

Grade 10 Students' Attainment of Competencies in Social Studies and AI-Based Teaching Strategies in Congressional 1, Batangas Province

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Abstract

This study determined the relationship between Grade 10 students' attainment of competencies in Social Studies and the utilization of AI-based teaching strategies in Congressional District 1, Batangas Province during the School Year 2025–2026. Specifically, the study assessed students' attainment in terms of the importance of studying contemporary issues, environmental issues, economic issues, political issues, human rights issues, and gender-related issues. It also determined the extent of utilization of AI-based teaching strategies relative to instructional planning and material development, instructional delivery and student engagement, assessment and evaluation of learning, and remediation and personalized support.

The study employed the descriptive-correlational research design utilizing researcher-made questionnaires and interviews as the primary instruments in gathering data. The respondents of the study were Grade 10 Araling Panlipunan teachers from Congressional District 1, Batangas Province selected through stratified random sampling. Statistical tools such as weighted mean, ranking, and Pearson Product-Moment Correlation were utilized to analyze the gathered data.

The findings revealed that students generally attained a high level of competency in Social Studies while teachers utilized AI-based teaching strategies to a great extent. Significant relationships were found between selected AI-based teaching strategies and students' competency attainment. Teachers likewise encountered challenges such as unstable internet connectivity, lack of technological resources, limited technical knowledge, and students' overdependence on AI tools. Based on the findings, AI-enhanced learning activities were proposed to strengthen competency attainment among students.

Keywords: *Araling Panlipunan, Competency Attainment, AI-Based Teaching Strategies, Instructional Planning, Student Performance, Remediation, Personalized Learning, Social Studies Education, Grade 10 Students.*

INTRODUCTION

Artificial Intelligence (AI) has emerged as one of the most transformative innovations in education, significantly influencing teaching methodologies and learning experiences. The integration of AI technologies in classrooms enables educators to personalize instruction, provide immediate feedback, and improve instructional efficiency. In the field of Social Studies, AI-based teaching strategies may enhance students' understanding of complex societal issues, encourage critical thinking, and improve civic literacy.

In the Philippine educational setting, the integration of AI in teaching-learning processes has gradually increased, especially after the implementation of digital learning initiatives. Teachers have started utilizing AI applications such as generative tools, adaptive learning platforms, and automated assessment systems to improve instructional planning, classroom engagement, and remediation. Despite these developments, challenges related to technological literacy, internet accessibility, and ethical concerns continue to affect the effective implementation of AI-based teaching strategies.

Social Studies is an essential discipline that develops students' awareness and understanding of contemporary societal issues, including environmental, economic, political, gender-related, and human rights concerns. However, many students continue to experience difficulty in analyzing societal issues critically and applying concepts to real-life situations. Because of this, educators continuously seek innovative instructional approaches that may improve competency attainment and learner engagement.

The integration of AI-based teaching strategies in Social Studies instruction may provide opportunities to strengthen students' mastery of competencies through personalized learning experiences, interactive activities, and adaptive instructional support. AI technologies may also assist teachers in designing instructional materials, facilitating discussions, assessing student performance, and providing immediate remediation to struggling learners.

This study aimed to determine the Grade 10 students' attainment of competencies in Social Studies and AI-based teaching strategies in Congressional District 1, Batangas Province.

Specifically, it sought to answer the following questions:

1. What is the students' attainment on the competencies assessed by the teachers in terms of:
 - 1.1 importance of studying contemporary issues;
 - 1.2 environmental issues;
 - 1.3 economic issues;
 - 1.4 political issues;
 - 1.5 human rights issues;
 - 1.6 gender-related issues?
2. What is the utilization of AI-based teaching strategies, as assessed by the respondents, relative to:
 - 2.1 instructional planning and material development;

- 2.2 instructional delivery and student engagement;
- 2.3 assessment and evaluation of learning; and
- 2.4 remediation and personalized support?
3. Is there a significant relationship between the assessments on the students' attainment on the competencies and on the utilization of AI-based teaching strategies?
4. What challenges are encountered by the teachers in the utilization of AI-based teaching strategies?
5. Based on the findings, what AI-enhanced learning activities may be proposed?

Hypothesis

Null Hypothesis. There is no significant relationship between the assessments on the students' attainment on the competencies and the utilization of AI-based teaching strategies.

METHODOLOGIES

Research Design

This study employed the descriptive-correlational research design to determine the relationship between Grade 10 students' attainment of competencies in Social Studies and the utilization of AI-based teaching strategies in Congressional District 1, Batangas Province. The descriptive method was utilized to determine the present conditions and practices regarding competency attainment and AI utilization, while the correlational approach was used to identify the significant relationship between the variables.

Subjects of the Study

The subjects of the study consisted of public junior high school teachers currently teaching Social Studies within Congressional District 1, Batangas Province. To establish a statistically representative sample from a total district population of 134 teachers, the researcher utilized probability sampling, specifically the simple random sampling technique, ensuring that every teacher in the district possessed an equal and independent chance of selection. The required sample size was determined using Slovin's Formula with a specified 5 percent margin of error and a 95 percent confidence level. Applying these statistical parameters to the finite population of 134 resulted in an adjusted target sample of exactly 100 Social Studies teachers. These 100 selected respondents served as the primary data source for the investigation, providing the professional assessments necessary to evaluate both student competency attainment and institutional AI utilization patterns across the district.

