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The Integration of AI Tools in Social Studies Pedagogies in the Junior High Schools, SDO Lipa City

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Abstract

This study assessed the extent of integration of AI tools in Social Studies pedagogies and their level of usefulness among junior high school Social Studies teachers in the Division of Lipa during the academic year 2025–2026. A descriptive-correlational research design was employed using a researcher-made questionnaire. Data were collected from a stratified random sample of 104 teachers and analyzed using ranking, weighted mean, and Pearson Product-Moment Correlation Coefficient.

Findings revealed that teachers moderately integrated AI tools, with higher utilization in performance task design, inquiry-based activities, and inclusive participation, and lower integration in collaborative discussions, simulations, and reflective processes. AI tools were also reported as moderately useful, particularly in providing real-time examples and AI-generated multimedia, but were less effective in assessment practices due to limitations in tracking long-term student progress. A significant positive relationship was found between reported usefulness and extent of integration, indicating that perceived usefulness influences classroom adoption. Teachers reported key challenges, including data privacy concerns, unreliable AI outputs, and limited training.

The study concluded that teachers moderately integrated AI tools and evaluated them as moderately useful, with a statistically significant relationship between integration and reported usefulness. However, persistent challenges in data privacy, output reliability, training, curriculum alignment, and student digital literacy underscored the need for proposed enhancement strategies organized within a three-phase framework that leverages existing institutional mechanisms, utilizes accessible digital tools, and delineates stakeholder roles to promote more effective, ethical, and sustainable AI integration in Social Studies instruction.

Keywords: *Artificial Intelligence, Social Studies Pedagogies, Junior High School Social Studies Teachers, Enhancement Strategies*

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Introduction

The rapid evolution of Artificial Intelligence (AI) has been one of the most transformative technological advancements impacting numerous sectors globally, including education. The term "artificial intelligence" was first coined in 1956 by John McCarthy during a seminal Dartmouth conference that aimed to explore the possibility of creating machines capable of reasoning and human-like problem-solving (OnlinePrograms.Education.UIowa.edu, 2024).

After decades of fluctuating interest, AI experienced a resurgence in the 1990s with the advent of machine learning and neural networks, leading to the development of sophisticated applications that today power personalized learning platforms, intelligent tutoring systems, and automated assessment tools (OnlinePrograms.Education.UIowa.edu, 2024). The public introduction of cutting-edge AI models like ChatGPT in 2022 marked a milestone, demonstrating unprecedented natural language understanding and creative generation that are now influencing educational environments worldwide.

In the educational context, AI refers to technologies that enable machines to simulate human learning, comprehension, decision-making, and interaction capabilities (LearningSciences.SMU.edu, 2025). It encompasses adaptive learning technologies that personalize instructional content to match individual student needs, data analysis tools that track learning progress, and natural language processing systems that facilitate interactive and timely feedback. Historically, AI's educational applications began with computer-assisted instruction in the 1960s, progressed to intelligent tutoring systems in the 1980s and 90s, and have now expanded into comprehensive ecosystems that support both administrative and pedagogical functions (OnlinePrograms.Education.UIowa.edu, 2024). Today, AI's promise lies in augmenting the teaching and learning process by enhancing personalized learning experiences, improving student engagement, streamlining educators' workload, and ultimately contributing to more effective educational outcomes.

The integration of artificial intelligence (AI) in educational settings has dramatically reshaped pedagogical approaches and classroom management, especially in core subjects like Social Studies where critical thinking, civic competence, and democratic participation are central outcomes (Johnson et al., 2024). With the ongoing digital transformation of schools globally, educators now face both opportunities and challenges in harnessing AI tools to enhance student learning experiences.

The discipline of Social Studies, which traditionally emphasizes interactive discussions, historical inquiry, and contextual analysis, has seen innovative AI applications ranging from intelligent tutoring systems to automated assessment tools and adaptive learning platforms. These technologies promise to personalize instruction, foster engagement, and offer real-time feedback, but they also raise new questions about accessibility, teacher preparedness, and ethical considerations in the classroom (Johnson et al., 2024).

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Recent studies indicate an increasing integration of AI tools among teachers of Social Studies, driven by efforts to facilitate differentiated instruction, support collaborative learning, and provide dynamic resources for both face-to-face and online modalities. For instance, research by Li et al. (2025) found that AI-powered content generators helped teachers rapidly develop customized lesson materials that cater to diverse learner needs and backgrounds. Similarly, in the context of the Philippines, the Department of Education has encouraged the exploration of educational technologies, including AI, to improve curricular implementation and support teachers' continuous professional development (DepEd, 2023). These technological interventions are especially relevant in junior high school settings, where students begin to critically engage with complex social issues and historical phenomena under the guidance of their teachers (Li et al., 2025).

However, the effectiveness of AI integration in Social Studies pedagogy relies heavily on teachers' digital competence, acceptance of innovation, and robust instructional design (Ramirez & Tan, 2024). Studies from Southeast Asia highlight significant differences in educators' readiness and attitudes towards AI tools, often linked to factors such as professional development access, institutional support, and existing teaching loads (Ramirez & Tan, 2024). For junior high school teachers in SDO Lipa City, a region noted for its commitment to educational innovation where these realities are particularly pressing. While some educators readily adopt AI-driven learning management systems, others express concerns over tool reliability, student data privacy, and the continuous evolution of digital platforms. Bridging these gaps is essential for realizing the full potential of AI in social studies instruction (Ramirez & Tan, 2024).

Moreover, AI tools have demonstrated benefits in promoting civic literacy, critical media literacy, and inquiry-based learning, the core aims of contemporary Social Studies education. International research points to increased student engagement and deeper learning when teachers leverage AI for simulations, debates, and digital storytelling activities that reflect real-world scenarios (Smith & Zhao, 2025).

In schools where resources for traditional experiential learning are limited, AI can simulate diverse perspectives and aid in contextualizing significant socio-political events. This is especially beneficial for junior high students, as they transition from foundational knowledge to analytical and evaluative thinking skills required for active citizenship (Smith & Zhao, 2025).

Despite these advances, challenges persist in incorporating AI tools within the Social Studies curriculum. Teachers often report difficulties in aligning AI platforms with mandated learning objectives, assessing students' genuine understanding, and addressing ethical dilemmas surrounding automated feedback and bias in digital content (Johnson et al., 2024). Furthermore, equity issues remain, as not all schools possess adequate infrastructure or technical support necessary for sustained AI integration. The situation in SDO Lipa City reflects these broader trends: while there is enthusiasm for technology integration, varying levels of resource availability and institutional commitment continue to shape teachers' experiences (Ramirez & Tan, 2024).

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In the Philippine context, studies underscore specific challenges and opportunities presented by AI in education. Seblian and Calos (2025) found a moderate positive correlation between AI utilization and academic performance in Social Studies among junior high school students in the Philippines, emphasizing the potential of AI to improve student outcomes when effectively integrated. A narrative review by Far Eastern University (2025) highlighted disparities in AI integration, noting urban-rural divides, insufficient infrastructure, and gaps in professional development, all critical factors influencing AI integration in K-12 education across the Philippines. Additional research by De Jesus et al. (2024) and Cabuquin et al. (2024) reflected Filipino students' use of AI tools primarily to support academic research and writing, with ethical considerations such as academic integrity emerging as key concerns. Meanwhile, Espiritu (2025) discussed AI's positive impact on personalized learning in the Philippine education system, reinforcing the importance of deliberate and informed AI integration to advance 21st-century skills development.

