their technical skills and pedagogical approaches regularly. Continuous professional development, according to the participant, enables teachers to utilize AI more effectively while addressing emerging instructional challenges.

Similarly, Participant 7 shared, *"Training and internet access help, but more resources are still needed."* The participant explained that learning opportunities should extend beyond basic AI orientation programs and include practical classroom applications, curriculum integration strategies, and ethical guidelines for responsible AI use. Such initiatives, according to the participant, would allow teachers to maximize the instructional benefits of AI while maintaining educational quality.

Across the interviews, the participants consistently emphasized that professional development should be viewed as a continuous process rather than a one-time training activity. They explained that because AI technologies continuously evolve, teachers must likewise continue developing their technological knowledge, instructional skills, and ethical understanding. Their narratives demonstrate that effective AI integration depends not only on access to technological tools but also on sustained learning opportunities that empower teachers to use AI confidently, responsibly, and effectively in Araling Panlipunan instruction.

Analysis and Interpretation

The participants' experiences indicate that continuous professional development is essential for the successful integration of AI-enhanced teaching tools into Araling Panlipunan instruction. Although the participants demonstrated willingness to adopt AI technologies, they consistently acknowledged that effective implementation requires continuous learning, technical competence, and pedagogical preparation. Their narratives suggest that teachers recognize AI not merely as a technological innovation but as an instructional resource that demands ongoing professional growth to ensure its appropriate and meaningful classroom application.

The findings further reveal that teachers' confidence in using AI develops through sustained exposure to training programs, practical experiences, and collaborative learning opportunities. The participants emphasized that seminars, workshops, mentoring activities, and hands-on training enhanced their understanding of AI applications while improving their ability to evaluate, modify, and integrate AI-generated instructional materials. These experiences demonstrate that professional learning enables teachers to move beyond basic technological familiarity toward more effective and responsible AI integration that supports curriculum implementation and student learning.

The participants also highlighted that professional development extends beyond acquiring technical knowledge. They explained that teachers need continuous guidance on ethical AI use, instructional decision-making, curriculum alignment, and content validation to ensure that AI contributes positively to educational outcomes. These findings indicate that AI competence involves the integration of technological, pedagogical, and professional knowledge that allows teachers to exercise sound judgment while utilizing AI-assisted instructional resources.

The present findings support Kaswan et al. (2024), who emphasized that teachers' preparedness is one of the most significant factors influencing the successful integration of artificial intelligence in education. Their study reported that continuous professional development enables educators to improve their technological competence, instructional innovation, and confidence in using AI applications effectively. This observation corresponds closely with the participants' experiences, as they consistently emphasized the importance of ongoing training to strengthen their ability to integrate AI into teaching.

Similarly, Renacido and Biray (2025) found that continuous capacity-building initiatives are essential for helping teachers respond to the rapidly evolving landscape of educational technologies. Their study highlighted that professional development equips teachers with the knowledge and practical skills needed to utilize AI responsibly while addressing instructional challenges encountered during classroom implementation. This finding reflects the participants' experiences of seeking additional training, technical support, and institutional assistance to improve their AI integration practices.

Likewise, Qazi et al. (2024) emphasized that successful AI implementation depends not only on technological infrastructure but also on teachers' professional readiness to adopt emerging digital innovations. According to their study, continuous training enables educators to understand AI capabilities, evaluate AI-generated outputs critically, and apply AI tools in ways that enhance teaching effectiveness. This perspective aligns with the participants' experiences of recognizing that sustained professional learning is necessary to maximize the instructional benefits of AI while maintaining educational quality.

In the end, the study proved that continuous professional development is a critical requirement for effective AI integration in Araling Panlipunan instruction. Although teachers have embraced AI as a valuable instructional resource, their experiences reveal that ongoing learning opportunities, institutional support, and capacity-building initiatives remain necessary to strengthen teachers' competence, confidence, and responsible use of AI. These findings reinforce the literature suggesting that sustained professional development serves as a foundation for meaningful, ethical, and effective AI-enhanced teaching practices.

7. Teachers Must Contextualize AI Outputs to Ensure Meaningful and Culturally Responsive Instruction

The participants consistently explained that although AI-enhanced teaching tools generate instructional materials efficiently, the generated outputs do not always reflect the local realities, cultural context, and learning experiences of Filipino learners. Throughout the interviews, they observed that AI-generated lesson plans, classroom activities, examples, and discussion materials frequently contained generalized or foreign-based content that required modification before they became appropriate for Araling Panlipunan instruction. Consequently, the participants emphasized that contextualizing AI-generated materials remained an essential responsibility to ensure that instruction remained meaningful, relevant, and responsive to the needs of their students.

Participant 1 explained, *"Sometimes I need to change the examples generated by AI because they are not familiar to my students."* The participant shared that although AI provided accurate explanations of lesson concepts, many of the examples were based on foreign situations that learners could not easily relate to. As a result, local situations, community experiences, and familiar historical examples were incorporated to make classroom discussions more meaningful and easier for students to understand.