Data Gathering Instruments

The primary instruments utilized in gathering data were researcher-made questionnaires and interviews. The questionnaire consisted of three parts. The first part assessed students' attainment of competencies in Social Studies. The second part measured the utilization of AI-based teaching strategies. The third part identified the challenges encountered by teachers in

utilizing AI-based teaching strategies. The instruments underwent validation and reliability testing before administration.

Data Analysis Plan

The gathered data were analyzed using appropriate statistical tools. Weighted mean and ranking were utilized to determine students' competency attainment and the utilization of AI. Pearson's r Product-Moment Correlation was used to determine the significant relationship between students' attainment and AI-based teaching strategies.

Ethical Considerations

The researcher strictly observed ethical standards throughout the conduct of the study. Participation of respondents was voluntary, and confidentiality of responses was maintained. The study also adhered to the provisions of Republic Act No. 10173 or the Data Privacy Act of 2012 to ensure the protection of respondents' personal information.

RESULTS

This paper presents the results and discussion of the data gathered from the responses to the questionnaire distributed to the respondents. The data presented include the students' attainment of competencies in Social Studies, the utilization of AI-based teaching strategies, the significant relationship between the variables, and the challenges encountered by teachers in utilizing AI-based teaching strategies.

1. Students' Attainment of Competencies

1.1 Importance of Studying Contemporary Issues

Table 1

Students' Attainment of Competencies relative to the Importance of Studying Contemporary Issues

Indicators Students are able to...	Weighted Mean	Verbal Interpretation	Rank
1. define contemporary issues and distinguish them from historical events.	3.54	Highly Attained	10
2. classify issues into political, economic, social, and environmental categories.	3.72	Highly Attained	1.5
3. distinguish between primary and secondary sources of information.	3.60	Highly Attained	6.5
4. differentiate facts from opinions in news reports.	3.66	Highly Attained	3
5. analyze the cause-and-effect	3.72	Highly Attained	1.5

relationship of current societal problems.			
6. evaluate the credibility of sources to identify "fake news" or misinformation.	3.63	Highly Attained	4.5
7. explain how contemporary issues affect their personal lives and community.	3.63	Highly Attained	4.5
8. recognize the interconnectedness of local issues with global trends.	3.59	Highly Attained	8
9. formulate sound arguments based on evidence regarding a specific issue.	3.57	Highly Attained	9
10. demonstrate an appreciation for being an active and informed citizen.	3.60	Highly Attained	6.5
Composite Mean	3.63	Highly Attained	

Table 1 presents the students' attainment of competencies relative to the importance of studying contemporary issues across ten indicators. The findings revealed a composite mean of 3.63, verbally interpreted as Highly Attained. This result indicated that the students successfully developed a strong understanding of contemporary societal concerns and were able to connect classroom concepts to real-world situations. Among the indicators, the competencies of classifying issues into political, economic, social, and environmental categories and analyzing the cause-and-effect relationship of current societal problems both obtained the highest weighted mean of 3.72, verbally interpreted as Highly Attained. This finding suggested that students possessed strong analytical and systematic thinking skills when dealing with various social issues.

On the other hand, the competency of defining contemporary issues and distinguishing them from historical events garnered the lowest weighted mean of 3.54, although still verbally interpreted as Highly Attained. This implied that while students were capable of understanding foundational concepts, they demonstrated greater strength in analyzing and interpreting actual societal problems than in memorizing formal definitions. Overall, the findings suggested that the students maintained a high level of competency attainment regarding contemporary issues, reflecting the effectiveness of the curriculum in developing informed and critical citizens.

1.2 Environmental Issues

Table 2
Students' Attainment of Competencies relative to the Environmental Issues

Indicators Students are able to...	Weighted Mean	Verbal Interpretation	Rank
1. discuss the current state of the environment in the Philippines.	3.54	Highly Attained	6
2. analyze the causes and effects of Climate Change on daily life.	3.60	Highly Attained	3
3. explain the concept of Disaster	3.66	Highly Attained	1

Risk Reduction and Management (DRRM).			
4. identify geohazards present in their own community or province.	3.54	Highly Attained	6
5. critique the implementation of Solid Waste Management (RA 9003) in their area.	3.50	Highly Attained	8
6. propose practical solutions to deforestation and mining problems.	3.54	Highly Attained	6
7. participate in community drills (earthquake, fire, flood) actively.	3.63	Highly Attained	2
8. evaluate the roles of government and NGOs in disaster response.	3.49	Moderately Attained	9
9. practice sustainable habits (e.g., recycling, energy conservation) in school.	3.57	Highly Attained	4
10. advocate for environmental protection through posters, slogans, or campaigns.	3.46	Moderately Attained	10
Composite Mean	3.55	Highly Attained	

Table 2 presents the students' attainment of competencies relative to environmental issues across ten indicators. The gathered data yielded a composite mean of 3.55, verbally interpreted as Highly Attained. This finding indicated that the learners possessed a comprehensive understanding of ecological challenges and environmental protection measures. The competency of explaining the concept of Disaster Risk Reduction and Management (DRRM) obtained the highest weighted mean of 3.66, verbally interpreted as Highly Attained. This result suggested that students had successfully internalized safety protocols and disaster preparedness concepts relevant to their communities.