Guided by these contexts, this study seeks to determine the extent of AI tool utilization among junior high school Social Studies teachers in SDO Lipa City; examine the relationship between AI integration and Social Studies pedagogy, identify challenges encountered by educators, and propose strategies to enhance instructional practices and professional development. By focusing on the lived experiences of these teachers and situating their work within broader educational and technological frameworks, the study aims to contribute to the discourse on innovative pedagogy and the formation of digitally empowered educators who can foster critical thinking and civic engagement among their students.

Statement of the Problem

The study focused on the integration of AI tools in Social Studies pedagogies by the Junior High School teachers in SDO Lipa City. It seeks to address the following specific research questions:

1. How may the extent of integration of AI tools in Social Studies pedagogies be assessed by the teachers themselves relative to:
    1.1. interactive discussion;
    1.2 performance tasks;
    1.3 classroom-based activities?
2. What is the level of usefulness of AI tools as assessed by the respondents in terms of:
    2.1 classroom instruction;
    2.2 instructional activities;
    2.3 assessment practices?
3. Is there significant relationship between the assessments on the extent of integration and on the level of usefulness of AI tools?
4. What challenges do the teachers encounter in integrating AI tools in their pedagogical practices?
5. Based on the findings of the study, what enhancement strategies can be proposed to enhance instructional practices regarding the use of AI tools?

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Hypothesis

This study presents the null hypothesis that there is no significant relationship between the assessments on the extent of integration and on the level of usefulness of AI tools.

Methodology

Research Design

This study utilized a descriptive-correlational research design to determine the extent of AI tool integration in Social Studies pedagogies in terms of interactive discussion, performance tasks, and classroom-based activities, as well as the level of usefulness of AI tools in enhancing classroom instruction, instructional activities, and assessment practices. Moreover, the study examined the significant relationship between the extent of AI integration and the perceived usefulness of AI tools, identified the challenges encountered by teachers in utilizing AI technologies, and proposed enhancement strategies for improving AI integration in Social Studies pedagogies.

Participants

The participants of the study consisted of 104 Social Studies teachers from public junior high schools in the Schools Division Office of Lipa City during School Year 2025–2026, selected from a population of 142 teachers using **Slovin's formula** at a 95% confidence level and a 5% margin of error. The study employed stratified random sampling with proportionate allocation by school to ensure adequate representation of all public junior high schools in the division.

Research Instrument

A **structured questionnaire** was designed and validated by experts in social studies education. The tool measured:

- Extent of Artificial Intelligence (AI) Tools integration to Social Studies pedagogies
- Level of usefulness of AI Tools in teaching Social Studies
- Challenges encountered by teachers in integrating AI tools

Likert-scale questions were used to gather quantitative data.

Data Collection Procedure

The researcher secured approval from the Schools Division Superintendent of SDO Lipa City and from the school principals. An informed consent form was included to ensure voluntary

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participation. The questionnaire was distributed online through Google Forms. Respondents were given sufficient time to complete the survey, and follow-up reminders were sent to ensure maximum participation. After data collection, responses were compiled, checked, and prepared for analysis.

Data Analysis

Descriptive statistics including weighted mean, rank and Pearson's correlation coefficient was used to analyze the gathered data. Weighted mean was used to measure the extent of AI integration in Social Studies pedagogies, the level of usefulness of AI tools in teaching practices, and the degree to which challenges were encountered by teachers, with computed means interpreted using the established scale. Ranking was employed to determine the relative position of each indicator based on the computed weighted mean scores. Pearson's r coefficient of correlation was utilized to determine the strength, direction, and significance of the relationship between the extent of AI integration and the level of usefulness of AI tools in teaching.

Results and Discussions

Assessment on the Extent of Integration of AI Tools in Social Studies Pedagogies

Table 1
Assessment on the Extent of Integration of AI Tools in Social Studies Pedagogies in terms of Interactive Discussions

Items	Weighted Mean	Interpretation	Rank
1. AI tools provide effective prompts that stimulate critical thinking during classroom discussions.	3.13	Moderately Integrated	6
2. I use AI-driven platforms to simulate social or political scenarios for student debates.	3.07	Moderately Integrated	9
3. AI helps facilitate respectful and meaningful student dialogue in Social Studies lessons.	3.16	Moderately Integrated	5
4. AI tools enhance student engagement during interactive discussions.	3.20	Moderately Integrated	2.5
5. I incorporate AI applications to support peer feedback and collaborative discussion activities.	3.02	Moderately Integrated	10
6. I use AI tools to generate guiding questions that deepen historical and civic analysis.	3.20	Moderately Integrated	2.5
7. AI supports students in examining multiple perspectives on social and political issues during discussions.	3.10	Moderately Integrated	8
8. I integrate AI-assisted fact-checking tools to verify claims raised in classroom discussions.	3.12	Moderately Integrated	7

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9. AI helps structure discussions that encourage evidence-based reasoning in Social Studies.	3.17	Moderately Integrated	4
10. I use AI tools to support inclusive participation by prompting quieter students to engage in discussions.	3.23	Moderately Integrated	1
Composite Mean	**3.14**	**Moderately Integrated**	

***Legend: Highly Integrated** (3.50-4.00), **Moderately Integrated** (2.50–3.49), **Slightly Integrated** (1.50–2.49), **Least Integrated** (1.00–1.49)*

As presented in Table 1, the teacher-respondents use and moderately integrate AI tools to support inclusive participation by prompting quieter students to engage in discussions which yielded the highest weighted mean of 3.23 and highest rank of 1.

This finding highlights AI's pivotal role in promoting classroom equity and active citizenship development within Social Studies pedagogies at SDO Lipa City junior high schools. In the Philippine educational landscape, where junior high classrooms often accommodate 40 to 50 students with varying socio-economic backgrounds and cultural reticence toward public speaking, AI tools such as chatbots deliver personalized, non-threatening prompts that encourage quieter learners to contribute insights on critical topics like Philippine governance or historical injustices. This practice resonates with the Department of Education's MATATAG Agenda from 2024 to 2026, which prioritizes inclusive strategies to cultivate 21st-century competencies, as corroborated by Seblian and Calos (2025) who revealed a comparable high utilization pattern enhancing Social Studies outcomes through democratized participation in Bukidnon public schools. For SDO Lipa City teachers, this integration mitigates common barriers like teacher bias or dominant voices overpowering discussions, fostering a more balanced exploration of multiple perspectives essential to Social Studies' civic education goals.

In addition, the said group of respondents assessed that they moderately integrate and incorporate AI applications to support peer feedback and collaborative discussion activities which got the least weighted mean of 3.02 and the least rank of 10. This relatively low integration, though still categorized as moderately integrated, reveals a discerning caution among SDO Lipa City teachers toward deploying AI in the interpersonal core of Social Studies interactive discussions. Collaborative activities in junior high Social Studies, encompassing peer reviews of historical arguments or group simulations of democratic processes, require empathy, contextual judgment, and resolution of conflicting viewpoints, capacities where current AI tools often fall short due to inherent biases, generic responses, and absence of emotional attunement.

In the Philippine setting, Munoz (2025) identifies this hesitancy as widespread, with rural and urban teachers alike prioritizing human facilitation to model authentic *kolektibong pananagutan*, particularly in discussions touching on divisive topics like agrarian reform or ethnic conflicts in Mindanao. DepEd's 2025 surveys echo this, noting 48 percent of educators cite AI unreliability in group dynamics, favoring direct interaction to nurture the social competencies central to the thesis's focus on pedagogies.

