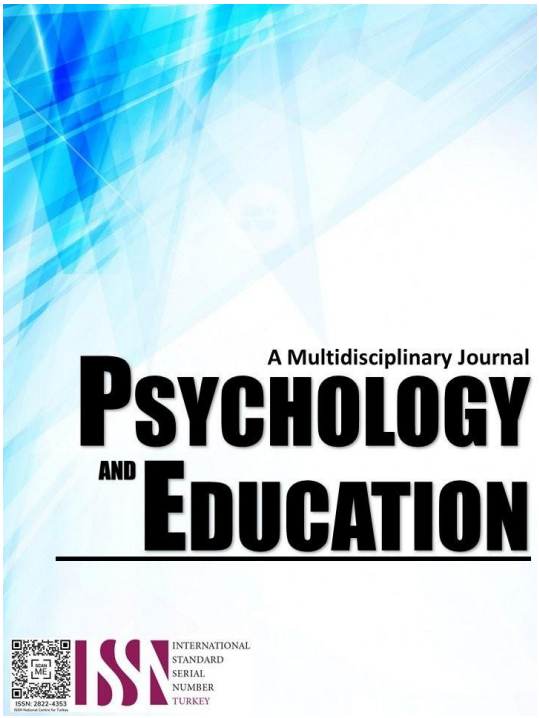
PERCEIVED EFFECTS OF ARTIFICIAL INTELLIGENCE ON STUDENTS' LEARNING EFFICIENCY IN SOCIAL STUDIES 10



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Research Article

Perceived Effects of Artificial Intelligence on Students' Learning Efficiency in Social Studies 10

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Abstract

This study examined the perceived effects of Artificial Intelligence (AI) on students' learning efficiency in Social Studies 10. Specifically, it sought to identify the most commonly used AI tools, determine students' perceptions of AI's role in learning, and assess its effects on critical thinking, time management, creativity, and classroom participation. The study employed a descriptive-survey design using a researcher-made checklist questionnaire administered to 96 Grade 10 students selected through purposive sampling. Data were analyzed using frequency distributions, percentages, and weighted means. Results revealed that ChatGPT was the most frequently used AI tool. While students recognized its usefulness, many perceived that it may lead to academic dishonesty and sometimes provide misleading information. Respondents also indicated that they tend to take longer to complete tasks without AI assistance. Moreover, findings suggest that frequent use of AI tools may limit students' creativity and reduce their confidence during class recitations when they rely on AI-generated information. Based on these findings, the researchers recommended that: (1) students use AI responsibly and with proper guidance, remaining aware of its potential effects; (2) teachers deepen their understanding of the benefits and limitations of AI in instruction; (3) educational institutions and policymakers establish ethical guidelines and organize seminars or webinars on responsible AI use; (4) parents maintain open communication with their children to promote balanced AI usage; and (5) future researchers use this study as a reference in examining the impact of AI on students' learning efficacy and behavior.

Keywords: *artificial intelligence, learning efficiency, social studies, student*

Introduction

Artificial intelligence (AI) has transformed various aspects of daily life, influenced how students learn and interact with academic content, and become a part of modern education. According to Williamson and Eynon (2020), AI is rapidly becoming an integral part of daily routines, making tasks more practical and time-saving. The widespread use of AI in everyday life enhances convenience and efficiency, provides personalized recommendations, and is also used in healthcare, business, and transportation. In education, AI-powered tools play a significant role in developing and enhancing the learning process. It provides instant access to vast amounts of information, virtual assistance, the creation of personalized learning experiences, and automated assessments that have reshaped the way students learn. These advancements and greater opportunities are enhancing students' learning experiences, particularly in Social Studies.

The House Bill No. 7983, also known as the "Artificial Intelligence Development Act," was introduced on May 9, 2023, and proposes the integration of Artificial Intelligence into education and the establishment of the National Center for Artificial Intelligence Research (NCAIR) to develop a national AI strategy, emphasizing research, infrastructure enhancement, and educational transformation. As a result, the Department of Education (DepEd) is actively exploring the integration of AI into the educational system, with Education Secretary Sonny Angara point out its potential benefits in enhancing teaching and learning, but he also emphasized the need for policies to regulate the used of AI to address challenges such as academic dishonesty and misused of AI (Philippine News Agency, 2024). Governments and the private sector in Artificial Intelligence in Education (AIED) advance learning, teaching, and technological experiences, but raise concerns about its safety, adoption, and overuse of AI (Endris et al., 2024).

While AI tools enhance learning efficiency, they also raise challenges and biases and diminish students' critical thinking skills (Selwyn, 2019; Holmes et al., 2021). Overreliance on AI, particularly in Social Studies education, raises concerns about academic integrity and students' performance. Johnson et al. (2021) found that 42% of teachers observed students using AI and struggled to analyze historical events without AI assistance. A UNESCO study (2022) found that 68% of students using AI learning tools rely on their assignments and other activities. Additionally, the Digital Education Council (2024) revealed that 86% of students globally regularly use AI in their studies and found that over 2 in 3 students reported using AI daily for information searching. These results highlight concerns about students' learning habits and the risk of overreliance on AI tools.