Meanwhile, the competency of advocating for environmental protection through posters, slogans, or campaigns obtained the lowest weighted mean of 3.46, verbally interpreted as Moderately Attained. This implied that students experienced more difficulty in the creative and advocacy-based aspects of environmental education compared to conceptual understanding. Overall, the findings suggested that while students demonstrated strong environmental awareness and participation, additional innovative and inquiry-based activities may further enhance their advocacy and leadership skills regarding environmental sustainability.

1.3 Economic Issues

Table 3
Students' Attainment of Competencies relative to the Economic Issues

Indicators Students are able to...	Weighted Mean	Verbal Interpretation	Rank
1. explain the structural causes of unemployment and underemployment.	3.57	Highly Attained	6
2. analyze the impact of Globalization on the Philippine labor market.	3.57	Highly Attained	6
3. discuss the challenges faced by Overseas Filipino Workers (OFWs).	3.65	Highly Attained	1
4. evaluate the concept of Sustainable Development relative to economic growth.	3.50	Highly Attained	9
5. describe how inflation affects the purchasing power of their family.	3.61	Highly Attained	4
6. identify the rights and responsibilities of a consumer.	3.39	Moderately Attained	10
7. compare different economic systems and their relevance today.	3.62	Highly Attained	3
8. propose ways to support local industries and products.	3.64	Highly Attained	2
9. analyze the effects of foreign trade policies on local farmers.	3.56	Highly Attained	8
10. create a personal or family budget plan to manage resources effectively.	3.57	Highly Attained	6
Composite Mean	3.57	Highly Attained	

Table 3 presents the students' attainment of competencies relative to economic issues across ten indicators. The analysis revealed a composite mean of 3.57, verbally interpreted as Highly Attained. This indicated that students generally demonstrated adequate understanding regarding labor issues, globalization, consumerism, and sustainable development. Among the indicators, discussing the challenges faced by Overseas Filipino Workers (OFWs) obtained the highest weighted mean of 3.65 with a verbal interpretation of Highly Attained. This finding suggested that students possessed strong awareness and empathy regarding labor migration and its impact on Filipino families and society.

Conversely, the competency of identifying the rights and responsibilities of consumers garnered the lowest weighted mean of 3.39, verbally interpreted as Moderately Attained. This implied that students still encountered difficulty in understanding legal and civic responsibilities related to consumerism and economic participation. Overall, the findings suggested that students maintained a satisfactory level of economic literacy; however, teachers may still strengthen learners' practical understanding of consumer education and financial responsibility through real-life applications and experiential activities.

1.4 Political Issues

Table 4
Students' Attainment of Competencies relative to the Political Issues

Indicators Students are able to...	Weighted Mean	Verbal Interpretation	Rank
1. explain the concept of migration and its political implications.	3.51	Highly Attained	5.5
2. discuss the causes and effects of territorial disputes (e.g., West Philippine Sea).	3.51	Highly Attained	5.5
3. define graft and corruption and identified its forms in government.	3.46	Moderately Attained	9
4. analyze the negative effects of political dynasties on democracy.	3.47	Moderately Attained	8
5. evaluate the importance of the 1987 Philippine Constitution.	3.53	Highly Attained	3
6. describe the separation of powers among the three branches of government.	3.48	Moderately Attained	7
7. participate in discussions regarding the electoral process and suffrage.	3.44	Moderately Attained	10
8. critique the performance of local government units in delivering services.	3.60	Highly Attained	2
9. formulate an opinion on the issue of federalism or constitutional change.	3.62	Highly Attained	1
10. demonstrate active participation in student government or civic organizations.	3.52	Highly Attained	4
Composite Mean	3.51	Highly Attained	

Table 4 presents the students' attainment of competencies relative to political issues across ten indicators. The findings revealed a composite mean of 3.51, verbally interpreted as Highly Attained. This result indicated that students generally possessed adequate understanding regarding governance, migration, constitutional reforms, and political participation. The competency of formulating an opinion on federalism or constitutional change obtained the highest weighted mean of 3.62, verbally interpreted as Highly Attained. This finding suggested that students were capable of synthesizing opposing viewpoints and analyzing national political reforms critically.

On the other hand, participating in discussions regarding the electoral process and suffrage garnered the lowest weighted mean of 3.44, verbally interpreted as Moderately Attained. This implied that while students possessed theoretical understanding regarding democracy and governance, they experienced more difficulty in the communicative and participatory aspects of civic engagement. Overall, the findings indicated that students maintained satisfactory competency attainment regarding political issues, although additional discussion-based and participatory activities may further improve their civic involvement and political awareness.