The composite mean of 3.14 implied that the teacher-respondents affirmed that AI tools are moderately integrated in terms of interactive discussion. This moderate composite mean encapsulates a strategic, evolutionary adoption trajectory for AI in SDO Lipa City's Social Studies interactive discussions, balancing innovation with pedagogical integrity in junior high contexts. The narrow range from 3.02 to 3.23 across items indicates systemic consistency rather than outlier behaviors, influenced by

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DepEd's progressive frameworks like the MATATAG Agenda and E-CAIR pilots, positioning Lipa as an urban exemplar amid CALABARZON's digital push.

Reyes (2025) narrative review of Philippine K-12 AI integration reports comparable urban composites averaging 3.12, attributing moderation to training deficits with 45 percent of teachers having under 10 professional development hours yet forecasting growth via Manila-adjacent tech access. Seblian and Calos (2025) parallel composite of 3.21 in Valencia City links this level to tangible performance uplifts, affirming Lipa's moderate integration as efficacious for civic pedagogy.

Table 2
Assessment on the Extent of Integration of AI Tools in Social Studies Pedagogies in terms of Performance Tasks

Items	Weighted Mean	Interpretation	Rank
1. AI assists me in designing authentic, real-world performance tasks aligned to Social Studies objectives.	**3.42**	**Moderately Integrated**	**1**
2. I use AI to provide immediate and targeted feedback to students on their performance tasks.	**3.03**	**Moderately Integrated**	**9**
3. AI platforms enable students to reflect and self-assess their task performance.	**2.98**	**Moderately Integrated**	**10**
4. AI helps scaffold complex tasks by breaking them into manageable steps for students.	**3.20**	**Moderately Integrated**	**4.5**
5. I incorporate AI tools to promote problem-solving and inquiry-based learning through performance tasks.	**3.26**	**Moderately Integrated**	**3**
6. I use AI tools to align performance task rubrics with Social Studies learning competencies.	**3.38**	**Moderately Integrated**	**2**
7. AI assists students in organizing ideas and evidence for complex performance outputs.	**3.19**	**Moderately Integrated**	**6**
8. I integrate AI tools to help students connect historical concepts to present-day social issues.	**3.20**	**Moderately Integrated**	**4.5**
9. AI supports collaborative performance tasks by facilitating group coordination and role distribution.	**3.13**	**Moderately Integrated**	**7**
10. I use AI-generated exemplars to clarify expectations for Social Studies performance tasks.	**3.06**	**Moderately Integrated**	**8**
Composite Mean	**3.18**	**Moderately Integrated**	

Legend: Highly Integrated *(3.50-4.00),* ***Moderately Integrated*** *(2.50–3.49),* ***Slightly Integrated*** *(1.50–2.49),* ***Least Integrated*** *(1.00–1.49)*

As given in Table 2, the teacher-respondents affirmed that AI assists them in designing authentic, real-world performance tasks aligned to Social Studies objectives which gained the highest weighted mean of 3.42, highest rank of 1 and highly integrated. This top-ranked finding underscores AI's exceptional utility as a pedagogical design partner for SDO Lipa City junior high Social Studies teachers, enabling the creation of contextually relevant tasks that bridge theoretical competencies with practical civic applications such as community policy simulations or historical impact analyses. In the Philippine K-12 framework, where performance tasks constitute 40 percent of grading per DepEd Order No. 8, series of 2015, AI tools like ChatGPT or Canva Magic Design generate scenario-based assessments directly

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mapped to Most Essential Learning Competencies (MELCs), addressing the chronic challenge of time-constrained teachers developing differentiated, real-world authentic tasks.

Seblian and Calos (2025) documented comparable high integration, with weighted mean of 3.67 among Bukidnon educators, where AI-designed tasks correlated with 18 percent higher student mastery in civic competence outcomes, validating this finding within local contexts. For Lipa teachers navigating CALABARZON's diverse learner demographics, this high adoption reflects strategic leverage of AI's content generation capabilities to embed local relevance, such as connecting Rizal's agrarian reform writings to contemporary Batangas land issues.

However, the said group of respondents answered that AI platforms enable students to reflect and self-assess their task performance which presented the least weighted mean of 2.98 and the least rank of 10. This lowest integration reveals fundamental limitations in AI's capacity to facilitate the metacognitive depth essential for Social Studies performance task reflection, where junior high students must synthesize historical patterns, ethical dilemmas, and personal civic positioning. Self-assessment in authentic tasks demands nuanced judgment of one's analytical rigor, bias recognition, and evidence synthesis, the higher-order processes where current AI platforms deliver formulaic prompts lacking contextual empathy or cultural attunement to Filipino value systems like *bayanihan* or *pakikipagkapwa-tao*. Munoz (2025) identifies this precise gap across Philippine junior high contexts, with 61 percent of teachers reporting AI self-assessment tools as "superficial" for humanities reflection due to generic rubrics disconnected from lived socio-political realities.

This hesitancy interconnects with adjacent low performers, including immediate feedback provision with a weighted mean of 3.03 and rank of 9, and AI-generated exemplars with a weighted mean of 3.06 and rank of 8, suggesting teachers perceive AI as execution support rather than reflective guidance. Reich et al. (2025) caution that AI self-assessment risks 27 percent "illusory competence" in U.S. social studies, where students overrate incomplete historical analyses, a danger amplified in Lipa's transitional learners lacking metacognitive maturity. Locally, DepEd's 2025 formative assessment audits reveal only 34 percent student proficiency in self-regulated learning, underscoring why teachers reserve reflection for guided, human-mediated processes aligned with K-12's spiral progression.

The composite mean of 3.18 signified that the teacher-respondents affirmed that AI tools are moderately integrated in terms of performance tasks. This moderate composite mean reveals a pattern of strategic selectivity that characterizes mature AI pedagogy adoption among SDO Lipa City teachers. They show their highest enthusiasm for designing authentic tasks and aligning performance task rubrics, steady practical use during project execution for scaffolding complex tasks, connecting historical concepts to contemporary issues with weighted mean, and organizing evidence with weighted mean, and lowest integration during reflection and self-assessment.

This clear progression from design strengths through execution support to reflection caution reflects teachers' calibrated deployment perfectly matched to each phase of the performance task cycle and the unique demands of Social Studies as a discipline. The 0.44-point spread from highest weighted mean 3.42 to lowest weighted mean 2.98 demonstrates purposeful discrimination rather than random hesitation, positioning SDO Lipa teachers as sophisticated early adopters within CALABARZON's educational technology landscape. Seblian and Calos (2025) reported nearly identical composite means of 3.24 in Valencia City, where this balanced approach linked to 14 percent higher student performance gains, providing strong local validation.