Similarly, Participant 2 stated, *"Some AI-generated activities are too general, so I modify them according to my students' needs."* The participant explained that instructional activities often required adjustments to match students' learning abilities, classroom situations, and local experiences. Instead of implementing AI-generated activities exactly as produced, the participant revised the learning tasks to make them more engaging and appropriate for the learners' context.

Participant 3 also shared, *"I always review AI-generated materials because some examples do not fit the local setting."* According to the participant, AI frequently generated instructional scenarios that reflected international contexts rather than Philippine realities. Therefore, examples related to local history,

community issues, and familiar social situations were incorporated to strengthen students' understanding of lesson concepts.

Participant 4 likewise emphasized, *"I adjust AI-generated content so it becomes more relevant to my learners."* The participant explained that although AI efficiently generated lesson materials, teachers remained responsible for ensuring that the content reflected students' actual experiences and cultural background. Local events, familiar places, and community-based examples were regularly integrated into classroom discussions to increase learner engagement and comprehension.

Participant 5 expressed a similar experience, stating, *"I edit AI-generated materials because they sometimes do not match the experiences of my students."* The participant explained that culturally appropriate examples enabled learners to participate more actively during discussions because they could easily connect new concepts with their own experiences and community environment.

Participant 6 also narrated, *"I combine AI-generated outputs with my own teaching materials so they become more suitable for my students."* According to the participant, AI served only as a foundation for lesson preparation, while meaningful classroom instruction depended on the teacher's ability to contextualize the generated content using local references and culturally responsive examples.

Similarly, Participant 7 remarked, *"I improve AI-generated content by adding local examples and situations that students can easily understand."* The participant explained that contextualization made instructional materials more relevant, encouraged active classroom participation, and enabled learners to appreciate the relationship between lesson concepts and their own community experiences.

Across the interviews, the participants consistently emphasized that contextualization remained an indispensable component of AI integration. They explained that although AI significantly improved instructional efficiency, meaningful learning occurred only when AI-generated materials reflected learners' cultural backgrounds, community experiences, and local realities. Rather than depending entirely on AI-generated content, the participants continuously revised instructional materials to ensure that teaching remained learner-centered, culturally responsive, and aligned with the educational context of Araling Panlipunan.

Analysis and Interpretation

The participants' experiences demonstrate that contextualizing AI-generated instructional materials is essential for ensuring meaningful and culturally responsive learning in Araling Panlipunan. Although AI efficiently generates lesson content, activities, and examples, the participants consistently observed that these outputs frequently reflected generalized or foreign contexts that did not fully correspond with the realities and experiences of Filipino learners. Their narratives suggest that meaningful AI integration requires teachers to modify instructional materials so that they become relevant to learners' cultural backgrounds, local communities, and everyday experiences.

The findings further indicate that contextualization remains a professional responsibility that cannot be performed by AI alone. The participants consistently revised AI-generated examples, incorporated community-based situations, and integrated local historical and cultural references into classroom instruction. These practices demonstrate that effective teaching extends beyond presenting accurate information; it also involves connecting lesson content with learners' lived experiences to promote deeper understanding and meaningful engagement. The participants' experiences therefore highlight that teachers remain central in transforming AI-generated outputs into culturally appropriate learning resources.

The participants also emphasized that contextualized instruction promotes greater learner participation and comprehension. By replacing unfamiliar examples with situations drawn from students' own communities and experiences, teachers created learning environments that encouraged active discussion, reflection, and personal connection with lesson concepts. These findings suggest that AI serves as an instructional aid, while teachers ensure that educational content remains relevant, authentic, and responsive to the diverse contexts of Filipino learners.

The present findings support Sánchez (2024), who emphasized that artificial intelligence should complement teachers' pedagogical expertise rather than replace it. The study explained that educators play an essential role in adapting AI-generated instructional materials to the cultural, social, and educational contexts of their learners. According to Sánchez, contextualization enhances the relevance of AI-assisted instruction and enables students to connect classroom learning with their own experiences. This observation reflects the participants' consistent practice of modifying AI-generated materials to make them more meaningful and appropriate for their learners.

Similarly, Falcis & Juaneza (2026) emphasized the use of AI as a helpful support for teachers in developing instructional materials, enriching lesson content, and improving teaching strategies, while teachers remain responsible for applying their professional judgment and contextual knowledge. Their study highlighted the importance of teachers' creativity, ethical discernment, and understanding of learners' needs when integrating AI into Social Studies instruction. This perspective closely corresponds with the participants' experiences of incorporating local examples, community issues, and culturally familiar situations into AI-generated instructional materials to make lessons more relevant and meaningful to their learners.

