Critical Thinking Skills and Study Skills as the Determining Factors in Academic Success of Senior High School Students

Borbon, Dianne Julianie A.[1], Aripal, Ginares L.[1], Asna, Angeline C.[1], Dumas, Dj Babe C.[1], Magsalay, Ezekiah Erika V.[1], Nisnisan, Rj P.[1], Pelpinosas, Kent C.[1], Pinabacdao, Ji Anne[1], Sintaan, Jhon Frietz S.[1], Sion, Mel Kuerth L.[1], Krystal Joy M. Clamares[2], PhD, Anna Marie O. Pelandas[2], PhD (CAR)

[1]Department of Education, Senior High School Students, Philippines

[2]Department of Education, Senior High School Teachers, Division of Davao de Oro, Philippines

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ABSTRACT

This research focused on the influence of critical thinking skills and study skills on the academic success of senior high school students in Lorenzo S. Sarmiento Sr. National High School. The main aim of the study was to evaluate the levels of critical thinking skills, study skills, and students' academic success based on their specific indicators, examine the significant relationship between critical thinking skills and students' academic success, as well as the relationship between study skills and students' academic success, and identify which domains of critical thinking skills and study skills significantly influenced students' academic success. This study employed a quantitative-correlational research design involving 213 Grade 11 students. The study applied statistical methods, including mean, Spearman's rho, and multiple regression analysis. Findings indicated that the level of critical thinking skills was high, the level of study skills was also high, and the academic success level was high; there was a significant relationship between critical thinking skills and students' academic success, as well as between study skills and students' academic success. Furthermore, all three domains of critical thinking skills and three out of the four domains of study skills influenced the students' academic success. Therefore, critical thinking skills and study skills played a crucial role in achieving students' academic success.

Keywords: GAS, Critical Thinking Skills, Study Skills, Academic Success Philippines

INTRODUCTION

Academic success had increasingly become a focal point of concern worldwide, particularly in response to the growing demand for competencies (Hudson, 2019). A study by Hogh and Hilke (2021) found that the lack of quality learning materials was a significant barrier to students' academic success. In the United Kingdom, a considerable number of students struggled to meet educational standards, leaving a significant gap between their knowledge and what was required for higher education and professional success (Lynam et al., 2021). Research in the United Arab Emirates showed that many students pursuing higher education struggled to achieve high levels of academic success (Moussa & Ali, 2021). Furthermore, Canadian secondary students were facing a rising trend of learning difficulties, which could hinder the development of critical thinking skills and study skills, ultimately hindering their academic success (Lisnyj et al., 2021).

In the Philippines, critical thinking skills were crucial due to the ongoing transformation of the K-12 education system (DepEd, 2019). Implementing education reform prioritized enhancing critical thinking skills to achieve academic success (DepEd, 2021). These abilities were particularly vital for senior high school students navigating complex subjects and preparing for higher education (Gonzalez & Reyes, 2022). A study by Dela Cruz (2019) in Magsaysay, as referenced by Pamaos et al. (2024), critical thinking skills significantly influenced students' academic success. Santos and Cruz (2023) highlighted that critical thinking empowered students to critically analyze and integrate information, impacting their academic success and practical application in real-world scenarios. Consequently, fostering critical thinking among Filipino students was seen as a strategic approach to enhancing academic success (Luzon, 2023).

Furthermore, the development of effective study skills was an essential requirement for one's college preparation and future academic success (Mamba et al., 2021). At Mindanao, particularly in Kidapawan, study skills were widely regarded as one of the most prominent factors influencing students' academic success across the education spectrum (Miranda et al., 2022). For senior high school students, these skills were crucial as they prepare for higher education (Mendoza & Santos, 2023). Moreover, Barcenas and Bibo (2020) stated that students in Albay, believed that paying attention to study skills was deemed appropriate for developing academic success and must be prioritized in future studies. Additionally, study skills were approaches applied to learning that assist students to be successful in schools (Bulent et al., 2019).