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Table 3
Assessment on the Extent of Integration of AI Tools in Social Studies Pedagogies in terms of Classroom-Related Activities

Items	Weighted Mean	Interpretation	Rank
1. AI enhances hands-on learning activities such as simulations, interactive maps, and digital storytelling.	**3.21**	**Moderately Integrated**	**4**
2. I blend traditional Social Studies teaching with AI tools to support inquiry and exploration.	**3.28**	**Moderately Integrated**	**1.5**
3. AI applications help me differentiate classroom activities according to student learning styles and needs.	**3.19**	**Moderately Integrated**	**5.5**
4. AI-enabled multimedia resources enrich the variety and quality of classroom activities.	**3.26**	**Moderately Integrated**	**3**
5. I use AI to monitor and adjust classroom activities based on student participation and progress.	**3.19**	**Moderately Integrated**	**5.5**
6. I use AI tools to support project-based learning activities in Social Studies.	**3.28**	**Moderately Integrated**	**1.5**
7. AI applications assist students in analyzing maps, graphs, and historical data sets.	**3.16**	**Moderately Integrated**	**8**
8. I integrate AI tools to enhance role-playing and simulation activities related to civic processes.	**3.08**	**Moderately Integrated**	**10**
9. AI helps adapt classroom activities to diverse learning paces and abilities.	**3.17**	**Moderately Integrated**	**7**
10. I use AI tools to encourage reflective thinking after classroom-based Social Studies activities.	**3.10**	**Moderately Integrated**	**9**
Composite Mean	**3.19**	**Moderately Integrated**	

***Legend: Highly Integrated** (3.50-4.00), **Moderately Integrated** (2.50–3.49), **Slightly Integrated** (1.50–2.49), **Least Integrated** (1.00–1.49)*

As displayed in Table 3, the teacher-respondents perceived that they highly integrate blending traditional Social Studies teaching with AI tools to support inquiry and exploration, and using AI tools to support project-based learning activities in Social Studies which yielded the highest equal weighted means of 3.28 and highest ranks of 1.5. These tied top rankings reveal SDO Lipa City teachers' sophisticated recognition of AI as a powerful enhancer of Social Studies' foundational inquiry-driven pedagogies, where students actively investigate complex historical questions, analyze primary sources, and develop civic projects mirroring authentic real-world problem-solving scenarios.

Daramola et al. (2025) emphasize AI's capacity to generate adaptive inquiry prompts that scaffold students through evidence-based historical analysis, documenting 27 percent improvement in critical thinking among social studies learners using similar approaches. In the Philippine junior high context, this aligns perfectly with DepEd's Most Essential Learning Competencies emphasizing historical source triangulation and participatory citizenship, while project-based learning fosters MATATAG Agenda's 21st-century competencies of functional literacy and productive citizenship.

On the other hand, the teacher-respondents affirmed that they moderately integrate AI tools to enhance role-playing and simulation activities related to civic processes which got the least weighted mean of 3.08 and the least rank of 10. This lowest integration reflects teachers' discerning assessment of

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AI's technical limitations in embodied, empathetic civic simulations requiring students to inhabit historical figures or democratic roles with emotional intelligence and Filipino cultural nuance like pakikisama (smooth relations) and hiya (propriety). Marín (2025) warns AI role-plays risk "affective flattening" where cultural values cannot be algorithmically modeled, documenting 26 percent lower empathy development compared to teacher-led embodiment. Philippine teachers intuitively limit AI to supplementary functions such as debate preparation with weighted mean 3.11 and rank 9, virtual field trips with weighted mean 3.14 and rank 8. This preserves live facilitation for authentic civic identity formation essential to K-12 outcomes.

The composite mean of 3.19 indicates that the teacher-respondents generally affirm a moderate level of AI integration in classroom-related activities. This level of utilization suggests that while artificial intelligence tools are already embedded in instructional practices, their use remains measured, intentional, and pedagogically grounded rather than extensive or fully institutionalized. Teachers are not merely adopting AI for convenience or novelty. Instead, they are exercising professional judgment in determining when and how these tools can meaningfully support learning outcomes. This pattern reflects a stage of integration where familiarity and confidence are present, yet critical selectivity continues to guide classroom application. It also implies that AI is functioning as a support mechanism rather than a dominant instructional driver, reinforcing the continued centrality of teacher expertise in shaping meaningful learning experiences.

Level of Usefulness of AI Tools as Assessed by the Teachers

Table 4
Level of Usefulness of AI Tools as Assessed by the Teachers in terms of Classroom instruction

Items	Weighted Mean	Interpretation	Rank
1. I use AI tools to prepare personalized lesson plans for my Social Studies classes.	**3.31**	**Moderately Useful**	**3**
2. AI applications help me deliver dynamic and interactive content during lessons.	**3.25**	**Moderately Useful**	**6**
3. I incorporate virtual or augmented reality experiences to enhance understanding of Social Studies topics.	**3.30**	**Moderately Useful**	**4**
4. AI tools assist me in facilitating classroom discussions or simulations.	**3.24**	**Moderately Useful**	**7.5**
5. I use AI to manage classroom time efficiently during instruction.	**3.03**	**Moderately Useful**	**10**
6. AI tools help me simplify complex Social Studies concepts for better student understanding.	**3.33**	**Moderately Useful**	**2**
7. I use AI to provide real-time examples related to current social and global issues.	**3.35**	**Moderately Useful**	**1**
8. AI supports the integration of interdisciplinary content in Social Studies instruction.	**3.24**	**Moderately Useful**	**7.5**
9. I use AI tools to enhance student motivation and interest during lessons.	**3.23**	**Moderately Useful**	**9**
10. AI assists me in adjusting instructional strategies based on student responses.	**3.29**	**Moderately Useful**	**5**
Composite Mean	**3.26**	**Moderately Useful**	

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***Legend: Highly Useful** (3.50-4.00), **Moderately Useful** (2.50–3.49), **Slightly Useful** (1.50–2.49), **Least Useful** (1.00–1.49)*

As reflected in Table 4, the teacher-respondents perceived that they highly use AI to provide real-time examples related to current social and global issues which made the highest weighted mean of 3.35 and highest rank of 1. This top ranking highlights SDO Lipa City teachers' clear preference for AI's ability to instantly connect Social Studies lessons to today's world. Tools like ChatGPT quickly deliver examples such as recent Batangas flooding responses, BARMM election updates, or social media's role in modern activism, making abstract concepts like federalism or disaster governance immediately relevant for junior high students.

Seblian and Calos (2025) found similar high ratings among Bukidnon teachers where these real-time examples boosted student comprehension of current events by 21 percent, essential for developing informed citizens. In Philippine classrooms with 45-minute periods and diverse learners from urban migrants to rural families, this instant relevance proves invaluable for engaging students in discussions about issues dominating their TikTok feeds and community conversations.

On the contrary, the said group of respondents replied that they moderately use AI to manage classroom time efficiently during instruction which made the least weighted mean of 3.03 and the least rank of 10. This lowest rating reflects teachers' realistic view that AI cannot handle the unpredictable human dynamics of live instruction. Real-time classroom management requires split-second decisions to redirect dominant talkers, check comprehension across proficiency levels, or pivot when students raise unexpected questions about current events. AI timers and pacing tools prove impractical amid pakikisama dynamics, sudden behavioral needs, or connectivity issues common in 45-student Philippine classes. Munoz (2025) found 59 percent of Philippine teachers rate AI classroom management as theoretical rather than practical given these spontaneous demands.

The composite mean of 3.26 indicates that teachers regard artificial intelligence as moderately useful in classroom-related activities while still exercising strategic restraint in its application. This level of perceived usefulness suggests that AI has moved beyond experimental use and is now recognized as a valuable instructional support tool. At the same time, the data show that teachers are not adopting AI indiscriminately. Instead, they are making deliberate pedagogical decisions about where its integration is most appropriate. A clear instructional logic emerges from the pattern of responses. The highest ratings cluster around content enhancement functions such as providing real-time examples, simplifying complex concepts, supporting personalized lesson planning, and integrating immersive tools like virtual reality. These applications align closely with AI’s strengths in processing information, generating representations, and adapting content to learner needs.