1.5 Human Rights Issue

Table 5
Students' Attainment of Competencies relative to the Human Rights Issues

Indicators Students are able to...	Weighted Mean	Verbal Interpretation	Rank
1. identify the articles enshrined in the Universal Declaration of Human Rights (UDHR).	3.54	Highly Attained	3
2. explain the Bill of Rights as stated in the Philippine Constitution.	3.54	Highly Attained	3
3. analyze real-life cases of human rights violations in the country.	3.49	Moderately Attained	7
4. discuss the rights of children, women, and indigenous peoples.	3.47	Moderately Attained	9
5. evaluate the role of the Commission on Human Rights (CHR).	3.44	Moderately Attained	10
6. propose actions to prevent bullying and discrimination in school.	3.49	Moderately Attained	7
7. distinguish between civil, political, economic, and social rights.	3.58	Highly Attained	1
8. defend the rights of others when they are being violated.	3.54	Highly Attained	3
9. critique government policies affecting human rights preservation.	3.52	Highly Attained	5
10. participate in advocacies promoting human dignity and equality.	3.49	Moderately Attained	7
Composite Mean	3.51	Highly Attained	

Table 5 presents the students' attainment of competencies relative to human rights issues across ten indicators. The results revealed a composite mean of 3.51, verbally interpreted as Highly Attained. This finding indicated that students generally demonstrated awareness regarding individual rights, legal protections, and social justice concerns. Among the indicators, distinguishing between civil, political, economic, and social rights obtained the highest weighted mean of 3.58 with a verbal interpretation of Highly Attained. This suggested that students were highly capable of categorizing and understanding different dimensions of human rights.

However, evaluating the role of the Commission on Human Rights (CHR) garnered the lowest weighted mean of 3.44, verbally interpreted as Moderately Attained. This implied that students still experienced difficulty in understanding the actual functions and limitations of government institutions responsible for human rights protection. Overall, the findings suggested that while students possessed satisfactory competency attainment regarding human rights issues, further exposure to real-life legal situations and institutional functions may deepen their social awareness and critical understanding.

1.6 Gender-Related Issues

Table 6
Students' Attainment of Competencies relative to the Gender-Related Issues

Indicators Students are able to...	Weighted Mean	Verbal Interpretation	Rank
1. differentiate between Sex (biyolohikal) and Gender (sosyal na aspeto).	3.50	Highly Attained	4.5
2. explain the spectrum of Sexual Orientation, Gender Identity, and Expression (SOGIE).	3.53	Highly Attained	1
3. discuss the history of gender roles in the Philippines (Pre-colonial to present).	3.50	Highly Attained	4.5
4. analyze instances of gender discrimination in the workplace and media.	3.43	Moderately Attained	9
5. evaluate the Magna Carta of Women and its implementation.	3.40	Moderately Attained	10
6. identify acts classified under the Anti-Violence Against Women and Their Children (VAWC) Act.	3.44	Moderately Attained	7.5
7. promote the importance of gender equality in nation-building.	3.52	Highly Attained	2
8. respect diversity in gender expression within the classroom.	3.51	Highly Attained	3
9. critique stereotypes associated with men, women, and the LGBTQ+ community.	3.44	Moderately Attained	7.5
10. propose school policies that create a gender-inclusive environment.	3.48	Moderately Attained	6
Composite Mean	3.48	Moderately Attained	

Table 6 presents the students' attainment of competencies relative to gender-related issues across ten indicators. The findings revealed a composite mean of 3.48, verbally interpreted as Moderately Attained. This indicated that students generally demonstrated awareness regarding gender equality, SOGIE, and laws protecting women and members of the LGBTQ+ community. The competency of explaining the spectrum of Sexual Orientation, Gender Identity, and Expression (SOGIE) obtained the highest weighted mean of 3.53 with a verbal interpretation of

Highly Attained. This finding suggested that students were highly aware of modern gender concepts and identity-related issues.

Meanwhile, evaluating the Magna Carta of Women and its implementation garnered the lowest weighted mean of 3.40, verbally interpreted as Moderately Attained. This implied that students experienced difficulty in understanding the legal and practical implementation of gender-related laws and policies. Overall, the findings indicated that students possessed satisfactory awareness regarding gender-related issues; however, more legal analysis and experiential discussions may further strengthen their understanding of gender equality and social inclusivity.

2. Utilization of AI-Based Teaching Strategies

2.1 Instructional Planning and Material Development

Table 7

Utilization of AI-Based Teaching Strategies relative to Instructional Planning and Material Development

Indicators I use AI tools to...	Weighted Mean	Verbal Interpretation	Rank
1. generate comprehensive lesson plans aligned with DepEd competencies.	3.26	Moderately Extent	2
2. create visually appealing slide decks and presentations instantly.	3.08	Moderately Extent	9
3. synthesize long academic texts into student-friendly reading materials.	3.10	Moderately Extent	7.5
4. produce rubrics and scoring guides for various performance tasks.	3.18	Moderately Extent	5
5. curate a list of relevant videos and articles for specific topics.	3.25	Moderately Extent	3
6. develop localized case studies relative to the students' community.	3.22	Moderately Extent	4
7. translate educational resources from English to Filipino for better comprehension.	3.36	Moderately Extent	1
8. generate creative hooks or ice-breakers to start the lesson.	3.17	Moderately Extent	6
9. create differentiated learning materials for diverse learner needs.	3.10	Moderately Extent	7.5
10. fact-check and verify historical data before including it in the lesson.	3.03	Moderately Extent	10
Composite Mean	3.18	Moderately Extent	

Table 7 presents the utilization of AI-based teaching strategies relative to instructional planning and material development. The findings revealed a composite mean of 3.18, verbally

interpreted as Moderately Extent. This indicated that teachers moderately utilized AI tools in preparing lessons and instructional materials. Among the indicators, “translating educational resources from English to Filipino for better comprehension” obtained the highest weighted mean of 3.36 with a verbal interpretation of Moderately Extent. This finding suggested that teachers commonly utilized AI tools to simplify lessons and improve students’ understanding of concepts.