In Region XI, particularly in Davao City, students faced critical thinking and study skill performance challenges, affecting their academic success (Cain, 2024). In addition, at Davao del Norte, curriculum reforms that integrate critical thinking and study skills were suggested due to students' lack of these skills (Castillano, 2024). Likewise, at Davao de Oro, a study conducted at Monkayo College of Arts, Science, and Technology had shown that weak critical thinking skills and study skills could negatively impact students' academic success, causing them to participate less in class, become less motivated to complete their tasks, and ultimately hindering their overall performance (Barrios, 2022). Many of these challenges were eventually present in Lorenzo S. Sarmiento Sr. National High School, as the researchers observed that many students struggled to analyze information, solve problems, and manage their academic workload, which were all necessary skills for academic success. With this, it made the researchers curious whether critical thinking and study skills could influence students' academic success.

However, the researchers did not come across any study that specifically investigated the influence of critical thinking skills and study skills on the academic success of senior high school students. This led the researchers to explore the topic further to provide insights and generate new knowledge about the correlation between these variables. The study aimed to enhance countryside development by improving senior high school students' critical thinking and study skills. It sought to promote social equity by narrowing the achievement gap between rural and urban students, thereby contributing to economic growth through better academic outcomes and job prospects. Additionally, it had ecological benefits by equipping students to understand environmental issues and engage in sustainable practices within their communities. Thus, there was a pressing need to conduct this study.

Research Objectives

1. To assess the level of critical thinking skills among senior high school students in terms of:

   1.1 understanding and analyzing ideas and arguments;
   1.2 evaluating ideas and arguments; and
   1.3 solving problems and making decisions.

2. To evaluate the study skills of senior high school students in terms of:

   2.1 studying;
   2.2 memorizing;
   2.3 preparing for tests; and
   2.4 managing your time.

3. To find out the level of academic success among senior high school students in terms of:

   3.1 inclusion in the school;
   3.2 relationship with classmates;
   3.3 family support;
   3.4 student-teacher trust; and
   3.5 teaching and learning model.

4. To determine the significant relationship between critical thinking skills and academic success among senior high school students.

5. To analyze the significant relationship between study skills and academic success among senior high school students.

6. To identify which of the domains of critical thinking skills significantly influences academic success among senior high school students.

7. To determine which domain of study skills significantly influences academic success among senior high school students

METHODOLOGY

This research employed a quantitative, non-experimental approach, utilizing descriptive correlational methods to explore the potential relationship between two specified variables and assess the nature and strength of that relationship, if one exists. The descriptive correlational strategy was deemed suitable for characterizing the current state of the phenomenon in question and investigating the underlying causes of a specific occurrence. In this correlational framework, the study examined the connections between variables without any manipulation or control by the researchers. Correlation analysis indicated the intensity and direction of relationships among two or more variables (Seeram, 2019). The research entailed data collection aimed at evaluating the extent of the relationship between multiple measurable variables (Umstead & Delgado, 2024).

This survey focused on quantitative information regarding the phenomenon, employing a structured data collection schedule designed for the intended respondents to respond to various inquiries. Data collection predominantly utilized questionnaires. The primary objective of the study was to evaluate the influence of critical thinking and study skills on the academic success of senior high school students.

Population and Sample

The subjects of this study were the 213 grade 11 students of Lorenzo S. Sarmiento Sr. National High School, male or female, and officially enrolled in the 1st Semester, School Year 2024-2025. These students were ideal respondents for this research as they were at a crucial stage where they were actively shaping their path toward academic success. All junior high school and grade 12 students were excluded from this study because they did not possess the required criteria. The respondents could withdraw at any time if they felt threatened by the conduct of the study. Furthermore, the study employed simple random sampling where everyone was chosen by chance, and each grade 11 student had an equal opportunity to be included in the sample.

According to Memon et al. (2020), a sample size of 200-400 respondents was considered a minimum ratio for quantitative research. The sample size was computed using the Raosoft sample size calculator. Stratified random sampling was used to determine the number of respondents in each section. Out of a population of 474 individuals, a random sample of 213 respondents was selected based on the Raosoft sample size calculator.

Section	Population	Respondents
A	39	18
B	39	18
C	42	19
D	52	23
E	52	23
F	51	23
G	57	25
H	51	23
I	42	19

J	49	22
TOTAL	474	213

Table 1. Population and Sample size of Respondents

Statistical Tool

The statistical tools used for data analysis and interpretation were the following:

Mean. This statistical tool was used to determine the level of critical thinking skills, study skills, and academic success of senior high school students.