Likewise, Crompton and Burke (2023) explained that teachers remain indispensable in ensuring that AI-supported instruction is responsive to learners' diverse educational needs. Their review highlighted that although AI can efficiently generate instructional resources, teachers must adapt these materials to suit specific classroom contexts and learner characteristics. This finding aligns with the participants' experiences, as they consistently revised AI-generated outputs to strengthen cultural relevance, learner engagement, and instructional effectiveness.

The findings indicate that contextualization is a critical component of effective AI integration in Araling Panlipunan instruction. While AI significantly improves the efficiency of instructional preparation, the participants' experiences demonstrate that teachers continue to play a vital role in ensuring that learning materials are culturally relevant, learner-centered, and meaningful. These findings reinforce the literature emphasizing that the educational value of AI is maximized when teachers combine technological innovation with contextualized pedagogical practices that reflect the realities and experiences of their learners.

Emergent Themes Derived from the Formulated Meanings of the Lived Experiences and Challenges Encountered by Social Science Teachers in Integrating AI-Enhanced Teaching Tools

The phenomenological analysis of the participants' lived experiences and challenges in integrating AI-enhanced teaching tools resulted in eleven emergent themes that collectively describe the essence of the phenomenon. These themes reveal that the integration of artificial intelligence in Araling Panlipunan instruction is a multidimensional experience characterized by both significant instructional opportunities and practical implementation challenges. While the participants recognized AI as an effective educational innovation that enhances teaching practices, they also acknowledged that its successful integration requires continuous professional judgment, instructional adaptation, technological readiness, and ethical responsibility.

The first four emergent themes describe the positive instructional experiences of the participants. The themes AI Increases Efficiency and Productivity, AI as an Instructional Assistant, AI Promotes Active Participation, and AI Improves Content Accessibility demonstrate that AI has become an important instructional resource that supports teachers in lesson preparation, instructional delivery, classroom engagement, and the simplification of complex concepts. The participants consistently perceived AI as a complementary teaching tool that enhanced instructional effectiveness while enabling them to respond more efficiently to the diverse learning needs of students.

The remaining seven emergent themes reflect the realities and challenges associated with AI integration. The themes Technological and Infrastructure Barriers, Digital Access and Equity Concerns, Reliability and Accuracy Concerns, Curriculum Alignment and Teacher Adaptation, Ethical and

Responsible AI Utilization, Capacity Building and Professional Development Needs, and Contextualization and Cultural Relevance Challenges illustrate that the successful implementation of AI extends beyond merely adopting new technologies. Instead, teachers continuously encounter issues related to technological limitations, unequal access to digital resources, verification of AI-generated content, curriculum alignment, responsible AI use, professional competence, and the need to contextualize instructional materials according to learners' cultural and educational contexts.

Taken together, these emergent themes reveal that AI-enhanced teaching tools function most effectively when combined with teachers' pedagogical expertise, professional judgment, and instructional decision-making. The participants' experiences demonstrate that although AI significantly improves instructional efficiency and enriches classroom learning, teachers remain central to the educational process by ensuring that AI-generated resources are accurate, curriculum-aligned, ethically utilized, culturally relevant, and responsive to learners' needs. Consequently, the essence of the phenomenon suggests that artificial intelligence serves as a valuable instructional partner rather than a replacement for teachers' professional knowledge and expertise.

Generally, the emergent themes portray AI integration as a dynamic and evolving instructional practice that offers considerable educational benefits while simultaneously demanding continuous adaptation, reflective practice, and professional responsibility from teachers. These findings highlight that meaningful and sustainable AI integration depends not only on technological advancement but also on teachers' ability to critically evaluate, responsibly utilize, and effectively contextualize AI-enhanced teaching tools to improve the quality of teaching and learning in Araling Panlipunan classrooms.

Theme 1. Instructional Enhancement Through AI Integration

This theme encompasses the participants' experiences that artificial intelligence enhances instructional efficiency while functioning as a valuable instructional assistant throughout the teaching process. The participants consistently described AI as a tool that simplified lesson preparation, reduced the time required to create instructional materials, and assisted in developing assessments, classroom activities, and learning resources. Rather than replacing teachers' expertise, AI served as a complementary instructional partner that enabled teachers to devote more attention to facilitating learning and responding to students' educational needs. Their experiences demonstrate that AI contributes to improved instructional productivity by supporting routine teaching tasks while allowing teachers to focus on higher-level pedagogical responsibilities.

The findings support Kaswan et al. (2024), who explained that artificial intelligence enhances teachers' instructional efficiency by automating repetitive educational tasks, generating instructional resources, and supporting lesson planning. Likewise, Qazi et al. (2024) emphasized that AI technologies improve instructional effectiveness by assisting teachers in organizing classroom activities and preparing learning materials more efficiently. Similarly, Renacido and Biray (2025) reported that AI serves as a practical instructional support system that enables educators to optimize classroom preparation while improving overall teaching effectiveness. These studies reinforce the participants' experiences that AI functions as an instructional resource that enhances, rather than replaces, teachers' professional practice.