The increasing reliance on AI in education has significantly influenced student learning, particularly in Social Studies. The Social Studies subject is essential for critical thinking, analysis, knowledge, social interactions, and support for human reasoning, which AI can improve. The increased use of AI can enhance learning habits, but it remains unclear whether reliance on it truly deepens students' learning or merely provides quick answers without a more profound understanding. Due to students' overreliance on AI, concerns are also being raised about whether its effects on their learning efficiency are positive or negative. However, students' excessive reliance on AI can enhance learning efficiency. Still, it creates a proficiency gap: students can produce high-quality written work but struggle with oral comprehension and verbal expression. Therefore, this research aims to identify which AI tools are commonly used in Social

Studies 10, examine perceptions of the role of AI, and examine the effects of AI on students' learning efficiency in Social Studies 10, particularly in critical thinking, time management, creativity, and classroom participation.

Research Questions

This study examined the effects of Artificial Intelligence (AI) reliance on students' learning efficiency in Social Studies. Specifically, this study answered the following questions:

1. What AI tools do the respondents commonly use in their Social Studies coursework?
2. What are the respondents' perceptions of the role of AI tools in enhancing their understanding and engagement with Social Studies topics?
3. What are the effects of AI on the learning efficiency of the respondents in terms of:
    3.1 critical thinking;
    3.2 time management;
    3.3 creativity; and
    3.4 classroom participation?
4. Based on the results, what material can the researchers craft to address the negative effects of AI reliance on the respondents' learning efficiency?

Literature Review

This section presents a comprehensive review of the existing literature and related studies. It discusses relevant concepts and previous research findings to establish a strong foundation for the study. This section reviews the related literature and studies on AI reliance, particularly focusing on its effects on critical thinking, time management, creativity, and classroom participation.

Artificial Intelligence (AI) Reliance

AI Reliance refers to the relationship between humans and AI, specifically the degree to which we depend on these systems for daily tasks, decision-making, and improved efficiency. Over the years, this reliance has grown substantially, establishing AI as a crucial tool with benefits across various sectors and fields. However, as noted by Doe (2021), this increased use could create a dependency that negatively affects an individual's capacity for critical thinking and making personal judgments. In the educational context, the increased adoption of AI in the Philippine system, as highlighted by Reyes & Santos (2023), underscores its value as a learning aid, with the potential for enhanced personalized learning and student engagement. Conversely, Mojica (2023) points out that while AI tools enhance the learning process, they also pose risks such as diminished critical thinking and the potential for student misuse. Despite the acknowledged benefits, several issues and hurdles are impeding the optimal development of users or students.

Berson and Berson (2024) explore the ethical and practical difficulties of incorporating AI into K-12 social studies. Their work discusses advantages such as personalized learning and improved engagement/performance, while also flagging concerns, such as potential biases reinforced by AI. They stress the necessity of ethical considerations and continuous dialogue among educators, policymakers, and technologists to ensure AI is used responsibly and effectively in education. Furthermore, integrating AI dialogue systems into schools has been shown to influence students' cognitive skills. Zhai et al. (2024) suggest that excessive reliance on these systems may cause a deterioration of vital cognitive abilities, including decision-making, critical thinking, and analytical reasoning. This occurs when students accept AI-generated advice without scrutiny, thereby undermining their ability to evaluate the reliability of AI suggestions.

Beyond the cognitive effects, Kaledio et al. (2024) discuss how AI technologies can deliver relevant content and feedback tailored to students' needs and learning styles. However, they caution that the potential danger of over-reliance is a shift toward a passive learning experience and a reduction in valuable interactions with human teachers.

Dela Peña (2024) asserts that excessive reliance on AI can harm students' motivation and critical thinking. While AI tools simplify tasks, the author emphasizes the importance of students participating in creative and critical thinking exercises to foster cognitive growth and resilience.

In summary, this discussion clearly shows that reliance on AI in education has both favorable and unfavorable outcomes. AI technologies offer benefits like personalized learning and rapid feedback, which can improve student engagement and outcomes. Conversely, excessive reliance on AI can undermine motivation and cognitive skills, underscoring the need for a balance between AI use and human instruction. It is also crucial to consider the broader impacts of AI reliance on educational equity and access, alongside the ethical issues stemming from its use in the classroom.

Critical Thinking

Critical thinking is a sophisticated mental skill that enables discerning and insightful individuals to make sound judgments and evaluations by analyzing, assessing, and synthesizing information. Walter (2024) explores AI's role in educational settings, emphasizing the need for AI literacy, proposing ways to implement AI in the classroom, and noting its potential to enhance critical

thinking. The adoption of critical thinking as a framework for AI use in learning has shown promising results in improving student learning outcomes, highlighting its importance in strengthening students' mental capabilities.

Bai et al. (2023) studied how tools like ChatGPT affect learning and memory, investigating how interacting with AI influences students' overall cognitive development, including critical thinking and information retention. Berg et al. (2023) support this by analyzing ChatGPT's potential to improve critical thinking and by discussing successful, real-world implementations. Furthermore, Aithal & Silver (2023) suggest that AI-assisted technology can help students hone their critical thinking by facilitating the analysis of concepts, the evaluation of arguments, and the solving of complex problems. Adiguzel et al. (2023) also highlight AI's transformative potential in education, which can boost critical thinking by providing instant feedback and tailored learning experiences. These findings collectively affirm that AI tools can positively influence and enhance critical thinking, ultimately improving student performance through interactive dialogue and immediate support.