Spearman's rho. This statistical tool was used to determine the relationship of critical thinking skills and study skills on the academic success of senior high school students.

Multiple Regression Analysis. This statistical tool was used to determine the influence of critical thinking skills and study skills on the academic success of senior high school students.

RESULTS

Level of Critical Thinking Skills

Table 2 shows the level of critical thinking skills in terms of understanding and analyzing ideas and arguments, evaluating ideas and arguments, and solving problems and making decisions. The overall mean is 3.96, which is described as high, with a standard deviation of 0.51. The high level could be attributed to the respondents' high ratings in all indicators. This entails that the respondents' responses to the level of critical thinking skills are positive in understanding and analyzing ideas and arguments, evaluating ideas and arguments, and solving problems and making decisions.

The cited overall mean score was the result obtained from the following computed mean scores from highest to lowest: 4.01 or high for solving problems and making decisions with a standard deviation of 0.62; 3.94 or high for understanding and analyzing ideas and arguments with a standard deviation of 0.60; and 3.92 or high for evaluating ideas and arguments with a standard deviation of 0.63.

Table 2. Level of Critical Thinking Skills

Indicators	Mean	SD	Descriptive Equivalent
Understanding and analyzing ideas and arguments	3.94	0.6	High
Evaluating ideas and arguments	3.92	0.63	High
Solving problems and making decisions	4.01	0.62	High
Overall	3.96	0.51	High

Level of Study Skills

Presented in Table 3 are the mean scores for the indicators of study skills, with an overall mean score of 4.00, which is described as high with a standard deviation of 0.56. The high level could be attributed to the high rating given by the respondents on most indicators in the items of studying, memorizing, preparing for tests, and managing your time.

The cited overall mean score was the result obtained from the following computed mean scores from highest to lowest: 4.10 or high for studying with a standard deviation of 0.62; 4.04 or high for memorizing with a standard deviation of 0.66; 3.96 or high for preparing for tests with a standard deviation of 0.67; and 3.89 or high for managing your time with a standard deviation of 0.70.

Table 3. Level of Study Skills

Indicators	Mean	SD	Descriptive Equivalent
Studying	4.1	0.62	High
Memorizing	4.04	0.66	High
Preparing for tests	3.96	0.67	High
Managing your time	3.89	0.7	High
Overall	4	0.56	High

Level of Academic Success

Shown in Table 3 are the mean scores for the Table 4 shows the level of academic success regarding inclusion in the school, relationship with classmates, family support, student-teacher trust and teaching and learning model. The overall mean is 4.07, which is described as high, with a standard deviation of 0.52. The high level could be attributed to the respondents' high ratings in all indicators. This entails that the respondents' responses to the level of academic success are positive regarding inclusion in the school, relationship with classmates, family support, student-teacher trust, and teaching and learning model.

The cited overall mean score was the result obtained from the following computed mean scores from highest to lowest: 4.15 or high for teaching and learning model with a standard deviation of 0.63; 4.15 or high for student-teacher trust with a standard deviation of 0.62; 4.07 or high for relationship with classmates with a standard deviation of 0.70; 4.01 or high for family support with a standard deviation of 0.69 and 3.98 or high for inclusion in the school with a standard deviation of 0.66.

Table 4. Level of Academic Success

Indicators	Mean	SD	Descriptive Equivalent
Inclusion in the school	3.98	0.66	High
Relationship with classmates	4.07	0.7	High
Family support	4.01	0.69	High
Student-teacher trust	4.15	0.62	High
Teaching and learning model	4.15	0.63	High
Overall	4.07	0.52	High

Significance on the Relationship Between Critical Thinking Skills and Academic Success

Table 5 shows that critical thinking skills and academic success have a Spearman's rho value of 0.709*, indicating a high correlation. Moreover, a p-value of <.001, less than the 0.05 p-value, means a significant relationship between critical thinking skills and academic success. Thus, the null hypothesis, which states no significant relationship between critical thinking skills and academic success, is rejected. This further implies that academic success tends to be observed when critical thinking skills are observed.