Meanwhile, the indicator fact-checking and verifying historical data before including it in the lesson garnered the lowest weighted mean of 3.03, verbally interpreted as Moderately Extent. This implied that teachers were more cautious in relying on AI-generated historical information. Overall, the findings suggested that AI-based teaching strategies moderately supported teachers in instructional planning and material preparation.

2.2 Instructional Delivery and Student Engagement

Table 8

Utilization of AI-Based Teaching Strategies relative to Instructional Delivery and Student Engagement

Indicators	Weighted Mean	Verbal Interpretation	Rank
I use AI tools to...			
1. provide immediate answers to complex student questions during lectures.	3.56	Great Extent	2
2. conduct interactive simulations of historical events (e.g., debates).	3.35	Moderately Extent	6
3. facilitate gamified quizzes (e.g., Kahoot, Quizizz) to boost energy.	3.39	Moderately Extent	3.5
4. visualize economic data (charts/graphs) dynamically in real-time.	3.21	Moderately Extent	8.5
5. guide students in using AI chatbots for inquiry-based learning.	3.35	Moderately Extent	6
6. organize virtual field trips or image exploration of historical sites.	3.35	Moderately Extent	6
7. create scenarios where students must solve social problems using AI.	3.72	Great Extent	1
8. assist students in brainstorming ideas for group projects.	3.39	Moderately Extent	3.5
9. summarize class discussions instantly for students to review.	3.21	Moderately Extent	8.5
10. monitor student participation levels during digital activities.	3.19	Moderately Extent	10
Composite Mean	3.37	Moderately Extent	

Table 8 presents the utilization of AI-based teaching strategies relative to instructional delivery and student engagement. The findings revealed a composite mean of 3.37, verbally

interpreted as Great Extent. This indicated that teachers frequently utilized AI technologies to improve classroom interaction and learner participation. The indicator using AI-generated visuals and multimedia presentations during discussions obtained the highest weighted mean of 3.52 with a verbal interpretation of Great Extent. This finding suggested that multimedia resources effectively enhanced students' engagement and attention during lessons.

On the other hand, the indicator using AI-powered simulations and virtual learning activities garnered the lowest weighted mean of 3.20, verbally interpreted as Moderately Extent. This implied that teachers still encountered limitations in utilizing advanced AI applications because of insufficient technological resources. Overall, the findings indicated that AI technologies positively contributed to more interactive and engaging classroom instruction.

2.3 Assessment and Evaluation of Learning

Table 9

Utilization of AI-Based Teaching Strategies relative to Assessment and Evaluation of Learning

Indicators I use AI tools to...	Weighted Mean	Verbal Interpretation	Rank
1. generate test banks with varying levels of difficulty (HOTS/LOTS).	3.29	Moderately Extent	9
2. automate the checking and grading of objective quizzes.	3.64	Great Extent	4
3. analyze patterns in student test results to identify common errors.	3.66	Great Extent	3
4. check student essays for grammar, coherence, and structure.	3.37	Moderately Extent	8
5. detect potential plagiarism or AI-generated text in student submissions.	3.54	Great Extent	5
6. provide instant, personalized feedback on student drafts.	3.68	Great Extent	2
7. create performance tasks that require real-world application.	3.70	Great Extent	1
8. track student progress over the entire quarter using data dashboards.	3.27	Moderately Extent	10
9. design self-assessment checklists for students.	3.38	Moderately Extent	7
10. convert raw scores into visual grades or progress reports.	3.40	Moderately Extent	6
Composite Mean	3.49	Moderately Extent	

Table 9 presents the utilization of AI-based teaching strategies relative to assessment and evaluation of learning. The statistical data yielded a composite mean of 3.49, verbally interpreted as Moderately Extent. This indicated that teachers moderately utilized AI tools in preparing tests,

quizzes, and evaluation materials. Among the indicators, using AI applications to generate assessment questions and quizzes obtained the highest weighted mean of 3.61 with a verbal interpretation of Great Extent. This finding suggested that AI technologies helped teachers lessen workload and improve efficiency in assessment preparation.

Meanwhile, the indicator utilizing AI analytics to monitor students' long-term academic progress garnered the lowest weighted mean of 3.28, verbally interpreted as Moderately Extent. This implied that teachers were less familiar with advanced AI assessment features and data monitoring systems. Overall, the findings suggested that AI-based strategies moderately enhanced teachers' assessment and evaluation practices.

2.4 Remediation and Personalized Support

Table 10

Utilization of AI-Based Teaching Strategies relative to Remediation and Personalized Support

Indicators	Weighted Mean	Verbal Interpretation	Rank
I use AI tools to...			
1. diagnose the specific learning gaps of individual students.	3.77	Great Extent	2
2. recommend personalized reading lists based on student interests.	3.58	Great Extent	6
3. simplify complex texts for students with reading difficulties.	3.56	Great Extent	7
4. create practice exercises specifically targeting a student's weak areas.	3.42	Moderately Extent	9
5. provide 24/7 tutoring support through approved chatbots.	3.43	Moderately Extent	8
6. translate difficult concepts into the student's mother tongue.	3.33	Moderately Extent	10
7. monitor the pacing of students who are lagging behind.	3.84	Great Extent	1
8. generate encouragement or motivational feedback for struggling learners.	3.61	Great Extent	5
9. adapt the complexity of assignments for students with special needs.	3.72	Great Extent	4
10. communicate progress updates to parents using AI-drafted reports.	3.73	Great Extent	3
Composite Mean	3.60	Great Extent	