Moreover, Szmyd & Mitera (2024) underscore the versatility of AI tools in meeting students' varied learning requirements, particularly in developing critical thinking. Gerlich (2025) adds that students with a higher level of prior education maintain stronger critical thinking skills even when using AI, suggesting that how AI is used is pivotal to the development of critical thinking. Integrating critical thinking skills into AI-focused courses is crucial to ensure students are equipped to manage both the opportunities and obstacles presented by AI technologies.

Despite the benefits, relying on AI in academic environments has raised serious concerns about its impact on students' critical thinking. A study by Zhai et al. (2024) explicitly demonstrated how dependence on AI degrades cognitive abilities, particularly critical thinking. The research showed that students increasingly prefer quick, optimal answers provided by AI, leading to atrophy of their critical thinking skills. This reliance on efficient mental shortcuts can stifle the growth of independent thought and a student's capacity for critical analysis. Additionally, AI's application in education has been criticized for prioritizing efficiency and reliability over students' originality. According to AI News (2024), AI systems that operate on data analysis and algorithms may constrain students' creativity and critical thinking. This drive for efficiency can sometimes distort the learning process, turning students into passive recipients of information instead of active knowledge creators. A survey by Lee et al. (2025) revealed that greater confidence in AI use is associated with less critical thinking, whereas higher self-confidence is associated with more critical thinking. This suggests that the overuse of AI tools might discourage self-directed learning and analysis. Gerlich (2025), for example, examined how AI tools affect students' mental capacity. While they increase efficiency, they also trigger cognitive offloading, leading students to become overly dependent on AI rather than developing their own problem-solving skills. The presence of AI systems in schools thus warrants concern about their effect on students' critical faculties.

Time Management

Time management is a vital skill in education, helping students organize tasks to boost effectiveness, efficiency, and productivity while balancing academic, personal, and extracurricular commitments. The integration of Artificial Intelligence (AI) into the classroom has shown promising results in improving students' time management and learning efficiency. AI tools, such as virtual tutors and innovative note-taking applications, are reported to significantly enhance a student's ability to manage study time, leading to better academic results (Johnson & Williams, 2021). These adaptive learning assistants help students study more efficiently and manage their tasks more effectively, potentially reducing the time required to study. In higher education, AI platforms are increasingly assisting students to manage their study schedules more effectively (Brown & Green, 2022).

Other tools, such as smart scheduling apps and auto-generated notes, aid in prioritizing activities and efficiently allocating time, thereby improving academic performance and reducing stress (Smith & Lee, 2023). AI's ability to provide immediate, constructive feedback on assignments allows students to quickly reflect and make necessary adjustments, leading to improved learning outcomes in a short time. This helps students focus on areas that need attention while balancing their academic load and stress levels. Furthermore, AI enhances study habits by offering personalized learning experiences and adaptive test adjustments (Ward et al., 2024). This multifaceted impact, highlighting customized learning and virtual tutors, underscores that AI should complement traditional educational strategies rather than replace them (eSchool News, 2024). Ultimately, AI integration fosters independent learning and promotes a more adaptive educational experience.

Despite the benefits, there are concerns about the reliance on AI tools for time management in an educational setting. One issue is that AI often focuses on short-term tasks and deadlines, which can impair a student's capacity for long-term planning and goal setting (Thompson, 2017). A preoccupation with immediate tasks can hinder effective future planning. Excessive reliance on AI for reminders and task scheduling can also reduce a student's ability to manage cognitive load, making it difficult for them to prioritize tasks without the AI's assistance (Martinez et al., 2018). Studies have also found that students who rely heavily on AI can demonstrate less autonomy and struggle with independent task management (Smith et al., 2021), raising concerns about their self-regulation skills, especially when AI tools are not consistently available.

Moreover, reliance on AI time management tools may negatively affect the work-life balance, particularly by increasing stress and blurring the boundaries between academic and personal life (Brown & Davis, 2021). An increased dependence on AI-driven scheduling tools has also been linked to rising procrastination and a more passive approach to deadlines (Lee & Kim, 2019).

Time management is fundamental to a student's success. While the integration of AI tools offers significant advantages—such as immediate feedback and personalized learning—that positively impact time management, excessive reliance carries risks. These risks include hindering long-term planning, reducing autonomy, and negatively affecting the balance between academic and personal life. To maximize benefits and mitigate potential drawbacks, instructors and students must thoughtfully integrate AI, resulting in a more comprehensive and efficient approach to time management.