Table 5: Significance on the Relationships Between Critical Thinking Skills and Academic Success

		Critical Thinking Skills
Academic Success	Spearman’s rho	0.709*
	p-value	< .001

Significant Relationship Between Study Skills and Academic Success

Table 6 shows that study skills and academic success have a Spearman's rho value of 0.680*, indicating a moderate relationship. Moreover, a p-value of <.001, less than the 0.05 p-value, means a significant relationship between study skills and academic success. Thus, the null hypothesis, which states no significant relationship between study skills and academic success, is rejected. This further implies that academic success tends to be observed when the study skills are observed.

Table 6: Significance on the Relationships Between Study Skills and Academic Success

		Study Skills
Academic Success	Spearman's rho	0.680*
	p-value	< .001

Multiple Regression Analysis on the Influence of the Domain of Critical Thinking Skills on Academic Success

Presented in Table 7 is the regression analysis on the influence of critical thinking skills on academic success. The table shows a computed f-value of 61.787 and a p-value of <.001, meaning that critical thinking skills significantly influence academic success since the probability value is less than the 0.05 significance level. The coefficient of determination (R^2) of 0.470 connotes that 47% of academic success is explained by understanding and analyzing ideas and arguments, evaluating ideas and arguments, and solving problems and making decisions. In comparison, the remaining percentage of 53% is accountable to other indicators not included in the study.

Table 7: Multiple Regression Analysis on the influence of the Domain of Critical Thinking Skills on Academic Success

Critical Thinking Skills	Coefficients	t-value	p-value	Decision a=0.05
Understanding and analyzing ideas and arguments	0.250*	4.169	< .001	is Rejected
Evaluating ideas and arguments	0.262*	3.829	< .001	is Rejected
Solving problems and making decisions	0.307*	4.491	< .001	is Rejected
Dependent Variable: Academic Success				

p<0.05 R=0.686 R^2=0.470 F-value=61.787 p-value< .001

Therefore, as presented in the table, the hypothesis that no domain in critical thinking skills significantly influences academic success is rejected on understanding and analyzing ideas and arguments, evaluating ideas and arguments, and solving problems and making decisions.

Multiple Regression Analysis on the Influence of the Domain of Study Skills on Academic Success

Presented in Table 8 was the regression analysis on the influence of study skills on the academic success. The table shows a computed f-value of 54.114 and a p-value of <.001, meaning that study skills significantly influence academic success since the probability value is less than the 0.05 significance level. The coefficient of

determination (R^2) of 0.510 connotes that 51% of academic success is explained by studying, memorizing, preparing for tests, and managing your time. In comparison, the remaining 49% is accountable to other indicators not included in the study.

Table 8: Multiple Regression Analysis on the Influence of the Domain of Study Skills on Academic Success

Study Skills	Coefficients	t-value	p-value	Decision a=0.05
Studying	0.180*	2.616	0.01	is Rejected
Memorizing	0.334*	4.95	<.001	is Rejected
Preparing for tests	0.249*	3.705	<.001	is Rejected
Managing your time	0.100*	1.619	0.107	is not Rejected
Dependent Variable: Academic Success				

p<0.05 R=0.714 $R^{2=}$0.510 F-value= 54.114 p-value < .001

Therefore, as presented in the table, the hypothesis that there is no domain in the study skills that significantly influences the academic success is rejected on studying, memorizing and preparing for test.

DISCUSSIONS

Level of Critical Thinking Skills

The capacity for learners to engage in critical thinking became an essential element for their educational success and individual development. In an age that was increasingly overwhelmed with information, critical thinking provided learners with the ability to examine, assess, and integrate various data types. The ability of learners to think critically was a vital factor in their academic success and personal growth, influencing their ability to tackle complicated problems in a world that was becoming increasingly saturated with information.

Based on the findings, critical thinking skills were found to be high among respondents. The study results showed that respondents excelled in their problem-solving and decision-making abilities, highlighting the significant role critical thinking played in helping learners effectively address challenges. This underscores the assertion of Fathona et al. (2023) that reflective thinking played a vital role in learning from experiences, implying that students' critical thinking skills were greatly improved when they engaged in reflection on their decision-making processes.