Theme 2. Enhanced Learner Engagement and Accessibility

The participants' narratives reveal that AI contributes to increased learner engagement by making instructional content more interactive, understandable, and accessible. They observed that AI-generated instructional materials, visual presentations, and simplified explanations encouraged students to participate more actively during classroom discussions. Furthermore, AI enabled teachers to present complex historical and social science concepts in ways that were easier for learners to comprehend, thereby improving students' motivation and participation. The participants viewed AI as an instructional resource that promotes

meaningful learning by addressing diverse learning needs and increasing learners' accessibility to educational content.

These findings are consistent with Crompton and Burke (2023), who concluded that AI-supported instructional technologies improve student engagement by providing interactive learning experiences and personalized educational support. Similarly, Lo (2023) emphasized that AI applications promote learner participation by simplifying complex concepts and providing instructional resources that accommodate diverse learning styles. Furthermore, Kasneci et al. (2023) explained that AI enhances accessibility by enabling teachers to develop instructional materials that respond more effectively to students' varying academic abilities and learning preferences. These studies support the participants' perception that AI contributes to a more engaging and inclusive classroom environment.

Theme 3. Technological Readiness and Digital Access Challenges

This theme reflects the participants' shared experiences that technological infrastructure and equitable access to digital resources remain essential conditions for effective AI integration. The participants consistently identified unstable internet connectivity, inadequate technological facilities, and unequal access to digital devices as barriers that limited both teachers' and students' ability to maximize AI-supported instruction. Consequently, they frequently modified instructional strategies and prepared alternative learning activities to accommodate technological limitations while maintaining classroom continuity.

The findings support Kaswan et al. (2024), who identified technological infrastructure as one of the primary determinants of successful AI implementation in educational institutions. Similarly, Qazi et al. (2024) emphasized that the educational benefits of AI cannot be fully realized without adequate internet connectivity and equitable access to technological resources. Likewise, Renacido and Biray (2025) reported that unequal digital access remains a continuing challenge within Philippine schools, requiring teachers to develop flexible instructional approaches that accommodate learners with diverse technological capacities. These studies reinforce the participants' experiences that technological readiness remains fundamental to meaningful AI integration.

Theme 4. Teacher Professional Judgment in AI Integration

The participants consistently demonstrated that teachers remain central to AI integration by exercising professional judgment in evaluating, modifying, and validating AI-generated instructional materials. Although AI efficiently generates lesson plans, assessments, and learning resources, participants emphasized that these outputs frequently require verification, curriculum alignment, and contextual adaptation before classroom implementation. Their experiences indicate that AI serves as an instructional support system whose effectiveness depends on teachers' pedagogical expertise and professional decision-making.

These findings align with AlAfnan et al. (2023), who emphasized that AI-generated educational content requires careful human evaluation because AI systems may produce inaccurate or incomplete information. Likewise, Lo (2023) argued that teachers remain responsible for ensuring that AI-generated materials are accurate, curriculum-aligned, and educationally appropriate. Similarly, Crompton and Burke (2023) concluded that successful AI integration depends on teachers' ability to critically evaluate AI-generated outputs and adapt them according to learners' needs and curriculum requirements. These studies affirm the participants' view that teachers continue to serve as the primary instructional decision-makers despite the increasing use of AI technologies.

Theme 5. Ethical and Responsible AI Integration

The participants' narratives highlight the importance of promoting ethical AI utilization to preserve students' critical thinking, academic integrity, and independent learning. They consistently emphasized that while AI provides immediate access to information, students should not become dependent on AI-generated

responses. Instead, teachers guided learners to verify information, evaluate sources critically, and produce original work that reflected their own understanding. These experiences demonstrate that responsible AI integration requires balancing technological assistance with the continued development of higher-order thinking skills.

The findings support AlAfnan et al. (2023), who emphasized that educators should promote ethical AI use by encouraging students to critically evaluate AI-generated information rather than accepting it uncritically. Likewise, Sánchez (2024) explained that responsible AI integration requires teachers to cultivate inquiry, reflective thinking, and academic integrity while utilizing AI as a supplementary educational resource. Similarly, Kong and Yang (2024) argued that AI should only serve as a tool to facilitate teaching and learning process rather than replacing human interaction. These studies reinforce the participants' commitment to fostering responsible AI use within classroom instruction.

Theme 6. Professional Capacity Building for Sustainable AI Integration

The participants consistently recognized that meaningful AI integration requires continuous professional learning and the contextualization of AI-generated instructional materials. They explained that teachers must continually develop their technological competence while simultaneously adapting AI-generated resources to reflect learners' cultural backgrounds, community experiences, and educational contexts. Their experiences demonstrate that sustainable AI integration depends not only on technological proficiency but also on teachers' ability to combine pedagogical expertise with culturally responsive instructional practices.