Creativity

Creativity, defined as the capacity to use imagination to generate new ideas, unique solutions, and original expressions, is essential for students. Practicing creativity enhances cognitive development, fosters a love for learning, and prepares students for a world in constant flux. Integrating AI tools can significantly boost student creativity (Smith & Johnson, 2021). By offering personalized learning experiences and creating creative learning environments, AI helps students develop their unique potential. Specifically, tools such as AI brainstorming platforms and customized learning systems can help students generate new ideas, explore diverse perspectives, and develop creative solutions to complex problems (Lee & Park, 2022). AI positively impacts innovation by fostering divergent thinking and collaboration (Brown & Green, 2023). Using generative AI for exploration and enjoyable creative activities helps meet students' varied needs, allowing them to expand and create new and more inventive tasks (Ross, 2024). From the student perspective, AI is viewed as a valuable asset that can enhance their creative abilities (Marrone et al., 2022). By serving as a valuable tool for brainstorming and personalized learning, AI helps students overcome study challenges, making the learning process easier and equipping them for future obstacles. Therefore, proper instruction on how to use AI is important to maximize these creative benefits.

Despite its potential, excessive reliance on AI tools can undermine student creativity. Unmanaged use of electronic tools, specifically AI, can lead to classroom disturbances (Garcia & Cruz, 2016) and cause confusion and frustration, ultimately hindering creativity and learning outcomes (Chan & Tang, 2018). Excessive dependence on AI may also decline students' ability to think creatively and independently (Lee & Kim, 2018). Improper usage, or a lack of careful integration and guidance, can thus negatively impact student development. When students rely too heavily on technology for creative tasks, it can lead to a lack of critical thinking, reduced participation, and less originality (Tanaka, 2025). Furthermore, while AI-driven art expands creative boundaries, it raises significant ethical and practical concerns (Rani et al., 2023). Paradoxically, this reliance can even hinder a student's confidence in their own creative abilities (Habib, 2024), especially when compared to the stress and pressure of producing original work without technology (Martin & Lewis, 2019).

Creativity is a critical component of a student's learning and development. While AI tools offer a dual benefit by enhancing creative abilities through personalized experiences and brainstorming support, excessive or unguided use poses serious risks. These risks include reduced originality and independent thought, increased stress, and a potential loss of confidence. To optimize the benefits and minimize the drawbacks, AI integration in education must be carefully managed and guided to ensure a balanced, practical approach to fostering student creativity.

Classroom Participation

Classroom participation, defined simply as students' engagement in the learning process through collaboration, discussion, and idea sharing, is crucial for knowledge acquisition and for achieving higher grades. AI-powered tools, such as virtual assistants, automated trackers, and collaborative learning platforms, have been shown to significantly enhance student involvement (Kim & Park, 2017; Martinez & Rodriguez, 2018). These systems not only encourage student participation but also help teachers deliver their lessons more effectively. AI platforms positively affect student participation and motivation by providing personalized learning experiences and instant feedback (Ahmed & Ali, 2019). Although often discussed in the context of online learning, AI technology—including chatbots, virtual assistants, and intelligent teaching systems—is increasingly establishing immersive learning settings in traditional face-to-face classrooms as well, enhancing overall engagement and academic performance (Seo et al., 2021; Pareek, 2023).

Despite the benefits, relying too heavily on AI tools can undermine student engagement. A lack of support for AI systems can cause stress and demotivation, which may negatively impact classroom engagement and academic achievement (Bagapuro et al., 2019). Crucially, AI systems like ChatGPT, by providing students with instant answers, may unintentionally lead to a passive learning environment (Samuel, 2021). This over-reliance can reduce students' likelihood of actively participating in class discussions and activities. Increased reliance on technology for learning has been linked to a decline in student engagement and classroom involvement (Lopez & Smith, 2023; Williams & Davis, 2023). This gradual decline in interest and motivation can reduce classroom involvement and ultimately hinder the development of critical thinking and problem-solving skills (Rone et al., 2023).

Classroom participation is essential for student success. While AI-powered tools offer clear benefits by fostering engagement, personalized learning, and collaboration in both online and physical settings, excessive reliance poses a significant threat. This over-dependence can lead to passive learning, diminished motivation, and a reduced capacity for critical thought. Therefore, educators and students must adopt a balanced approach when incorporating AI into learning environments to maximize its benefits while mitigating potential setbacks to student participation and learning outcomes.

Methodology

Research Design

This research used a quantitative approach, specifically a descriptive-survey research design, to identify the effect of Artificial Intelligence on students' learning efficiency in Social Studies. Using this research design, the researchers aim to identify the AI tools commonly used in Social Studies, examine students' perceptions of the role of AI tools, and examine the effects of AI on respondents' learning efficiency in terms of critical thinking, time management, creativity, and classroom participation. Seixas et al. (2018) discussed the descriptive survey method in relation to the present phenomena, focusing on conditions, practices, relationships, and the characteristics of individuals and the whole sample. This approach is appropriate for gathering information on students' experiences, perceptions, and practices regarding AI use, particularly in educational settings.

By analyzing survey data, the researchers examined the effects of AI reliance on respondents' learning efficiency. Based on the results of this study, the researchers draw sound conclusions and recommendations and produce materials to address the adverse effects of AI reliance on the learning efficiency of the respondents.