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Table 5
Level of Usefulness of AI Tools as Assessed by the Teachers in terms of Instructional Activities

Items	Weighted Mean	Interpretation	Rank
1. I create adaptive and differentiated tasks for students using AI platforms.	3.36	Moderately Useful	2
2. AI facilitates collaborative activities such as group projects and peer review.	3.25	Moderately Useful	5
3. I integrate AI-generated multimedia (videos, infographics) to enrich classroom activities.	3.41	Moderately Useful	1
4. AI helps me monitor and encourage student participation during instructional activities.	3.20	Moderately Useful	6.5
5. I use AI tools to support inquiry-based and problem-solving activities in class.	3.35	Moderately Useful	3
6. AI tools help students develop critical thinking skills during learning activities.	3.18	Moderately Useful	8
7. I use AI to support student-led investigations and research activities.	3.13	Moderately Useful	10
8. AI applications assist in organizing and managing group-based instructional tasks.	3.20	Moderately Useful	6.5
9. I integrate AI tools to promote creativity in Social Studies activities.	3.16	Moderately Useful	9
10. AI supports differentiated instructional activities for learners with varying abilities.	3.33	Moderately Useful	4
Composite Mean	**3.26**	**Moderately Useful**	

***Legend: Highly Useful** (3.50-4.00), **Moderately Useful** (2.50–3.49), **Slightly Useful** (1.50–2.49), **Least Useful** (1.00–1.49)*

As written in Table 5, the teacher-respondents agreed that integrating AI-generated multimedia (videos, infographics) to enrich classroom activities is highly useful which garnered the highest weighted mean of 3.41 and the highest rank of 1. This top ranking reveals SDO Lipa City teachers' clear preference for AI's visual content generation capabilities that transform abstract Social Studies concepts into engaging, multi-sensory learning experiences immediately accessible to junior high students.

Tools like Canva Magic Studio, Microsoft Copilot, or Google Gemini instantly create animated timelines of Philippine independence, interactive infographics mapping federalism debates, or videos explaining Taal Volcano's socio-economic impacts, making complex topics visually compelling within 45-minute class periods. Seblian and Calos (2025) found identical high utility among Bukidnon educators where AI multimedia boosted student engagement by 25 percent and content retention by 19 percent, particularly effective for visual-spatial learners common among Batangas youth. In diverse Lipa classrooms serving children of factory workers, farmers, and urban migrants, these dynamic visuals bridge cultural gaps and attention spans shortened by social media consumption.

On the other hand, the teacher-respondents replied that they moderately use artificial intelligence (AI) to support student-led investigations and research activities, as reflected in the lowest weighted mean of 3.13 and a rank of 10 among the listed practices. This comparatively lower rating is not incidental. It

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reveals a deliberate and reflective stance among educators who are balancing the affordances of AI with the pedagogical demands of inquiry-based learning. While AI tools can efficiently generate summaries, suggest topics, and provide instant access to information, teachers appear to be cautious about integrating them too heavily into research-oriented tasks where the process of learning, rather than the mere acquisition of answers, is paramount. In this sense, the moderate utilization suggests not a rejection of AI but a calibrated approach that acknowledges both its potential and its limitations within the context of student-centered inquiry.

This lowest rating reflects teachers' realistic assessment that AI cannot substitute for human guidance in authentic inquiry processes, particularly those that require students to actively construct knowledge through critical engagement with sources. Student-led investigations inherently demand metacognitive scaffolding. Learners must be guided to distinguish between primary and secondary sources, interrogate the biases embedded in historical narratives such as those arising from Spanish colonial documentation, and triangulate multiple perspectives when examining accounts of the Philippine-American War.

The composite mean of 3.26 affirms that the teacher-respondents reported a high level of utilization of AI tools in instructional activities. This overall rating indicates that AI integration is not incidental or experimental but has become a regular and purposeful component of classroom practice. At this level, teachers are no longer merely exploring AI tools but are already embedding them into lesson delivery, resource development, and learner engagement strategies.

The result suggests a level of familiarity and confidence that allows educators to move beyond basic usage toward more pedagogically aligned applications. At the same time, the value of 3.26, while clearly within the “high use” range, also implies that teachers remain discerning in their adoption. They are not using AI indiscriminately but are making context-sensitive decisions based on instructional goals, learner needs, and subject-specific demands.

Table 6
Level of Usefulness of AI Tools as Assessed by the Teachers in terms of Assessment Practices

Items	Weighted Mean	Interpretation	Rank
1. I use AI-powered tools for formative assessments and provide immediate feedback.	**3.35**	**Moderately Useful**	**1.5**
2. AI assists in analyzing student performance data to identify learning gaps.	**3.18**	**Moderately Useful**	**8**
3. I employ AI applications to design quizzes or performance assessments tied to Social Studies objectives.	**3.29**	**Moderately Useful**	**3**
4. AI tools help me track student progress over time for better instructional decisions.	**3.09**	**Moderately Useful**	**10**
5. I use AI to personalize remediation or enrichment strategies based on assessment results.	**3.20**	**Moderately Useful**	**6**
6. AI tools help reduce the time spent on checking and grading assessments.	**3.20**	**Moderately Useful**	**6**
7. I use AI-generated feedback to guide students’ improvement in Social Studies tasks.	**3.20**	**Moderately Useful**	**6**
8. AI assists in aligning assessments with intended learning outcomes.	**3.35**	**Moderately Useful**	**1.5**
9. I integrate AI tools to support authentic and performance-based assessment practices.	**3.17**	**Moderately Useful**	**9**

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10. AI helps me make data-driven decisions to improve my assessment strategies.	**3.27**	**Moderately Useful**	**4**
Composite Mean	**3.23**	**Moderately Useful**	

***Legend: Highly Useful** (3.50-4.00), **Moderately Useful** (2.50–3.49), **Slightly Useful** (1.50–2.49), **Least Useful** (1.00–1.49)*

As shown in Table 6, the teacher-respondents assessed that they moderately use AI-powered tools for formative assessments and for providing immediate feedback, and that AI assists in aligning assessments with intended learning outcomes. These two indicators obtained the highest equal weighted means of 3.35 and shared the top rank of 1.5. This convergence at the highest level highlights a clear instructional priority among teachers in Lipa City, where AI is maximized in areas that directly support accuracy, responsiveness, and efficiency in assessment practices.

In Social Studies, where misconceptions about governance systems, civic responsibilities, and historical interpretations can easily persist if not addressed promptly, the ability of AI tools to deliver immediate feedback becomes particularly valuable. Platforms such as Google Forms with AI features, Quizizz, and Kahoot enable teachers to quickly identify gaps in understanding within a typical 45-minute class period. This allows for timely instructional adjustments and targeted interventions that align with competency-based standards under the Department of Education Most Essential Learning Competencies (SchoolAI, 2025).

Contrariwise, the teacher-respondents indicated that AI tools are moderately useful in helping them track student progress over time for better instructional decisions, with this indicator obtaining the lowest weighted mean of 3.09 and rank of 10. Although still within the moderate range, this lower rating reflects a cautious stance toward the use of AI in longitudinal assessment processes. Tracking student progress in Social Studies involves more than monitoring scores or completion rates. It requires an understanding of how students develop from basic recall of historical facts to more complex skills such as analyzing decisions, evaluating policies, and forming evidence-based arguments. These forms of growth are often qualitative and context-dependent, making them difficult to capture through automated dashboards alone.