These findings are supported by Renacido and Biray (2025), who emphasized that continuous professional development strengthens teachers' competence and confidence in integrating AI into classroom instruction. Likewise, Kaswan et al. (2024) highlighted that sustained capacity-building initiatives enable educators to maximize AI technologies while responding effectively to emerging instructional challenges. Furthermore, Sánchez (2024) explained that teachers remain responsible for contextualizing AI-generated instructional materials to ensure cultural relevance and meaningful learning experiences. Together, these

studies support the participants' understanding that sustainable AI integration requires continuous professional growth and the ability to adapt technological innovations to the realities of the classroom.

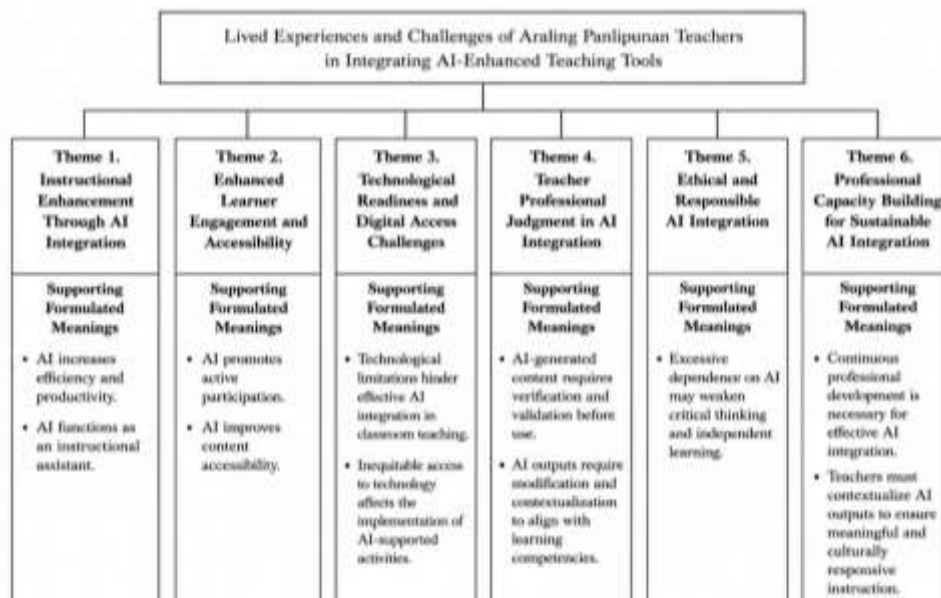


Figure 2. Clustered Emergent Themes

Figure 2 illustrates the clustered emergent themes derived from the formulated meanings of the lived experiences and challenges encountered by Social Science teachers in integrating AI-enhanced teaching tools into their instructional practices. It presents the hierarchical relationship between the central phenomenon and the six overarching themes that emerged from the phenomenological analysis. The thematic map demonstrates how individual formulated meanings were synthesized into broader conceptual categories that collectively capture the essence of the participants' experiences.

Specifically, the figure identifies six clustered emergent themes: (1) Instructional Enhancement Through AI Integration, which highlights AI's role in improving instructional efficiency and supporting teachers' classroom responsibilities; (2) Enhanced Learner Engagement and Accessibility, which emphasizes AI's contribution to increasing student participation and making learning content more understandable and accessible; (3) Technological Readiness and Digital Access Challenges, which reflects the barriers associated with technological infrastructure and unequal access to digital resources; (4) Teacher Professional Judgment in AI Integration, which underscores teachers' responsibility in validating, modifying, and aligning AI-generated content with curriculum standards; (5) Ethical and Responsible AI Integration, which focuses on promoting responsible AI use while preserving students' critical thinking, independent learning, and academic integrity; and (6) Professional Capacity Building for Sustainable AI Integration, which emphasizes the importance of continuous professional development and the contextualization of AI-generated instructional materials to ensure culturally responsive and meaningful learning experiences.

The figure provides a visual synthesis of the study's findings by illustrating how the participants' diverse lived experiences converge into six interconnected themes. These themes collectively demonstrate that while AI-enhanced teaching tools offer significant opportunities to improve instructional effectiveness and learner engagement, their successful integration depends on adequate technological resources, teachers' professional expertise, ethical instructional practices, and continuous capacity building. The thematic map therefore represents the essence of the phenomenon by highlighting the dynamic relationship between technological innovation and the indispensable role of teachers in ensuring meaningful, equitable, and learner-centered AI integration in Araling Panlipunan education.

Proposed AI-Enhanced Teaching Framework for Araling Panlipunan Instruction

The Proposed AI-Enhanced Teaching Framework for Araling Panlipunan Instruction was developed from the findings of the study and illustrates how teachers can effectively integrate artificial intelligence into classroom instruction while addressing the challenges identified by the participants. The framework consists of four interconnected components: Input, Teacher Professional Actions, Support Mechanisms, and Output.

The Input component represents the lived experiences and challenges encountered by Social Science teachers in using AI-enhanced teaching tools. The positive experiences demonstrate that AI improves instructional efficiency, supports lesson preparation, promotes learner engagement, and enhances content accessibility. Simultaneously, the challenges emphasize the need to address technological limitations, digital inequality, content reliability, curriculum alignment, ethical AI use, professional development, and contextualization.