Respondents

The respondents in this study are Grade 10 students enrolled in one of the public secondary schools in Sariaya, Quezon, during the 2024–2025 school year. A purposive (non-probability) sampling technique was adopted because the study aimed to select students who met specific criteria (availability, willingness, enrolment in Grade 10). According to Patton (1990) and Palys (2008), purposive sampling enables researchers to deliberately select units expected to yield the most valuable data for the research question. Nikolopoulou (2022) further clarifies that purposive sampling involves selecting cases with the relevant characteristics rather than employing random chance. The school has a total Grade 10 population of nine hundred ninety-seven (97) students. From this population, ninety-six (96) students were selected as respondents using a purposive sampling technique. The respondents were distributed among eight (8) sections as follows:

Table 1. *Grade 10 Population*

Section	*Number Of Respondents*
Sampaguita	5
Anthurium	15
Daffodil	10
Sunflower	10
Cattleya	15
Rose	14
Camellia	19
Orchid	8
Total	96

Although purposive sampling is non-probability-based (meaning not all students have an equal chance), the distribution across sections ensures representation. The computation of respondents per section was guided by the availability and willingness of students who met the study's criteria.

Table 2. *Percentage of Respondents Per Section*

Section	*Respondents*	*Percentage*
Sampaguita	5	5.21%
Anthurium	15	15.63%
Daffodil	10	10.42%
Sunflower	10	10.42
Cattleya	15	15.63%
Rose	14	14.58%
Camellia	19	19.79%
Orchid	8	8.33%
Total	96	100%

This table shows that each section was represented to capture diverse experiences and ensure fairness across the Grade 10 population.

Instrument

In this study, the researchers used a survey checklist questionnaire to gather relevant data. The questionnaire is constructed based on the main topic of this study. The survey checklist is divided into three parts. The first part of the questionnaire asked respondents which AI tools they commonly use in Social Studies. The second part is used to gather respondents' perceptions of the role of AI tools in enhancing understanding and engagement with Social Studies topics. In contrast, the third part collects data on the effects of AI on respondents' learning efficiency in critical thinking, time management, creativity, and classroom participation. Each sub-component consists of ten (10) statements, so there are fifty (50) statements in total. The researchers also used a Likert scale to guide the

respondents in rating scale value, where (4) is Strongly Agree, (3) is Agree, (2) is Disagree, and (1) is Strongly Disagree.

The questionnaire was self-constructed by the researchers based on a thorough review of the relevant literature and studies on the use of Artificial Intelligence (AI) in education, particularly in Social Studies. Various local and international research papers, journal articles, and online educational resources served as the foundation for drafting the items, ensuring each statement aligned with the study's objectives and variables.

The prepared instrument was presented to the research adviser for initial evaluation and approval. Afterward, it was subjected to content validation by three (3) RDOs in Social Studies education, with one serving as the Internal Validator and one as the External Validator. The validators assessed the questionnaire based on content relevance, clarity, grammar, and alignment with the research objectives. Their feedback, comments, and recommendations were carefully reviewed and incorporated to improve the overall quality and validity of the instrument. After the revisions were made, the research adviser and the panel of experts gave their go-ahead to proceed with the pilot testing, indicating that the instrument was reliable and ready for initial administration.

The pilot testing was conducted among fifteen (15) Grade 10 students who were not part of the actual respondents. The pilot test results showed that the questionnaire was clear, understandable, and reliable. Using Pilot Testing, the instrument obtained an overall reliability coefficient of 0.89, which indicates a high level of internal consistency. This positive result confirmed that the survey checklist was suitable for use in the actual data-gathering phase of the study.

Procedure

The researchers followed several steps and procedures to ensure the data acquired is valid and reliable. These procedures also ensure that ethical guidelines are duly considered in the conduct of this study. To begin with, the researchers sent a letter to their research adviser for approval to gather the data. The researchers also sent letters requesting permission from the principal, head teacher, and student adviser of Grade 10 to conduct this study.

Upon approval, the researchers implemented validated questionnaires for the students. The researchers used printed copies of the survey questionnaires to collect the necessary data for this study. The researchers also request that respondents answer the survey carefully and honestly, and that, to ensure ethical considerations, respondents be informed first that participation is voluntary and that their responses will be kept confidential and used solely for research purposes.

The researchers allotted one (1) week for the collection of responses to the survey to ensure ample time for the respondents to complete it and for follow-ups if necessary. After the allotted time, the researchers considered the first 96 responses as raw data. After collecting the responses, the data were tallied, analyzed, and interpreted using various statistical treatments.

Ethical Considerations

This study will ensure that all student participants are treated with fairness, respect, and confidentiality. Informed consent will be obtained before participation, and students will be informed that their involvement is voluntary and that they may withdraw at any time without penalty. No personal or identifying information will be disclosed, and all data will be used strictly for academic purposes. The research will avoid bias, discrimination, or harm and uphold integrity in reporting results. Moreover, since artificial intelligence tools are involved, the study will ensure that their use supports learning and does not compromise students' privacy, autonomy, or the development of critical thinking.

Results and Discussion

This section presents only the results of the data gathered through the research instrument. It includes the presentation, analysis, and interpretation of data collected through a survey checklist questionnaire to examine the effects of Artificial Intelligence (AI) on students' learning efficiency in Social Studies 10. The data are presented in tabular form to provide a clear and comprehensive understanding of the findings.