Respondents reported high proficiency in understanding and analyzing ideas and arguments. A notable indicator was the ability to comprehend the main points and supporting details. This finding resonates with Conner and Krejci (2022) study, which posits that critical analysis requires the ability to discern underlying structures in arguments and the capacity to navigate complex information. The ability to distinguish between facts and opinions further exemplifies students' proficiency in critical thinking, affirming the necessity for analytical skills in an era of information overload.

When it comes to evaluating ideas and arguments, respondents demonstrated solid performance. An important factor was their ability to understand key points and supporting information, reinforcing the notions put forth by Johnson (2022), which argued that critical analysis necessitated the skill to identify underlying frameworks in arguments and the ability to handle intricate information. The ability to differentiate between facts and opinions further illustrated students' adeptness in critical thinking, emphasizing the importance of analytical skills in information overload.

Despite the generally strong performance, the assessment of evaluating ideas and arguments produced a lower average compared to the other skills. An essential finding in this category was the use of credible evidence to support arguments, emphasizing the significance of evidence-based reasoning in academic discussions. This suggests that while students are adept at using evidence, there is still potential for enhancement in their ability to critically evaluate the robustness of various arguments. This aligned with the assertion of Utami (2023) that critical thinkers should assess the quality of the arguments presented and actively challenge the underlying assumptions.

Additionally, this is compatible with the study of Setiawati (2023), asserting that students who cultivated strong critical thinking skills were better prepared to address complex academic tasks. Moreover, this aligned with the perspective of Bishaw and Wale (2020), which expressed that this methodology allowed students to develop well-structured, logical arguments in their academic work, a skill that was particularly significant in essay writing, debates, and research assignments, which were prevalent in senior high school curricula.

Level of Study Skills

In the previous chapter, the study reported the level of study skills among senior high school students. It revealed that academic success was described as high. All four indicators for this variable were also high, suggesting a significantly strong presence of this quality within the students.

The results showed that students possessed high study skills, with the highest mean score in studying, followed by memorizing, preparing for tests, and managing your time. This suggested that students were actively engaging with their study material, using effective techniques to retain information, and prioritizing their study time accordingly. For instance, the high score on studying indicated that students are actively summarizing key concepts, asking questions, and discussing with peers, which aligned with the recommendations of Lyons and Wagner (2022), who highlighted the importance of active engagement in the learning process. This active engagement suggested a deep approach to learning, where students were not just passively receiving information but actively constructing their own understanding.

The focus on memorization techniques, such as reviewing notes frequently and connecting new information to prior knowledge, resonated with the research of Behrouz et al. (2024), who found that effective memory strategies were crucial for academic success. Memorization was a key component of critical thinking skills, as it allowed students to build a knowledge base that they could then draw upon to analyze information, make connections, and solve problems. The high score on memorization suggested that students recognized the importance of building this knowledge base and employed effective strategies to do so.

The finding that students prioritized their study time based on the importance of upcoming tests is consistent with the advice of Wolters and Brady (2020), who emphasized the importance of time management in academic success. The high score on preparing for tests suggested that students could analyze the importance of their tests and prioritize their study time accordingly. This ability to prioritize suggested a high level of metacognitive awareness, where students were aware of their own thinking and could make decisions to maximize their learning.

However, the relatively lower score on managing your time suggested that students may benefit from additional strategies and support in this area. While students were prioritizing their study time based on their tests, they may have been struggling with the day-to-day management of their time. Time management requires students to make plans, avoid distractions, and stay organized, which can be challenging skills to develop. This finding echoed the study of Orhan and Ay (2022), which highlighted the importance of critical thinking and study skills in academic success, suggesting that additional support in these areas may benefit students. Strategies such as

using planners, schedules, and breaks, as well as techniques to minimize distractions and avoid procrastination, may be helpful. Further research and support in these areas may be beneficial in promoting ongoing student

success.