The Teacher Professional Actions component serves as the core of the framework. It emphasizes that teachers remain the central decision-makers in AI integration by validating AI-generated information, aligning instructional materials with curriculum standards, contextualizing lessons according to learners' needs, promoting ethical AI utilization, differentiating instruction, and continuously enhancing their AI competencies. These professional actions ensure that AI functions as an instructional support tool rather than a replacement for teacher expertise.

The Support Mechanisms component highlights the institutional conditions necessary for successful AI implementation. These include adequate technological infrastructure, reliable internet

connectivity, sufficient digital resources, supportive school leadership, clear AI policies, and continuous professional development opportunities. These mechanisms create an enabling environment that allows teachers to maximize the instructional potential of AI while addressing barriers identified in the study.

The framework ultimately leads to the Output, which is effective AI-enhanced Araling Panlipunan instruction characterized by improved instructional quality, greater learner engagement, equitable and inclusive learning opportunities, responsible AI utilization, culturally responsive pedagogy, and sustainable technology integration. Overall, the framework demonstrates that meaningful AI integration is achieved through the interaction of teachers' professional expertise, institutional support, and responsible use of artificial intelligence, positioning teachers as the key drivers of successful AI-enhanced teaching and learning.

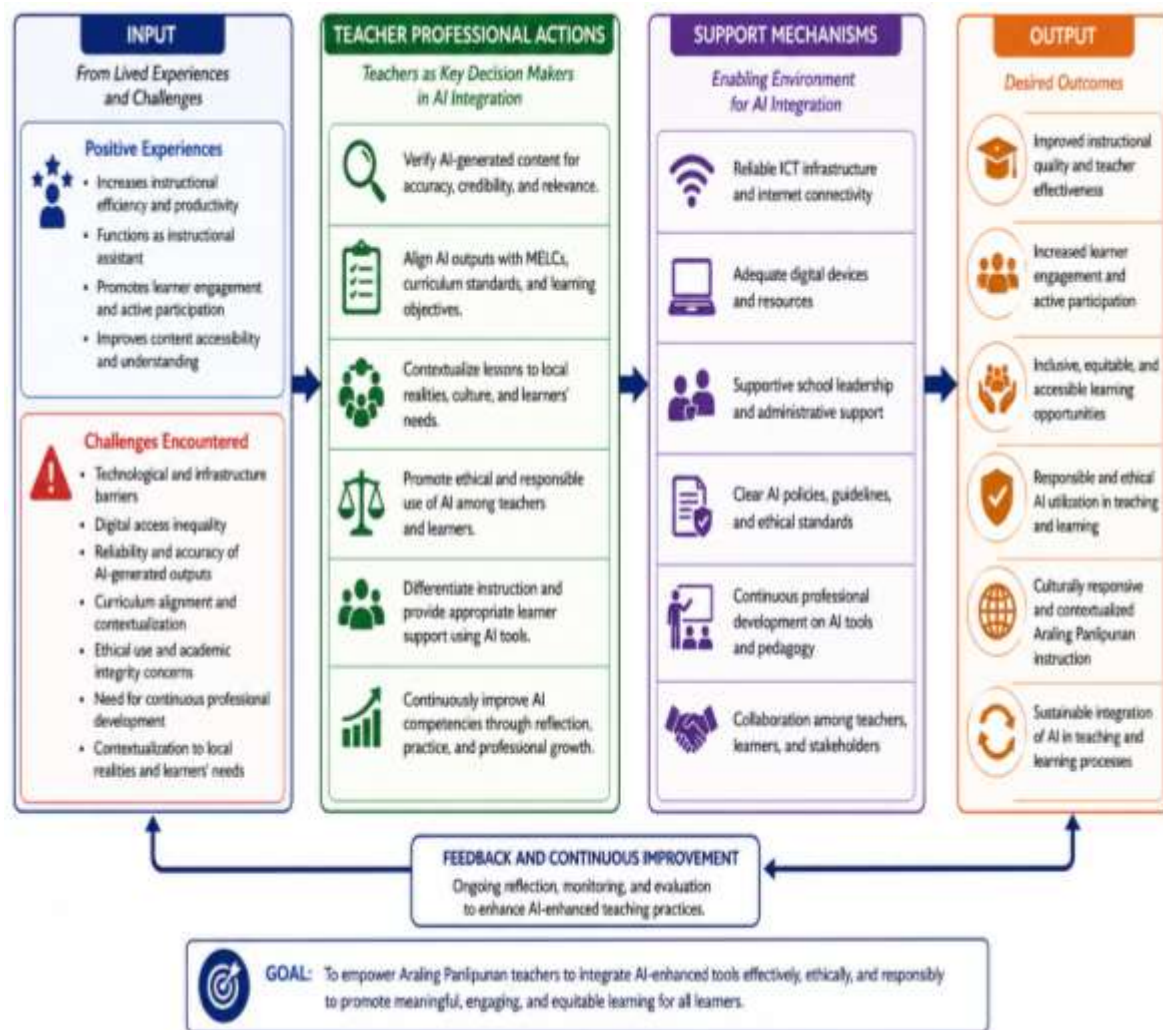


Figure 3. Proposed AI-Enhanced Teaching Framework for Araling Panlipunan Instruction