Artificial Intelligence Tools Used in Social Studies Coursework

Table 3 presents the frequency and percentage distribution of AI tools commonly used by Grade 10 students in their Social Studies coursework. The data show that ChatGPT is the most frequently used AI tool, with 66 (25%), followed by Meta AI with 51 (19%) and Canva with 44 (17%). Cici ranks fourth with 42 (16%), while Quillbot, Grammarly, Gemini, and Gamma recorded the lowest usage, each with minimal frequency and percentage.

The findings indicate that ChatGPT is the most preferred AI tool among students due to its accessibility, instant feedback, and ability to assist in research and information generation. Similarly, Meta AI's popularity stems from its accessibility via Messenger, making it convenient even for students with limited internet access. Canva, meanwhile, enhances students' creativity in producing outputs and presentations.

Table 3. *AI Tools Commonly Used in Social Studies Coursework*

Descriptors	*Frequency*	*Percentage*
ChatGPT	66	25%
Meta AI	51	19%
Canva	44	17%
Cici	42	16%
Quillbot	21	8%
Grammarly	16	6%
Gemini	10	4%
Others	10	4%
Gamma	2	1%
Total	262	100%

Note. This table presents multiple responses; this means the respondents in this study chose one or more AI tools commonly used in Social Studies coursework.

These results support the studies of Bai et al. (2023) and Berg et al. (2023), who emphasized the role of ChatGPT in promoting cognitive development and critical thinking. Likewise, Smith and Johnson (2021) highlighted that AI tools enhance students' creativity and engagement in learning.

Students' Perceptions of Artificial Intelligence

Table 4. *Students' Perceptions of Artificial Intelligence*

Indicators	*WAM*	*Verbal Interpretation*
I can say that the use of AI tools can lead to academic dishonesty.	3.17	Agree
I believe that AI tools can be used as tools for learning, not for cheating.	2.93	Agree
I can explore more Social Studies 10 topics with the help of AI assistance.	2.91	Agree
I am able to simplify complex lessons with the help of AI tools.	2.79	Agree
I can grasp the concepts in Social Studies 10 easily with the help of AI-generated explanations.	2.77	Agree
I am able to use AI tools to make it easier for me to complete my assignment in Social Studies 10.	2.73	Agree
I can critically analyze Social Studies topics through the use of AI tools.	2.68	Agree
I use AI tools in Social Studies 10 topics to make it more interesting and easier.	2.64	Agree
I can understand Social Studies 10 topics more effectively with the use of AI tools	2.63	Agree
I can engage in Social Studies 10 discussions using AI tools to quickly gather information and form insights.	2.54	Agree
Average Weighted Arithmetic Mean	2.78	Agree

Note. The WAM was used to interpret the survey responses. To sum up this context, the mean range of 3.26 - 4.00 indicates verbal interpretation of Strongly Agree, the mean range of 2.51 - 3.25 indicates verbal interpretation of Agree, the mean range of 1.76 - 2.50 indicates verbal interpretation of Disagree, and the mean range of 1.00 - 1.75 indicates verbal interpretation of Strongly Disagree.

Table 4 presents the students' perceptions of the role of AI tools in enhancing understanding and engagement in Social Studies 10. The overall weighted arithmetic mean (WAM) is 2.78, verbally interpreted as "Agree," indicating that students generally have a positive perception of AI in learning. The statement "The use of AI tools can lead to academic dishonesty" obtained the highest WAM of 3.17, showing students' awareness of the risks of irresponsible AI use. Conversely, the item "I can engage in Social Studies 10 discussions using AI tools to gather information and form insights quickly" received the lowest WAM of 2.54, suggesting that students find it challenging to use AI tools effectively in classroom discussions.

These findings align with Ihekweazu et al. (2023) and Mojica (2023), who reported that while AI tools can enhance learning, they may also encourage academic dishonesty and misuse among students. Similarly, Delello et al. (2024) and Dela Peña (2024) observed that learners often struggle with the accuracy and reliability of AI-generated information, which affects their ability to contribute meaningfully in discussions.

Effects of Artificial Intelligence

Table 5 presents the effects of Artificial Intelligence (AI) on students' critical thinking in Social Studies 10. The overall weighted arithmetic mean (WAM) of 2.82, verbally interpreted as "Agree," indicates that students generally perceive AI as influencing their critical thinking skills. The statement "AI tools sometimes provide incorrect or misleading information in Social Studies 10" had the highest mean of 3.17, indicating that students recognize AI's tendency to produce unreliable information. Meanwhile, the statement "I use AI tools to enhance my decision-making skills by offering well-informed suggestions" recorded the lowest mean of 2.64, implying limited confidence in AI's role in supporting decision-making.

These findings suggest that students are aware of both the benefits and drawbacks of AI in developing critical thinking. While AI can assist in processing and understanding information, students remain cautious about its accuracy and reliability. This aligns with Floridi and Chiriatti (2020) and Zhai et al. (2024), who emphasized that dependence on AI may reduce analytical engagement. Likewise, Szmyd and Mitera (2024) and Gerlich (2025) highlighted that the proper use of AI can enhance learning efficiency, whereas He et al. (2022) noted that overreliance on automated suggestions hinders decision-making.