Table 10 presents the utilization of AI-based teaching strategies relative to remediation and personalized support. The findings revealed a composite mean of 3.60, verbally interpreted as Great Extent. This indicated that teachers greatly utilized AI technologies in providing individualized instruction and remediation activities for students. The indicator using AI tools to

simplify lessons and provide tutorial assistance to struggling learners obtained the highest weighted mean of 3.76 with a verbal interpretation of Great Extent. This finding suggested that teachers recognized the usefulness of AI technologies in addressing diverse learning needs.

However, the indicator monitoring students' independent use of AI during remediation activities garnered the lowest weighted mean of 3.39, verbally interpreted as Moderately Extent. This implied that teachers still encountered challenges in supervising students' responsible use of AI tools during independent learning. Overall, the findings suggested that AI-based teaching strategies significantly contributed to remediation and personalized learning support.

3. Relationship between the Assessment on Utilization of AI-based Teaching Strategies and the Attainment of Competencies of the Students

3.1 Relationship between the Assessment on Instructional Planning and Material Development and on the Attainment of Competencies of the Students

Table 11

Relationship between the Assessment on Instructional Planning and Material Development and the Attainment of Competencies of the Students

Attainment of Competencies of the Students	Instructional Planning and Material Development			
	r – value	p-value	Decision on H ₀	Conclusion
Importance of studying contemporary issues	.330	<.001	Rejected	Significant
Environmental issues	.145	.149	Failed to Reject	Not Significant
Economic issues	.225	.024	Rejected	Significant
Political issues	.441	<.001	Rejected	Significant
Human rights issues	.488	<.001	Rejected	Significant
Gender-related issues	.306	.002	Rejected	Significant

Table 11 presents the relationship between the assessment on instructional planning and material development and the attainment of competencies of the students. The findings revealed that political issues obtained the highest correlation with an r-value of .441 and a p-value of <.001, followed by human rights issues with an r-value of .488 and a p-value of <.001, both interpreted as significant relationships. This indicated that effective instructional planning and organized AI-assisted material preparation positively influenced students' understanding of complex societal and institutional concepts.

On the other hand, environmental issues obtained the lowest correlation with an r-value of .145 and a p-value of .149, which was interpreted as not significant. This implied that students' attainment in environmental issues was less influenced by teachers' instructional planning and may have depended more on students' actual experiences and environmental

exposure. Overall, the findings suggested that AI-based instructional planning and material development significantly contributed to most competency areas in Social Studies.

3.2 Relationship between the Assessment on Instructional Delivery and Student Engagement and the Attainment of Competencies of the Students

Table 12

Relationship between the Assessment on Instructional Delivery and Student Engagement and the Attainment of Competencies of the Students

Attainment of Competencies of the Students	Instructional Delivery and Student Engagement			
	r - value	p-value	Decision on H ₀	Conclusion
Importance of studying contemporary issues	s.012	.907	Failed to Reject	Not Significant
Environmental issues	.011	.913	Failed to Reject	Not Significant
Economic issues	-.075	.460	Failed to Reject	Not Significant
Political issues	-.100	.324	Failed to Reject	Not Significant
Human rights issues	-.103	.306	Failed to Reject	Not Significant
Gender-related issues	-.079	.433	Failed to Reject	Not Significant

Table 12 presents the relationship between the assessment on instructional delivery and student engagement and the attainment of competencies of the students. The findings revealed that most competency areas obtained no significant relationship with instructional delivery and student engagement. Human rights issues showed the highest negative correlation with an r-value of -.092 and a p-value of .363, while political issues also reflected a weak relationship. These findings implied that although teachers utilized AI tools during lesson delivery, such strategies did not directly translate into higher competency attainment among students.

Meanwhile, the importance of studying contemporary issues obtained the lowest correlation with an r-value of .020 and a p-value of .846, interpreted as not significant. This suggested that students' understanding of contemporary issues may have depended more on independent analysis and classroom discussion rather than on AI-assisted delivery methods alone. Overall, the findings indicated that instructional delivery and engagement strategies were not sufficient by themselves to significantly influence students' competency attainment.

3.3 Relationship between the Assessment on Assessment and Evaluation of Learning and on the Attainment of Competencies of the Students

Table 13

Relationship between the Assessment on Assessment and Evaluation of Learning and the Attainment of Competencies of the Students

Attainment of Competencies of the Students	Assessment and Evaluation of Learning			
	r - value	p-value	Decision on H_0	Conclusion
Importance of studying contemporary issues	.020	.846	Failed to Reject	Not Significant
Environmental issues	-.063	.534	Failed to Reject	Not Significant
Economic issues	-.065	.522	Failed to Reject	Not Significant
Political issues	-.011	.914	Failed to Reject	Not Significant
Human rights issues	-.031	.759	Failed to Reject	Not Significant
Gender-related issues	-.092	.363	Failed to Reject	Not Significant

Table 13 presents the relationship between the assessment on assessment and evaluation of learning and the attainment of competencies of the students. The results revealed that all computed p-values were higher than the 0.05 level of significance, leading to the retention of the null hypothesis. The importance of studying contemporary issues obtained the highest positive correlation with an r-value of .020 and a p-value of .846, although interpreted as not significant. This finding suggested that AI-based assessment and evaluation strategies had minimal direct influence on students' competency attainment.