This limitation highlights the complexity of longitudinal assessment, which relies heavily on teacher judgment, contextual awareness, and the ability to interpret nuanced changes in student thinking. Reyes (2025) found that 58 percent of Philippine Social Studies teachers limit the use of AI tracking tools due to the complexity of rubric-based evaluations and the need for culturally grounded interpretations. Similarly, Munoz (2025) reported that 51 percent of educators expressed concerns about the reliability of student data generated by AI systems, particularly when used to inform long-term instructional decisions. Reich et al. (2025) further warn of a 25 percent incidence of what they describe as “context blindness,” where AI systems fail to account for culturally specific indicators of civic understanding, such as locally relevant expressions of participation or values. These findings explain why teachers in Lipa remain cautious in relying on AI for tracking progress over time, preferring to retain control over interpretive and evaluative processes.

The composite mean of 3.23 indicates that teacher-respondents moderately use AI tools in assessment practices, reflecting a balanced and strategic integration across different assessment functions. A clear pattern emerges from the distribution of scores. The highest ratings emphasize strengths in immediate feedback and alignment with learning outcomes, while mid-range scores highlight consistent use in quiz design and data-driven decision-making. The lowest rating points to limitations in longitudinal tracking, where human judgment remains essential. The 0.26-point spread between the highest and lowest indicators reinforces that these differences are not random but reflect deliberate pedagogical choices. This

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pattern positions teachers in Lipa City as thoughtful practitioners within the CALABARZON context, effectively leveraging AI where it adds value while maintaining professional control in more complex assessment areas.

This pattern is consistent with national trends. Data from the Department of Education AGAP.AI initiative report an average assessment-related AI usage of 3.21, increasing to 3.28 in urban divisions. Lipa's composite mean of 3.23 aligns with these figures, reflecting both access to training and a developing level of expertise in AI integration. Popenici et al. (2025) emphasize that the effectiveness of AI in assessment increases significantly following targeted professional development, suggesting that current moderate levels may improve with sustained training. At the same time, the disciplinary nature of Social Studies requires a balanced approach. Reyes (2025) notes a 0.32-point gap between AI use in Social Studies and STEM subjects, which reflects the need for human interpretation in evaluating civic understanding and historical reasoning. In this context, UNESCO (2025) describes effective integration as "disciplined augmentation," where AI supports but does not replace teacher judgment.

Relationship Between the Assessments on the Extent of Integration and on the Level of Usefulness of AI Tools

Table 7
Relationship Between the Assessments on the Extent of Integration in Terms of Interactive Discussion and on the Level of Usefulness of AI Tools

Variables Compared	r-value	p-value	Decision	Interpretation
Extent of Integration in Terms of Interactive Discussion Versus Level of Usefulness of AI Tools:				
Classroom Instruction	0.90	<0.001	Reject Ho	Highly Significant
Instructional Activities	0.90	<0.001	Reject Ho	Highly Significant
Assessment Practices	0.68	<0.001	Reject Ho	Highly Significant

As discussed in Table 7, when the assessment of the teacher-respondents on their extent of integration in terms of interactive discussion were compared to their level of usefulness of AI Tools, the computed r-values of 0.90 for classroom instruction, 0.90 for instructional activities and 0.68 for assessment practices have corresponding p-values of less than 0.01, thus rejecting the hypothesis. These results indicate very strong and consistent positive relationships in classroom instruction and instructional activities, and a moderately strong but still significant relationship in assessment practices.

The consistently high correlations for the first two domains suggest that teachers who actively integrate AI in interactive discussions tend to view it as highly useful in structuring lessons, sustaining instructional flow, and enhancing learner participation during classroom discourse. The slightly lower correlation in assessment practices suggests that while AI is still valued in evaluative functions, teachers apply more caution when judgments require interpretation of student understanding, especially in higher-order thinking tasks typical of Social Studies.

These concluded that the assessment of the teacher-respondents on their extent of integration in terms of interactive discussion have high significant relationships to their level of usefulness of AI Tools in terms of classroom instruction, instructional activities and assessment practices. This finding is supported by recent research which indicates that Filipino teachers perceive AI tools as highly valuable for enhancing instructional delivery, reducing workload, and fostering interactive student engagement (International Journal of Research and Innovation in Social Science [IJRISS], 2025).

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Table 8
Relationship Between the Assessments on the Extent of Integration in Terms of Performance Tasks and on the Level of Usefulness of AI Tools

Variables Compared	r-value	p-value	Decision	Interpretation
Extent of Integration in Terms of Performance Tasks Versus Level of Usefulness of AI Tools:				
Classroom Instruction	0.90	<0.001	Reject Ho	Highly Significant
Instructional Activities	0.87	<0.001	Reject Ho	Highly Significant
Assessment Practices	0.65	<0.001	Reject Ho	Highly Significant

Moreover, Table 8 showed that when the assessment of the teacher-respondents on their extent of integration in terms of performance tasks were compared to their level of usefulness of AI Tools, the computed r-values of 0.90 for classroom instruction, 0.87 for instructional activities and 0.65 for assessment practices have corresponding p-values of less than 0.01, thus rejecting the hypothesis. These results show similarly strong and statistically significant relationships, particularly in classroom instruction and instructional activities, with a moderately strong relationship in assessment practices. This indicates that teachers who integrate AI into performance-based tasks are more likely to perceive it as useful in supporting instructional planning, task execution, and evaluation processes. The strength of the correlations suggests that AI is particularly effective when used in structured, output-based learning activities where students are required to demonstrate understanding through applied tasks.

These generalized that the assessment of the teacher-respondents on their extent of integration in terms of performance tasks have high significant relationships to their level of usefulness of AI Tools in terms of classroom instruction, instructional activities and assessment practices. This strong correlation aligns with findings that AI-powered tools are essential in streamlining the creation of customized rubrics and aligned assessment tasks, thereby supporting teachers in managing complex, project-based work (Garcia, 2025).

In Social Studies, performance tasks often require learners to engage in simulations, historical analysis, research outputs, and civic action planning. These tasks are cognitively demanding and require clear criteria for assessment. AI supports this process by helping teachers design structured rubrics, align outputs with learning competencies, and ensure consistency in evaluation (Garcia, 2025).

Table 9
Relationship Between the Assessments on the Extent of Integration in Terms of Classroom-Based Activities and on the Level of Usefulness of AI Tools

Variables Compared	r-value	p-value	Decision	Interpretation
Extent of Integration in Terms of Classroom-Based Activities Versus Level of Usefulness of AI Tools:				
Classroom Instruction	0.84	<0.001	Reject Ho	Highly Significant
Instructional Activities	0.81	<0.001	Reject Ho	Highly Significant
Assessment Practices	0.58	<0.001	Reject Ho	Highly Significant

Finally, Table 9 indicated that when the assessment of the teacher-respondents on their extent of integration in terms of classroom-based activities were compared to their level of usefulness of AI Tools, the computed r-values of 0.84 for classroom instruction, 0.81 for instructional activities and 0.58 for assessment practices have corresponding p-values of less than 0.01, thus rejecting the hypothesis. These results indicate strong and statistically significant relationships across all indicators, although the strength of association is relatively lower compared to interactive discussion and performance tasks. This suggests

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that while AI integration in classroom-based activities is positively associated with perceived usefulness, its impact is more moderate in routine instructional functions that teachers may already perform effectively without heavy technological dependence (International Journal of Advanced and Innovative Research, 2025).

These deduced that the assessment of the teacher-respondents on their extent of integration in terms of classroom-based activities have high significant relationships to their level of usefulness of AI Tools in terms of classroom instruction, instructional activities and assessment practices. This is consistent with recent evaluations showing that while educators express some reservations, their overall perception of AI's value in improving student learning outcomes remains positive (International Journal of Advanced and Innovative Research, 2025). In classroom practice, AI is commonly used to support lesson planning, generate instructional materials, and organize learning activities, which improves efficiency and reduces repetitive workload. This allows teachers to redirect their effort toward more meaningful pedagogical tasks such as facilitating discussions, analyzing student responses, and supporting collaborative learning activities.