Table 5. *Effects of Artificial Intelligence on Critical Thinking*

Indicators	*WAM*	*Verbal Interpretation*
I find that sometimes AI tools provide incorrect or misleading information in Social Studies 10.	3.17	Agree
I sometimes feel confused by AI-generated responses rather than gaining a better understanding of Social Studies.	2.98	Agree
I sometimes struggle to express my ideas when I always rely on AI tools.	2.86	Agree
I can use AI to improve my critical thinking skills in Social Studies 10 by providing diverse perspectives and synthesizing key information.	2.82	Agree
I am able to form a personalized opinion with the help of AI by analyzing different perspective.	2.79	Agree
I noticed that AI tools limit my ability to critically evaluate information on my own.	2.76	Agree
I develop my reasoning skills by using AI to challenge and refine my thoughts on different issues.	2.74	Agree
I can understand Social Studies concepts more easily with the help of AI tools.	2.72	Agree
I find AI tools helpful in improving my learning efficiency in Social Studies.	2.68	Agree
I used AI to enhance my decision-making skills by offering well- informed suggestions.	2.64	Agree
Average Weighted Arithmetic Mean	2.82	Agree

Note. The WAM was used to interpret the survey responses. To sum up this context, the mean range of 3.26 - 4.00 indicates verbal interpretation of Strongly Agree, the mean range of 2.51 - 3.25 indicates verbal interpretation of Agree, the mean range of 1.76 - 2.50 indicates verbal interpretation of Disagree, and the mean range of 1.00 - 1.75 indicates verbal interpretation of Strongly Disagree.

Table 6 presents the weighted arithmetic mean (WAM) and interpretation of students' responses regarding the effects of AI tools on learning efficiency and time management in Social Studies 10. The overall mean of 2.74, verbally interpreted as "Agree," indicates that students generally perceive AI as helpful in managing their time and completing tasks efficiently. The statement "I need more time to finish my work in Social Studies without using AI tools" obtained the highest WAM of 2.95, suggesting that AI tools significantly enhance students' productivity and ability to meet deadlines. Conversely, the lowest WAM of 2.52 was recorded for the statement "I sometimes fail to meet deadlines when AI tools are not available," suggesting that some students can manage time even without AI assistance.

Table 6. *Effects of Artificial Intelligence on Time Management*

Indicators	*WAM*	*Verbal Interpretation*
I need more time to finish my activities in Social Studies 10 without using AI tools.	2.95	Agree
I spend less time searching for information because AI-powered search tools help me find it faster.	2.85	Agree
I am able to manage time effectively with the help of AI tools by providing quick access to information.	2.79	Agree
I can complete my Social Studies 10 assignment faster with the help of AI tools.	2.79	Agree
I use AI tools to help me balance multiple tasks within limited timeframes.	2.78	Agree
I can multitask in a short period with the use of AI automated tools.	2.76	Agree
I am likely to meet my deadlines due to AI's automated reminders.	2.66	Agree
I am confident that I can always finish my activities in Social Studies because of the availability of AI tools.	2.66	Agree
I can use AI tools to balance my academic and personal responsibilities better.	2.61	Agree
I sometimes fail to meet deadlines when AI tools are not available.	2.52	Agree
Average Weighted Arithmetic Mean	2.74	Agree

Note. The WAM was used to interpret the survey responses. To sum up this context, the mean range of 3.26 - 4.00 indicates verbal interpretation of Strongly Agree, the mean range of 2.51 - 3.25 indicates verbal interpretation of Agree, the mean range of 1.76 - 2.50 indicates verbal interpretation of Disagree, and the mean range of 1.00 - 1.75 indicates verbal interpretation of Strongly Disagree.

Overall, the data suggest that students view AI tools as valuable support systems that help them save time and complete academic tasks more efficiently. These findings are consistent with Holmes et al. (2019), who found that AI enhances academic performance and time management by providing quick access to information. However, as Smith et al. (2021) noted, heavy reliance on AI may reduce students' autonomy and their ability to manage tasks independently, underscoring the need for a balanced, responsible use of AI in learning.

Table 7. *Effects of Artificial Intelligence in terms of Creativity*

Indicators	*WAM*	*Verbal Interpretation*
I feel that AI tools limit my expression in creative Social Studies activities.	2.89	Agree
I am not confident in presenting and sharing my artistic work when it is created using AI tools.	2.88	Agree
I am able to use AI tools to expand my imaginative thinking.	2.86	Agree
I use AI tools to explore new artistic styles and ideas that might not have discovered on my own.	2.85	Agree
I am able to improve my creativity in Social Studies 10 projects when I use AI tools.	2.84	Agree
I use AI tools to enhance my digital creativity in making presentations and visual projects.	2.81	Agree
Improve my design and layout skills using AI-assisted graphic design.	2.81	Agree
I find it difficult to develop my artistic style because of AI-driven tools.	2.80	Agree
I feel that AI-generated tools limit my ability to think independently and create unique ideas.	2.77	Agree
I use AI tools to help me visualize abstract concepts, making it easier for me to create personalized projects	2.76	Agree
Average Weighted Arithmetic Mean	2.83	Agree

Note. The WAM was used to interpret the survey responses. To sum up this context, the mean range of 3.26 - 4.00 indicates verbal interpretation of Strongly Agree, the mean range of 2.51 - 3.25 indicates verbal interpretation of Agree, the mean range of 1.76 - 2.50 indicates verbal interpretation of Disagree, and the mean range of 1.00 - 1.75 indicates verbal interpretation of Strongly Disagree.