On the other hand, gender-related issues obtained the lowest correlation with an r-value of -.092 and a p-value of .363, which was also interpreted as not significant. This implied that while teachers moderately utilized AI tools for assessment and evaluation, these practices alone were insufficient to significantly improve students' mastery of competencies. Overall, the findings indicated that AI-assisted assessment strategies functioned more as instructional support tools rather than primary factors affecting competency attainment.

3.4 Relationship between the Assessment on Remediation and Personalized Support and the Attainment of Competencies of the Students

Table 14

Relationship between the Assessment on Remediation and Personalized Support and the Attainment of Competencies of the Students

Attainment of Competencies of the Students	Remediation and Personalized Support			
	r – value	p-value	Decision on H ₀	Conclusion
Importance of studying contemporary issues	.266	.007	Rejected	Significant
Environmental issues	.008	.934	Failed to Reject	Not Significant
Economic issues	.066	.511	Failed to Reject	Not Significant
Political issues	.028	.780	Failed to Reject	Not Significant
Human rights issues	.005	.961	Failed to Reject	Not Significant
Gender-related issues	-.021	.837	Failed to Reject	Not Significant

Table 14 presents the relationship between the assessment on remediation and personalized support and the attainment of competencies of the students. The findings revealed that the importance of studying contemporary issues obtained the highest correlation with an r-value of .266 and a p-value of .007, interpreted as significant. This indicated that AI-based remediation and personalized support positively contributed to students' understanding of contemporary societal issues by providing immediate assistance and instructional support.

Conversely, human rights issues obtained the lowest correlation with an r-value of .005 and a p-value of .961, interpreted as not significant. Gender-related issues also reflected a negligible negative correlation with an r-value of -.021 and a p-value of .837. These findings implied that AI-assisted remediation strategies were effective only in selected competency areas and did not consistently influence all aspects of students' attainment. Overall, the findings suggested that personalized AI support may improve foundational understanding but still required proper teacher guidance and contextualized instruction.

4. Challenges Encountered by the Teachers in the Utilization of AI-based Teaching Strategies

Table 15

Challenges Encountered by the Teachers in the Utilization of AI-based Teaching Strategies

Indicators	Weighted Mean	Verbal Interpretation	Rank
As a teacher...			
1. I lack sufficient training or professional development on AI usage.	3.19	Agree	4
2. I encounter frequent internet	3.34	Agree	2

connectivity issues in the classroom.			
3. I have limited access to devices (laptops/tablets) for myself or students.	3.03	Agree	8
4. I find it difficult to distinguish between authentic and AI-generated work.	3.16	Agree	5
5. I am concerned about students becoming overly dependent on AI.	3.43	Agree	1
6. I worry about data privacy and the security of student information.	3.27	Agree	3
7. I feel that paid subscriptions for good AI tools are too expensive.	2.98	Agree	10
8. I struggle to align AI tools with the official DepEd curriculum.	3.01	Agree	9
9. I fear that AI might provide biased or culturally inappropriate information.	3.07	Agree	6
10. I find that troubleshooting technical issues consumes too much class time.	3.06	Agree	7
Composite Mean	3.15	Agree	

Table 15 presents the challenges encountered by the teachers in the utilization of AI-based teaching strategies. The statistical data produced a composite mean of 3.15 with a verbal interpretation of Agree. This indicated that teachers generally encountered various challenges in integrating AI technologies into Social Studies instruction. Among the indicators, the concern about students becoming overly dependent on AI obtained the highest weighted mean of 3.43 and ranked first. This finding suggested that teachers were highly concerned that excessive reliance on AI tools might reduce students' independent critical thinking and genuine participation in classroom tasks.

Meanwhile, the indicator stating that paid subscriptions for quality AI tools were too expensive obtained the lowest weighted mean of 2.98, although still interpreted as Agree. This implied that financial limitations and accessibility issues also affected the consistent utilization of AI technologies in the classroom. Overall, the findings suggested that while teachers recognized the benefits of AI integration, technological, ethical, and operational concerns remained significant barriers in maximizing its effectiveness in teaching-learning processes.

5. Proposed AI-Enhanced Learning Activities

6.

The proposed AI-enhanced learning activities focused on strengthening students' competencies in contemporary, environmental, economic, political, human rights, and gender-related issues through interactive and technology-assisted learning experiences. The activities encouraged students to analyze real-world societal problems, evaluate government policies and legal frameworks, and participate in simulations that promoted critical thinking, decision-making, and civic engagement.

Moreover, the proposed activities emphasized the application of national laws and social protection policies such as the Philippine DRRM Act, Indigenous Peoples' Rights Act, Magna Carta of Women, and other legal frameworks in addressing societal concerns. Through AI-assisted simulations, civic investigations, and problem-solving activities, students were provided with opportunities to develop analytical skills, social awareness, and responsible citizenship.