By leveraging AI for these supportive functions, teachers are able to strengthen the quality of classroom interaction and improve student engagement, especially in cognitively demanding subjects like Social Studies. This aligns with "Transforming Education" (2025), which emphasizes that AI contributes most effectively when it enhances, rather than replaces, teacher-led instruction. Even in cases where correlations are relatively lower, AI still plays a meaningful role in improving the overall instructional ecosystem by increasing efficiency, supporting organization, and enabling more focused teaching practice grounded in active student learning.

Challenges Encountered by Teachers in Utilizing AI tools in Their Pedagogical Practices

Table 10
Challenges Encountered by Teachers in Utilizing AI tools in Their Pedagogical Practices

Items	Weighted Mean	Interpretation	Rank
1. Limited access to adequate technology and internet connectivity hinders my AI tool usage.	**2.93**	**Often**	**5**
2. Insufficient training on AI tools affects my confidence in using them effectively.	**3.05**	**Often**	**3**
3. Concerns about student data privacy limit my use of AI tools.	**3.17**	**Often**	**1**
4. AI tools can be too complex or intimidating to integrate into my teaching.	**2.88**	**Often**	**7**
5. Time constraints prevent me from utilizing AI tools to their full potential.	**2.88**	**Often**	**7**
6. Lack of institutional support limits the effective integration of AI tools in teaching.	**2.88**	**Often**	**7**
7. Difficulty in aligning AI tools with curriculum standards poses a challenge.	**2.86**	**Often**	**9.5**
8. Limited student digital literacy affects the effective use of AI in class.	**2.86**	**Often**	**9.5**
9. Ethical concerns about AI-generated content affect my	**2.98**	**Often**	**4**

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willingness to use AI tools.			
10. Unreliable AI outputs or inaccuracies hinder my trust in AI-assisted teaching.	**3.10**	**Often**	**2**
Composite Mean	**2.96**	**Often**	

***Legend: Very Often** (3.50-4.00), **Often** (2.50–3.49), **Rare** (1.50–2.49), **Very Rare** (1.00–1.49)*

As gleaned in Table 10, the teacher-respondents disclosed that their concerns about student data privacy often limit their use of AI tools which made the highest weighted mean of 3.17 and the highest rank of 1. This top ranking underscores SDO Lipa City teachers' paramount concern for student data protection amid AI integration, reflecting a strong awareness of Republic Act 10173 (Data Privacy Act of 2012) implications in junior high school settings. In Social Studies classrooms, this concern is further intensified because student outputs often involve sensitive reflections on political beliefs, family histories, and socio-historical narratives such as Martial Law experiences or agrarian reform contexts. These types of disclosures, while academically meaningful, carry ethical risks when processed through external AI systems that may store, analyze, or transmit data without full institutional control.

This strong emphasis on privacy is consistent with Reyes (2025), who documents that 64% of Philippine Social Studies educators identify data protection as the primary barrier to AI adoption, largely due to the absence of clear institutional protocols governing AI use in public schools. The concern is not simply technological but deeply pedagogical, as teachers must balance innovation with their responsibility to protect learner identities and contextual sensitivity in discussions of civic and historical issues. This is further reinforced by DepEd Order No. 003, s. 2026, which mandates privacy impact assessments for AI tools handling student data, thereby validating teachers' cautious stance. In this sense, the high ranking reflects not resistance to innovation but a form of professional accountability grounded in ethical teaching practice.

Unreliable AI outputs follow as the second highest concern with a weighted mean of 3.10 and rank 2. This indicates that teachers experience significant difficulty trusting AI-generated content, particularly in Social Studies where factual accuracy and contextual depth are essential. Instances of incorrect historical interpretations, oversimplified political explanations, or fabricated citations weaken teacher confidence in integrating AI outputs directly into instruction. This concern is closely tied to the nature of Social Studies content, which requires precision in historical chronology and sensitivity in interpreting socio-political issues. Munoz (2025) supports this finding by reporting that 61% of Filipino teachers hesitate to fully adopt AI due to algorithmic inaccuracies or so-called hallucinations that distort factual content, especially in humanities-based subjects.

This issue is further complicated by the fact that AI systems are often trained on global datasets that may not fully capture Philippine historical and cultural contexts. As a result, teachers in Lipa City must constantly verify AI-generated information before integrating it into classroom discussions. This additional verification process reduces the efficiency gains that AI is expected to provide and reinforces the perception that AI serves more as a supplementary rather than authoritative instructional tool.

Insufficient training emerges as the third concern with a weighted mean of 3.05 and rank 3. This reflects teachers' perceived gap in technical and pedagogical competencies needed to effectively integrate AI tools into instruction. While teachers may be familiar with basic AI applications, many report limited exposure to advanced uses such as prompt engineering, content verification, and curriculum-aligned AI adaptation. Guzman et al. (2025) confirm that 56% of educators lack foundational AI operational skills, which directly affects their confidence and efficiency in classroom integration.

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Enhancement Strategies for AI Integration in Social Studies Pedagogies

This section presents the proposed enhancement strategies that emphasize the responsible, balanced, and pedagogically sound integration of AI tools in Social Studies instruction within SDO Lipa City junior high schools. These strategies directly address the study's key findings of moderate AI integration in interactive discussions, GRASPS performance tasks, classroom activities, and assessment practices. The strategies also target high recognition of AI tools' usefulness despite implementation barriers and frequently encountered challenges including student data privacy concerns, unreliable AI outputs, insufficient teacher training, ethical issues with AI-generated content, and limited technology access, ensuring alignment with DepEd Order No. 003 s. 2026 while safeguarding Republic Act 10173 compliance and Most Essential Learning Competencies relevance.

Table 11 presents a comprehensive three-phase enhancement strategy matrix directly addressing the key findings mentioned. The systematic framework leverages existing Schools Division Office infrastructure such as Learning Action Cell sessions, Focused Learning Team demonstrations, In-Service Training, and Results-Based Performance Management System portfolios, utilizing free tools like Google Gemini, Kahoot!, Quizizz, and Canva to systematically transform current moderate integration into high-level AI-enhanced Social Studies pedagogies.

The matrix clearly delineates roles for Social Studies Master Teachers, classroom teachers, Education Program Supervisor-Social Studies, school heads, and Information Technology personnel across three distinct phases that are illustrated in the legend to achieve measurable outcomes from majority AI-enhanced pedagogies in all identified areas to minimal challenge ratings, ensuring sustainable AI integration within SDO Lipa City's existing operational structures.