Table 7 presents the effects of Artificial Intelligence (AI) on students' learning efficiency in terms of creativity in Social Studies 10. The overall weighted arithmetic mean (WAM) of 2.83, verbally interpreted as "Agree," indicates that students generally recognize the influence of AI tools on their creativity. The highest WAM of 2.89, corresponding to the statement "I feel that AI tools limit my expression in creative Social Studies activities," suggests that students perceive AI as sometimes restricting originality and creative freedom. Meanwhile, the lowest WAM of 2.76, from the statement "I use AI tools to help me visualize abstract concepts, making it easier for me to create personalized projects," implies that students find AI only moderately helpful for visualization and creative project development.

Overall, the results show that while AI tools support students in creative tasks, they also pose limitations in fostering originality and personal expression. These findings align with Marrone et al. (2022), who emphasized AI's role in enhancing creativity through personalized learning, and Smith and Johnson (2021), who noted that AI-driven visualization aids creative engagement. However, consistent with Habib (2024), the study also highlights that reliance on AI can sometimes undermine learners' confidence and independent creativity.

Table 8. *Effects of Artificial Intelligence on Classroom Participation*

Indicators	*WAM*	*Verbal Interpretation*
I feel less confident in answering recitations when I use AI-generated information.	2.88	Agree
I feel less motivated to actively engage in Social Studies lessons since AI tools make it easier to get answers without discussion.	2.77	Agree
I sometimes hesitate to answer in class recitations when I use AI-generated information.	2.76	Agree
I tend to lose my confidence in speaking up in class when I rely on AI-generated tools.	2.74	Agree
I contribute more in discussions because AI tools help me understand complex Social Studies topics.	2.72	Agree
I struggle to create my original thoughts in class when I always rely on using AI tools.	2.68	Agree
I feel more prepared to participate in Social Studies classes with the help of AI.	2.63	Agree
I am more engage in classroom activities when I use AI-enhanced interactive lessons.	2.60	Agree
I can confidently participate and collaborate with my classmate with the help of AI	2.55	Agree
I tend to rely on AI-generated explanations rather than asking teachers for clarifications and questions, which limits my engagement in class discussion	2.44	Disagree
Average Weighted Arithmetic Mean	2.68	Agree

Note. The WAM was used to interpret the survey responses. To sum up this context, the mean range of 3.26 - 4.00 indicates verbal interpretation of Strongly Agree, the mean range of 2.51 - 3.25 indicates verbal interpretation of Agree, the mean range of 1.76 - 2.50 indicates verbal interpretation of Disagree, and the mean range of 1.00 - 1.75 indicates verbal interpretation of Strongly Disagree.

Table 8 summarizes the effects of Artificial Intelligence (AI) on students' learning efficiency in terms of classroom participation. The Weighted Arithmetic Mean (WAM) values range from 2.44 to 2.88, with an overall mean of 2.68, verbally interpreted as "Agree." This indicates that students generally perceive AI tools as affecting their classroom engagement in Social Studies 10. The highest WAM of 2.88, from the statement "I feel less confident in answering recitations when I use AI-generated information," suggests that AI use may reduce students' confidence in oral participation. Conversely, the lowest WAM of 2.44, corresponding to the statement "I tend to rely on AI-generated explanations rather than asking a teacher for clarifications," and interpreted as "Disagree," implies that students still prefer to consult teachers for guidance despite AI use.

Overall, the data show that while AI tools assist in class preparation, they may also hinder students' verbal confidence. This finding supports Lopez and Smith (2023), who reported that excessive reliance on AI may decrease classroom engagement and motivation. Meanwhile, the result aligns with Mustafa et al. (2024), emphasizing that AI should function as a complementary aid to teachers rather than a substitute for meaningful classroom interaction and human feedback.

Conclusions

Based on the study's findings, the following conclusions were drawn: Grade 10 students used a variety of AI tools in their Social Studies coursework, with ChatGPT, Meta AI, and Canva being the most commonly used due to their accessibility, usefulness, and creative support. Other tools, such as Quillbot, Grammarly, Gemini, and Gamma, were less utilized, reflecting limited familiarity among students. Perception-wise, students acknowledged that AI tools enhance learning efficiency but cautioned that overreliance may lead to academic dishonesty and reduced confidence during class discussions. The study also found that students encountered challenges such as misleading information and dependency on AI, which affected their creativity, independence, and oral participation. Overall, while AI tools can positively enhance learning efficiency, misuse or overreliance can hinder self-reliance and critical thinking. Thus, the study emphasizes the need for balanced and responsible use of AI in education, promoting independent learning and integrity among students.

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