The results suggested that students were actively engaged in their learning, using effective study techniques, and prioritizing their study time accordingly. However, there may have been room for improvement in time management, with additional strategies and support potentially beneficial. The high scores on studying, memorizing, and preparing for tests suggested high study skills, with students actively engaging with their material, building a knowledge base, and making decisions to maximize their learning. The lower score on managing your time suggested an area for further growth and support. With the right strategies and support, students could continue developing their study skills and achieve ongoing success.

Level of Academic Success

Presented in the previous chapter was the result of the level of academic success as observed by the senior high school students. It revealed that academic success was described as high. All five indicators for this variable were also described as high. It implies that academic success was widely felt among students.

The results showed that students had a high level of academic success, with the highest mean scores in the teaching and learning model, student-teacher trust, relationship with classmates, family support, and inclusion in the school. This suggested that students were experiencing a supportive and inclusive learning environment, with positive relationships with their teachers and peers, and strong support from their families. The high scores across these indicators painted a picture of a learning community that was collaborative, engaging, and focused on student success. This is aligned with the recommendations of Bork and Mondisa (2022), who highlighted the importance of creating a positive and inclusive learning environment in promoting student engagement and achievement.

The high score on the teaching and learning model indicated that students were experiencing interactive and engaging lessons that cater to different learning styles. This was in line with the proposition of Verde Valero (2021), who highlighted the importance of active learning and varied teaching methods. The finding that students appreciated the clear explanations and guidance provided by their teachers is consistent with the research of Muthik et al. (2022), who found that clear instruction and guidance were key to student success. The high score on the teaching and learning model suggested that teachers were using effective strategies to promote student engagement and understanding, such as using technology, group activities, and real-world examples. These strategies could make learning more relevant and engaging for students, promoting a deeper understanding of the material.

The high score on student-teacher trust indicated a strong and supportive relationship between students and their teachers. This trust was built on the accurate and helpful information teachers provided and their commitment to student success. This finding reinforced the research of Karacabey et al. (2020), who emphasized the importance of teacher support and guidance in student success. The trust and support of teachers could play a key role in promoting student motivation, engagement, and, ultimately, academic success. When students felt that their teachers believed in them and were invested in their success, they were more likely to take risks, ask questions, and engage fully in the learning process.

The high score on the relationship with classmates suggested a positive and collaborative learning community. This corroborated the recommendations of Murniati et al. (2023), who highlighted the importance of peer relationships and collaboration in the learning process. The finding that students were actively listening to their peers, sharing ideas, and collaborating on group projects indicates a high level of social and emotional learning. These skills were key to student success, as they promoted not only academic success, but also social competence and emotional well-being. Through collaboration, students could learn from one another, gain new perspectives, and develop important skills such as communication, problem-solving, and conflict resolution.

The high score on family support indicated that families were actively interested in student learning, setting high expectations, providing guidance, and offering encouragement. This finding corresponded with the research of Gottschalk (2019), which emphasized the key role of family support in student success. The support of families could play a crucial role in promoting student motivation, engagement, and, ultimately, their academic success. When families were involved in their child's education, students were likelier to see the value in learning, persist through challenges, and strive for academic success.

The relatively lower score on inclusion in the school suggested that while students were experiencing an inclusive learning environment, there may be room for further growth and support in this area. Inclusion was key to student success, promoting a sense of belonging, engagement, and ultimately, academic success. The finding that students were encouraged to share their unique perspectives and experiences in class resonated with the recommendations of Bailey and Baker (2020), which highlighted the importance of promoting diversity and inclusion in the classroom. However, the lower score on this indicator suggested that schools may need to continue to work on creating a learning environment where all students feel valued, respected, and included. This may involve ongoing professional development for teachers and strategies to promote diversity and inclusion in the classroom and school-wide.

Additionally, this is compatible with the findings of Ulum (2021), which indicated that individuals who achieved academic success and possessed higher levels of education tended to have better employment prospects, more stable jobs, increased job opportunities compared to those with less education, and received higher wages.

The results suggest that students were experiencing a supportive and inclusive learning environment, with positive relationships with their teachers and peers, and strong support from their families. The high scores across the indicators suggested a high level of academic success, with students engaged, motivated, and supported in their learning. However, the relatively lower score on inclusion in the school suggested an area for further growth and support. With a continued focus on promoting inclusion, as well as ongoing support from teachers, peers, and families, students can continue to thrive and achieve ongoing success in their studies. Schools and families could play a key role in this by providing the support, resources, and opportunities that students needed to succeed. With a collaborative and ongoing approach, students can continue to grow and succeed, both academically and personally.