Summary of Findings

1. Lived Experiences of Social Science Teachers in Using AI-Enhanced Teaching Tools

The findings revealed that AI has become a valuable instructional resource that positively influenced teachers' instructional practices. The participants perceived AI as a tool that enhanced

instructional efficiency, supported lesson preparation, improved classroom engagement, and increased the accessibility of learning content. Beyond simplifying routine instructional tasks, AI enabled teachers to create more organized, interactive, and learner-centered learning experiences while maintaining their essential role in facilitating instruction.

2. Challenges Encountered by Social Science Teachers in Integrating AI-Enhanced Teaching Tools

Despite the instructional benefits of AI, the participants encountered various technological, pedagogical, and ethical challenges during its implementation. These included limitations in internet connectivity and technological infrastructure, unequal access to digital resources, concerns regarding the accuracy of AI-generated content, curriculum alignment, ethical use of AI, continuous professional development, and the need to contextualize AI-generated instructional materials. These findings demonstrate that successful AI integration requires both technological readiness and teachers' professional expertise.

3. The Formulated Meanings Derived from the Lived Experiences and Challenges

Analysis of the participants' significant statements resulted in **eleven formulated meanings** that describe how Social Science teachers perceived the integration of AI-enhanced teaching tools in their instructional practices. These meanings represent the participants' interpretations of both the opportunities and challenges associated with AI use in education. The formulated meanings are as follows:

- a) **AI increases efficiency and productivity.** AI enables teachers to accomplish instructional tasks more efficiently by reducing the time required for lesson preparation, assessment development, and instructional planning.
- b) **AI functions as an instructional assistant.** AI supports teachers by generating lesson ideas, instructional materials, classroom activities, and assessment tools that enhance instructional delivery.
- c) **AI promotes active participation.** AI-assisted instructional resources encourage greater learner engagement, classroom interaction, and participation during learning activities.
- d) **AI improves content accessibility.** AI simplifies complex concepts and presents learning materials in more understandable and learner-friendly formats.
- e) **Technological limitations hinder effective AI integration in classroom teaching.** Inadequate internet connectivity and limited technological infrastructure affect the consistent implementation of AI-supported instruction.
- f) **Inequitable access to technology affects the implementation of AI-supported activities.** Differences in learners' access to digital devices and internet connectivity create challenges in ensuring equitable participation.
- g) **AI-generated content requires verification and validation before use.** Teachers recognize the need to evaluate AI-generated information to ensure accuracy, credibility, and instructional reliability.
- h) **AI outputs require modification and contextualization to align with learning competencies.** AI-generated instructional materials need to be adapted to curriculum standards and learners' educational contexts.
- i) **Excessive dependence on AI may weaken critical thinking and independent learning.** Teachers acknowledge the importance of promoting responsible AI use while encouraging learners to develop higher-order thinking skills.
- j) **Continuous professional development is necessary for effective AI integration.** Teachers require ongoing training and capacity-building opportunities to strengthen their competence in AI-enhanced instruction.
- k) **Teachers must contextualize AI outputs to ensure meaningful and culturally responsive instruction.** AI-generated materials become more relevant and effective when adapted to learners' local culture, experiences, and educational needs.

4. Emergent Themes Derived from the Formulated Meanings

The formulated meanings were synthesized into **six clustered emergent themes** that collectively represent the essence of the participants' lived experiences in integrating AI-enhanced teaching tools. These themes provide a broader understanding of the phenomenon by grouping related meanings into interconnected concepts.

- a) **Instructional Enhancement Through AI Integration.** This theme reflects AI's contribution to improving instructional efficiency, lesson preparation, and teachers' overall instructional performance.
- b) **Enhanced Learner Engagement and Accessibility.** This theme emphasizes AI's role in increasing student participation while making instructional content more accessible and understandable.
- c) **Technological Readiness and Digital Access Challenges.** This theme highlights the technological and infrastructure-related barriers that influence the successful implementation of AI-enhanced teaching.
- d) **Teacher Professional Judgment in AI Integration.** This theme underscores the continuing responsibility of teachers to evaluate, validate, modify, and align AI-generated instructional materials with curriculum standards and learners' needs.
- e) **Ethical and Responsible AI Integration.** This theme emphasizes the importance of promoting ethical AI utilization, academic integrity, critical thinking, and responsible technology use among learners.
- f) **Professional Capacity Building for Sustainable AI Integration.** This theme highlights the necessity of continuous professional development, institutional support, and culturally responsive instructional practices to ensure the long-term and effective integration of AI in Araling Panlipunan instruction.