LEGEND: Three-Phase Implementation Strategy

Phase	Timeline	Focus	Purpose
Phase 1	**Q2-Q3 2026** (Summer INSET)	**Capacity Building**	Develop skills, create templates, complete certifications
Phase 2	**SY 2026-2027** (1st implementation)	**Tool Deployment**	Test strategies in classrooms, refine during LAC/FLT
Phase 3	**SY 2027-2028** (Full rollout)	**Institutionalization**	Embed in RPMS, standardize protocols, sustain practices

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Table 11. Enhancement Strategies for AI Integration in Social Studies Pedagogies

Area of Concern	Proposed Strategies/Activities	Implementation Description	Objectives with Sustainable Development Goal (SDG) Alignment	Resources Needed	Roles of Teachers & Administrators	Expected Outcomes
Moderate AI Integration in Interactive Discussions	**Phase 1:** Develop AI discussion starter prompts for Grades 7-10; **Phase 2:** Use ChatGPT for Socratic seminar preparation; **Phase 3:** Implement real-time AI fact-checking during debates	**Phase 1:** Master Teachers create 20 prompts during Learning Action Cell (LAC); **Phase 2:** Teachers test prompts in classes, refine during Focused Learning Team; **Phase 3:** Supervisors observe AI-enhanced debates, provide feedback during monitoring	Daily AI-enhanced classroom discussions; **SDG 4.7**: Education for critical thinking and global citizenship	Google Gemini free tier; Learning Action Cell (LAC) session time	**Teachers:** Create/test prompts, lead AI discussions; **Administrators:** Monitor classes, validate AI use in Results-Based Performance Management System	Majority of discussion lessons incorporate AI
Moderate AI Integration in Performance Task GRASPS Making	**Phase 1:** Create AI rubric generator templates; **Phase 2:** Generate AI task scaffolds and outlines; **Phase 3:** Produce AI feedback drafts for teacher review	**Phase 1:** Teachers develop templates during Results-Based Performance Management System (RPMS) portfolio preparation; **Phase 2:** Test scaffolds with sample GRASPS tasks; **Phase 3:** Administrators review AI drafts during performance task validation	Most performance tasks become AI-enhanced; **SDG 4.6**: Development of complex problem-solving skills	Grammarly Education license; Results-Based Performance Management System (RPMS) portfolio time	**Teachers:** Generate/review AI scaffolds; **Administrators:** Approve rubrics, monitor implementation	Most performance tasks utilize AI scaffolds; Student performance improves significantly
Moderate AI Integration in Classroom Activities	**Phase 1:** Deploy Kahoot! AI quiz generator; **Phase 2:** Create Canva AI visual timelines; **Phase 3:** Implement Quizizz AI review games	**Phase 1:** Teachers create 5 quizzes/quarter during Focused Learning Team (FLT) demonstrations; **Phase 2:** Share Canva templates in LAC; **Phase 3:** School heads showcase best Quizizz games during division meetings	Majority of classroom activities become AI-powered; **SDG 4.4**: Information and Communications Technology skills	No financial cost (free tiers); Focused Learning Team demonstration time	**Teachers:** Create/share AI activities; **Administrators:** Feature best practices in school bulletins	Majority of activities integrate AI; Engagement ratings reach high level
Moderate Usefulness of AI Tools in Assessment Practices	**Phase 1:** Implement Quizizz AI for formative assessments; **Phase 2:** Use Google Forms AI analytics; **Phase 3:** Generate AI progress report summaries	**Phase 1:** Weekly Quizizz during regular classes; **Phase 2:** Monthly analytics review in grade-level meetings; **Phase 3:** Quarterly progress reports during parent conferences	Most assessments become AI-supported; **SDG 4.1**: Measurement of learning outcomes	No financial cost (free tools); In-Service Training sharing sessions	**Teachers:** Deploy AI assessments; **Administrators:** Review analytics, adjust instruction	Assessment usefulness improves significantly; Grading time reduced substantially
Privacy Concerns	**Phase 1:** Conduct National Privacy Commission two-hour webinar; **Phase 2:** Establish Approved AI Tools Registry; **Phase 3:** Implement annual privacy audits	**Phase 1:** Division-wide webinar during INSET; **Phase 2:** Education Program Supervisor - Social Studies (EPS-SS) maintains Google Sheets registry; **Phase 3:** School heads conduct termly audits during LAC	Privacy concerns rating reduces to sometimes level; **SDG 16.6:** Accountable institutions	No financial cost (National Privacy Commission free materials); Google Sheets	**Teachers:** Use only approved tools; **Administrators:** Enforce registry compliance	All teachers use only approved tools
Unreliable Outputs	**Phase 1:** Develop 25 Most Essential Learning Competencies-aligned prompts; **Phase 2:** Create fact-checking rubric; **Phase 3:** Establish cross-verification protocol	**Phase 1:** Master Teachers create prompts during Learning Action Cell (LAC); **Phase 2:** Test rubric with sample outputs; **Phase 3:** Protocol embedded in teacher handbook	AI output accuracy becomes reliable; **SDG 4.7**: Accurate educational content	No financial cost; Learning Action Cell (LAC) time	**Teachers:** Use verified prompts; **Administrators:** Approve prompt library	AI error rate becomes minimal
Training Gaps about AI Tools	**Phase 1:** Complete Google Educator certification; **Phase 2:** Monthly In-Service Training AI sharing; **Phase 3:** Establish peer coaching partnerships	**Phase 1:** Self-paced certification using school internet; **Phase 2:** 30-min monthly INSET (in-service training) demos; **Phase 3:** Pair certified with non-certified teachers	Training concerns reduce to sometimes level; **SDG 4.c**: Qualified teachers	Free Google courses	**Teachers:** Complete certification, coach peers; **Administrators:** Allocate In-Service Training time	Majority certified as Google Educators
Ethical Concerns	**Phase 1:** Deliver 15-minute AI Ethics module;	**Phase 1:** Module during homeroom;	Ethical concerns reduce to sometimes level;	No financial cost; United Nations Educational, Scientific and Cultural	**Teachers:** Teach ethics module;	No plagiarism incidents occur

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	Phase 2: Develop student attribution guidelines; **Phase 3:** Integrate plagiarism detection tools	**Phase 2:** Guidelines in student handbook; **Phase 3:** Free tools in school computers	**SDG 4.7**: Education for sustainable development values	Organization free materials	**Administrators:** Enforce guidelines	
Technology Access	**Phase 1:** Install Chrome extension AI tools; **Phase 2:** Develop offline AI prompt templates; **Phase 3:** Create shared device rotation schedule	**Phase 1:** IT installs during summer; **Phase 2:** Print templates for backup; **Phase 3:** Schedule posted in Learning Resource Center (LRC)	Technology access concerns reduce to sometimes level; **SDG 9.c**: Information and Communications Technology infrastructure	Chrome extensions; Existing devices	**Teachers:** Follow device schedule; **Administrators:** Monitor access equity	Consistent classroom AI access achieved

Conclusion

Based on the findings of the study, it was concluded that teachers moderately integrate AI tools in Social Studies pedagogies and generally perceive these tools as moderately useful in supporting instructional practices. The study also established a strong and significant relationship between the extent of AI integration and its perceived usefulness, indicating that greater appreciation of AI tools corresponds to higher levels of integration in teaching practices. Furthermore, teachers encounter notable challenges in utilizing AI tools, particularly in terms of data privacy, reliability of AI-generated outputs, insufficient training, curriculum alignment, and student digital literacy. Hence, the proposed enhancement strategies are deemed necessary to address the identified gaps, strengthen ethical and effective AI integration, and support teachers in maximizing the use of AI tools for improved Social Studies pedagogical practices.

Recommendation

In the light of the conclusions drawn, the researcher recommended that the proposed enhancement strategies for AI integration be reviewed and approved prior to implementation to ensure alignment with DepEd policies and data privacy standards. Teachers were encouraged to further strengthen the integration of AI tools in instruction, particularly in content delivery, feedback, and differentiated learning, while maintaining appropriate human guidance in inquiry-based and collaborative activities. Likewise, school administrators were advised to establish clear policies on the ethical and responsible use of AI and to support the conduct of training and seminars that would enhance teachers' competencies in prompt design, content validation, and curriculum alignment. Furthermore, future researchers were encouraged to conduct similar studies in other school divisions, educational levels, private schools, and subject areas to validate and expand the findings of the present study.

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