Significant Relationship Between Critical Thinking Skills and Academic Success

The study's results revealed a significant relationship between critical thinking skills and academic success. The Spearman's rho value of 0.709* indicates a high correlation between these two variables. This correlation suggested that as critical thinking skills increase, there is a corresponding improvement in academic success. This finding aligned with Raj et al. (2022) research, which emphasized the pivotal role of critical thinking in academic success. Effective critical thinking development fostered analytical reasoning, problem-solving capabilities, and comprehensive understanding, contributing to enhanced academic success.

This confirms the primary foundational theory, which is the Pragmatism Theory of Dewey (1910), asserting that critical thinking skills are essential for students to think critically and form their own reasoned opinions, ultimately contributing to their cognitive development. This aligns with the perspective of Galate (2023), who emphasized that critical or reflective thinking begins with recognizing a problem and aims to solve it by considering all available information to reach a well-supported solution, ultimately leading to more informed decision-making. Morozova et al. (2022) corroborated this by highlighting the importance of critical thinking as a verified predictor of educational performance and cognitive development. Thus, critical thinking skills played a crucial role in shaping students' academic capabilities, directly impacting their learning outcomes and intellectual growth.

In line with the study conducted by Rivas et al. (2022), this research revealed that critical thinking significantly enhanced students' cognitive processing, academic performance, and learning strategies. This finding paralleled the research of Zimmerman (2022), who defined critical thinking skills as encompassing cognitive abilities that reflected readiness and capacity to analyze, evaluate, and synthesize information in complex academic environments. This readiness supported continuous intellectual development and contributed to students' ongoing academic self-improvement based on understanding complex learning challenges.

Notably, metacognitive strategies emerged as a key factor with the greatest impact on academic success, as Mitsea and Drigas (2019) highlighted. This collective evidence underscored the multifaceted role of critical thinking in creating a robust and effective learning environment. Moreover, this echoed the study of Alkhatib (2019), which supported the idea that higher-order thinking skills could inspire learners to actively engage with complex academic content, motivate deeper understanding, and provide intellectual growth and cognitive development.

The findings are further substantiated by the comprehensive review of Jiang (2022), which emphasizes that critical thinking is not merely an academic skill but a fundamental cognitive mechanism that transforms learning experiences. Students could significantly enhance their academic performance and intellectual capabilities by integrating multiple perspectives, analyzing complex information, and developing sophisticated reasoning strategies.

Significant Relationship Between Study Skills and Academic Success

The study's results unveiled a significant relationship between study skills and academic success. The Spearman's rho value of 0.680* indicates a moderate correlation between these variables. This correlation suggested that as study skills improved, there was a corresponding increase in academic performance. This finding resonated with the research conducted by Dirkx et al. (2019), which emphasized the essential role of effective study strategies in enhancing students' academic outcomes. Their study demonstrated that students who employed organized study techniques, such as time management and active learning, tended to achieve higher grades and a deeper understanding of the material.

This affirms the premise of the Study Skills Theory of Dodge (1994), which argued that practicing study skills is essential for students to effectively engage with studying and develop a deeper understanding of concepts, especially when preparing for tests. In line with this, Tong et al. (2022) highlighted that well-developed study skills not only improve retention of information but also foster greater academic resilience, allowing students to navigate challenges more effectively. This correlation underscored the importance of teaching and reinforcing study skills as a fundamental component of educational curricula. Furthermore, the findings were consistent with the work of Singh (2024), who found that students with strong study skills exhibited higher levels of engagement and motivation, critical factors in academic success.

This is compatible with the findings of Shamooshaki (2019), which encompasses various techniques that enable learners to manage their time efficiently, organize their study materials, and apply effective learning strategies. This readiness to engage with academic content proactively supported continuous improvement and contributed to overall academic success. Notably, the development of metacognitive skills, which aligns with Alyahyan and Düştegör (2020), emerged as a key factor influencing academic success as students learned to assess their understanding and adapt their study approaches accordingly.