5. Proposed AI-Enhanced Teaching Framework for Araling Panlipunan Instruction

Based on the synthesis of the participants' lived experiences, challenges encountered, formulated meanings, and clustered emergent themes, the study developed the Proposed AI-Enhanced Teaching Framework for Araling Panlipunan Instruction. The framework presents a systematic model that illustrates how teachers can effectively integrate AI-enhanced teaching tools by balancing instructional innovation with professional judgment, ethical responsibility, technological readiness, and continuous capacity building. It emphasizes that successful AI integration is achieved through the interaction of teachers' professional actions, institutional support mechanisms, and responsible AI utilization, ultimately leading to improved instructional quality, enhanced learner engagement, inclusive and culturally responsive instruction, and sustainable AI integration in Araling Panlipunan education.

CONCLUSIONS

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

1. The integration of AI-enhanced teaching tools has positively influenced the instructional practices of Social Science teachers by improving lesson preparation, instructional delivery, learner engagement, and content accessibility. AI serves as a valuable instructional support system that enhances teaching effectiveness while allowing teachers to respond more efficiently to the diverse learning needs of students.
2. AI offers significant instructional benefits, its successful integration is influenced by technological, pedagogical, and ethical challenges. Limited technological infrastructure, unequal digital access, concerns regarding the reliability of AI-generated content, curriculum alignment, and responsible AI utilization demonstrate that effective implementation requires careful planning, adequate resources, and continuous teacher intervention.

3. The formulated meanings indicate that AI should be viewed as a complementary instructional tool rather than a replacement for teachers. Meaningful AI integration depends on teachers' professional judgment in validating AI-generated information, aligning instructional materials with curriculum standards, contextualizing learning experiences, and promoting responsible AI use among learners.
4. The clustered emergent themes reveal that successful AI integration is a multidimensional process that requires balancing technological innovation with pedagogical competence, ethical responsibility, institutional support, and continuous professional development. Sustainable AI implementation can only be achieved when teachers are equipped with the necessary knowledge, skills, and resources to integrate AI effectively into classroom instruction.
5. The proposed AI-Enhanced Teaching Framework for Araling Panlipunan Instruction provides a practical and context-responsive model for integrating artificial intelligence into teaching and learning. The framework emphasizes the interaction among teachers' professional actions, institutional support mechanisms, and responsible AI practices to achieve improved instructional quality, enhanced learner engagement, equitable access to learning, and sustainable AI integration.

Recommendations

In light of the findings and conclusions of the study, the following recommendations are offered:

1. **Department of Education.** The Department of Education may formulate comprehensive policies and implementation guidelines that support the responsible integration of artificial intelligence across basic education. It may also strengthen investments in digital infrastructure, internet connectivity, AI governance, and teacher professional development programs to ensure equitable and sustainable AI implementation in schools.
2. **Schools Division Offices and School Administrators.** Schools Division Offices and school administrators may establish institutional support systems that encourage teachers to integrate AI effectively into instruction. These may include providing reliable technological resources, organizing continuous capacity-building activities, developing school-based AI implementation policies, and promoting collaborative professional learning communities focused on AI-enhanced teaching.
3. **Social Science Teachers.** Social Science teachers are encouraged to continuously strengthen their competencies in AI-enhanced instruction through professional development, self-directed learning, and participation in AI-related training programs. They should continue exercising professional judgment by validating AI-generated content, aligning instructional materials with curriculum standards, contextualizing learning resources, and promoting ethical and responsible AI utilization among learners.
4. **Learners.** Learners should be guided to utilize artificial intelligence responsibly as a supplementary learning tool rather than as a substitute for independent learning. Teachers should continue fostering critical thinking, information literacy, academic integrity, and responsible digital citizenship to ensure that AI contributes positively to learners' intellectual and personal development.
5. **Curriculum Developers.** Curriculum developers may consider integrating AI literacy, responsible AI utilization, and digital citizenship competencies into Araling Panlipunan and related learning areas. Instructional guides may likewise include recommendations for the effective and ethical integration of AI while maintaining curriculum alignment and contextual relevance.
6. **Teacher Education Institutions.** Higher education institutions offering teacher education programs may strengthen preservice teacher preparation by incorporating AI-enhanced pedagogy, educational technology, digital ethics, and AI literacy into teacher education curricula. This will

better prepare future educators to respond to the evolving demands of technology-enhanced instruction.

7. **Future Researchers.** Future researchers may use quantitative, mixed-methods, or experimental designs to further examine the effects of AI-enhanced teaching tools on learner achievement, instructional effectiveness, teacher performance, digital literacy, and student engagement. Furthermore, future researchers are encouraged to validate and evaluate the Proposed AI-Enhanced Teaching Framework for Araling Panlipunan Instruction to determine its effectiveness in improving teaching practices and supporting evidence-based educational innovation.

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