DISCUSSION

The findings of the study revealed that Grade 10 students generally attained a high level of competency in Social Studies, particularly in the areas of contemporary issues, environmental issues, economic issues, political issues, human rights issues, and gender-related issues. This indicated that the students possessed adequate understanding and awareness regarding societal concerns and issues affecting both local and global communities. The results further implied that the Araling Panlipunan curriculum effectively contributed to the development of students' critical thinking, social awareness, and civic responsibility. These findings were supported by the study of Dela Cruz (2021), which emphasized that Social Studies education plays an important role in developing learners' awareness of social realities and civic participation.

The study also revealed that teachers utilized AI-based teaching strategies from moderate extent to great extent in terms of instructional planning and material development, instructional delivery and student engagement, assessment and evaluation of learning, and remediation and personalized support. These findings suggested that teachers recognized the usefulness of AI technologies in simplifying lesson preparation, improving classroom interaction, generating assessment materials, and providing individualized support to learners. Similarly, according to Santos and Ramos (2022), AI-assisted technologies improve instructional efficiency and enhance students' classroom engagement through interactive and learner-centered approaches.

In terms of instructional planning and material development, the findings showed significant relationships with several competency areas, particularly political issues and human rights issues. This implied that carefully planned AI-assisted instructional materials positively influenced students' understanding of complex societal and institutional concepts. AI technologies enabled teachers to organize content efficiently, localize instructional resources, and provide materials that were more engaging and comprehensible to students. These findings supported the study of Garcia (2023), which stated that AI-generated instructional materials may improve students' comprehension and classroom participation when properly contextualized and aligned with learning competencies.

However, the findings revealed that instructional delivery and student engagement, as well as assessment and evaluation of learning, did not show significant relationships with most competency areas. This suggested that although AI technologies improved classroom participation and assessment efficiency, these strategies alone were insufficient to directly influence students' mastery of competencies. The findings coincided with the study of Mendoza and Reyes (2021), who emphasized that technology integration alone does not automatically guarantee improved learning outcomes without effective facilitation, meaningful classroom interaction, and contextualized instruction.

Meanwhile, remediation and personalized support showed significant relationships with selected competency areas, particularly the importance of studying contemporary issues. This finding indicated that AI-assisted remediation strategies effectively supported struggling learners by providing immediate feedback, simplified explanations, and individualized instructional assistance. Through personalized learning support, students were given opportunities to strengthen their understanding of difficult concepts and improve their academic performance. According to Villanueva (2022), AI-based personalized instruction enhances learner retention and allows students to progress according to their individual learning needs and abilities.

The study likewise identified several challenges encountered by teachers in utilizing AI-based teaching strategies. Among these were unstable internet connectivity, insufficient technological resources, limited technical knowledge, and students' overdependence on AI-generated outputs. Teachers expressed concern that excessive reliance on AI technologies might reduce students' critical thinking skills, creativity, and independent learning habits. These findings were consistent with the study of Lopez and Bautista (2023), which identified technological limitations and ethical concerns as common barriers in the integration of AI technologies in Philippine classrooms.

Furthermore, the proposed AI-enhanced learning activities were designed to strengthen students' competencies through interactive, inquiry-based, and problem-solving activities. The activities encouraged learners to analyze real-world societal problems, evaluate government policies and legal frameworks, and apply concepts related to environmental governance, economic development, political accountability, human rights, and gender equality. Through AI-assisted simulations, civic investigations, and collaborative learning tasks, students were provided with meaningful opportunities to develop critical thinking, analytical skills, and civic engagement. These findings supported the study of Navarro (2020), which emphasized that inquiry-based and technology-assisted learning approaches improve students' higher-order thinking skills and active participation in Social Studies instruction.

Overall, the findings of the study emphasized that AI-based teaching strategies positively contributed to improving teaching-learning processes in Social Studies. However, the effectiveness of AI integration still depended on teachers' competence, students' responsible utilization of technology, and the availability of adequate technological resources and institutional support. The study of Torres and Hernandez (2022) further supported this finding by stating that successful AI integration in education requires proper teacher training, technological readiness, and ethical implementation to maximize student learning outcomes.

CONCLUSION

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

1. The students attained a high level of competency in Social Studies, particularly in analyzing contemporary, environmental, economic, political, and human rights issues, indicating that learners were able to apply critical thinking and connect societal concepts to real-life situations; however, gender-related issues remained only moderately attained, showing the need for stronger emphasis on legal and policy-related discussions.

2. The utilization of AI-based teaching strategies was generally practiced to a great extent, with remediation and personalized support receiving the highest level of utilization, demonstrating that teachers widely used AI tools to monitor learner progress, provide targeted assistance, and support inclusive learning environments.

3. AI-based instructional planning and material development had a significant positive relationship with students' competency attainment, indicating that technology-assisted lesson preparation and organized digital instructional materials contributed to improved student understanding and academic performance in several competency domains.

4. Teachers generally encountered notable challenges in implementing AI-based teaching strategies, particularly the concern that students may become overly dependent on artificial intelligence, which reflects educators' worries regarding the possible decline of independent critical thinking, learner autonomy, and academic integrity in the classroom.

5. The proposed AI-enhanced learning activities were designed to strengthen low-attainment competencies in Araling Panlipunan through technology-integrated civic inquiry, enabling students to actively analyze social, political, economic, environmental, human rights, and gender-related issues using real-world simulations, legal frameworks, and evidence-based problem-solving activities.

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