Collectively, this evidence underscored the multifaceted role of study skills in creating a conducive learning environment. The findings suggested that educational institutions should prioritize the development of study skills within their programs to enhance students' academic performance and foster lifelong learning habits. Thus, the significant relationship identified in this study reinforced the idea that effective study skills were crucial for achieving academic success, highlighting the need for targeted interventions to support students in developing these essential competencies.

Multiple Regression Analysis on the Influence of the Domain of Critical Thinking Skills on Academic Success

The multiple regression analysis reveals significant insights into how critical thinking domains influence academic success, focusing on three key areas: understanding and analyzing ideas, evaluating ideas and arguments, and solving problems and making decisions. Each of these domains demonstrates a strong correlation with academic performance, suggesting that the ability to engage with information critically was essential for students' success. The result was symmetrical with the work of Gelder (2019) which emphasizes that critical thinking was a complex cognitive process that transcended traditional learning methods, highlighting its role as

a foundational skill for comprehensive education. This aligns with Cheng and Yang (2022) findings, which indicated that critical thinking is an essential skill in education that enables learners to engage thoroughly with academic content and make well-informed decisions.

Further, this is endowed by the preposition of Facione (2020) which expressed that critical thinking skills were not uniform across all learners; rather, they varied based on individual learning styles. This variability underscored the need for personalized educational approaches catering to diverse cognitive preferences. This also agitates the proposition of Crowley (2022), which expressed that by examining how different learning modalities, such as kinesthetic, auditory, and visual learning, intersect with critical thinking abilities. This suggested that educators should implement strategies that recognize and accommodate these differences to effectively enhance students' analytical skills.

Multiple Regression Analysis of the Influence of the Domain of Study Skills on Academic Success

The multiple regression analysis identifies the strong influence of different study skills, like studying skills, memorizing, preparing for tests, and managing your time, on students' academic success. Echoing this finding, studies by Nonis and Hudson (2020) showed that students who take to well-structured study skills, including frequent reviewing and active participation in learning, perform better. This result underscored that the amount and quality of study skills were important to learning success, indicating that successful study skills were the key to improving students' learning results. This is compatible with the study of Shamooshaki (2019), which showed that focusing on study skills training and its correlation with students' academic standing revealed that those who achieved greater academic success possessed superior study skills.

Another investigation further found that certain techniques, especially in memorization and test-taking preparation, were significantly important to academic success. This aligned with Traub et al. (2021) findings, which indicated that cognitive strategies such as mnemonic techniques and visualization effectively enhanced retention of information, and Kocak et al. (2023), which underscored the value of well-prepared test-taking rather than cramming. This result conforms the analysis of Baliyan and Khama (2022), which found that efficient time management is strongly associated with academic success, further emphasizing the central role of time management in enabling other study skills. By addressing these focus areas, teachers were better able to prepare students for academic success, creating a culture of successful learning and attainment.

CONCLUSION

The study's conclusions are derived from an extensive analysis of the findings. The level of critical thinking skills among senior high school students in Lorenzo S. Sarmiento Sr. National High School is high in terms of understanding and analyzing ideas and arguments, evaluating ideas and arguments, and solving problems and making decisions, thus the overall mean is high for the level of critical thinking skills. The level of study skills among senior high school students in Lorenzo S. Sarmiento Sr. National High School is high when it comes to studying, memorizing, preparing for tests, and managing your time, thus the overall mean is high for the level of study skills. Additionally, the level of academic success among senior high school students in Lorenzo S. Sarmiento Sr. National High School is high in terms of inclusion in the school, relationship with classmates, family support, student-teacher trust, and teaching and learning model, thus the overall mean is high for the level of academic success.

Moreover, the findings opposed the hypothetical assumption of no significant relationship between critical thinking skills and academic success and between study skills and academic success. Contrary to this assumption, the study concludes that both critical thinking and study skills have a significant influence on the academic success of senior high school students. This means that any changes in the level of critical thinking and study skills can influence the student's academic success. Further, all three domains related to critical thinking skills and three out of the four domains related to study skills significantly influence the academic success of senior high school students.

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