Journal of Natural Language and Linguistics (JNLL)

ISSN: 2995-9837 (ONLINE)

VOLUME 3 ISSUE 1 (2025)

PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

Journal of Natural Language and Linguistics (JNLL)

Volume 3 Issue 1, Year 2025
ISSN: 2995-9837 (Online)
DOI: https://doi.org/10.54536/jnll.v3i1.5430
https://journals.e-palli.com/home/index.php/jnll

Metacogntitve Awareness, Affective Disposition and Social Learning Environment: A Structural Equational Model in Academic Writing Motivation among Learners

Maria Amihan Coronado[1*], Reita C. Palma[1]

Article Information

Received: April 28, 2025

Accepted: June 30, 2025

Published: July 21, 2025

Keywords

Academic Writing Motivation, Affective Disposition, Metacognitive Awareness, Social Learning Environment, Structural Equational Model

ABSTRACT

The study aimed to determine the most appropriate model for students' academic motivation in writing using structural equation modeling (SEM). Through this, the relationship between academic motivation in writing and students' metacognitive awareness, affective disposition, and social learning environment was clarified. The study was conducted using a quantitative causal method, and data was collected from 412 students from public secondary schools in Region XII using stratified random sampling. By using statistical tools such as Mean, Pearson r-correlation, and Multiple Regression, it was found that students had high levels of metacognitive awareness and affective disposition. The social learning environment and academic motivation in writing were found to be at very high levels. It was also shown that the three mentioned indicators had a strong relationship with students' academic writing. "Model 3" was identified as the most appropriate model for academic motivation in writing among students. This implies that the three variables are important in enhancing academic motivation in writing. The remaining indicators for metacognitive awareness include awareness of necessary resources for problem-solving, awareness of alternative solutions, awareness of speed/time in responding, awareness of personal abilities, and awareness of interaction through self-monitoring. The remaining indicators for affective disposition are perception and attitude. Meanwhile, the remaining indicators for the social learning environment include the support and respect provided by the teacher. Most importantly, the remaining indicators for the endogenous variable are skill attainment goals and self-efficacy in citing sources.

INTRODUCTION

Academic motivation in writing is one of the tools that actively operates and has the ability to encourage students to succeed in all their writing skills. However, despite teachers' perseverance and the opportunities provided to students in academic writing motivation such as essay and research writing tasks, students' excellence and ability in academic writing remain insufficient (Arnold, 2017). In the study conducted by Coronado and Fortaleza (2022), it was found that the academic motivation in writing of Senior High School students was low, with a description of 75%, even though sufficient and concrete guidance was provided by teachers.

Academic motivation in writing is one of the important orientations in language production, as mentioned in the study by Cabigao (2019) in the United States. Misa (2021) also explained that its significance continues to be applied by the current generation not only in the Philippines but around the world. According to experts, academic motivation in writing is one of the highest forms of academic competence because it reflects an individual's level of language proficiency, conceptual development, and language abstraction (Tipon *et al.,* 2021). Furthermore, it is a complex process as it requires a combination of skills and strategies (Horverak & Haugen, 2016). These are the reasons why it is very important to study students' academic writing motivation.

LITERATURE REVIEW

Meanwhile, Goctu (2017) from Georgia proved that metacognitive awareness in learning is related to the development of students' academic motivation in writing because it involves high-level skills that require planning, monitoring, and assessment. Another study also explained that in order to increase academic writing motivation, sufficient metacognitive awareness is required. This was stated in the study of Xia (2023) and that metacognition is a useful approach in enhancing students' academic motivation in writing. The degree to which students manage themselves indicates their active metacognition, motivation, and behavior in the learning process.

On the other hand, Rowell and Hong (2013) realized that affective disposition influences students' academic motivation in writing. Moreover, according to Kaya and Ebenezer (2007) in the United States, students need sufficient disposition, especially in terms of attitude, perception, and self-confidence, in order to be motivated in academic writing. Meanwhile, another study by Nabiryo and Sekiziyivu (2020) showed that the social learning environment enhances students' academic motivation in writing without compromising its content. This means that the social learning environment, such as teacher support, must be properly utilized to further develop students' academic motivation in writing and learning. In conclusion, the social learning environment has a positive

[1] University of Mindanao, Matina Campus, Philippines
[*] Corresponding author's e-mail: amihan.maria01@gmail.com

influence on students' academic writing motivation (Miralles & Nesperos, 2022).

Essentially, students' metacognitive awareness has two aspects. The first is reflection, which involves thinking about what is known. The second is self-regulation, which relates to managing what has been achieved and learning (Premachandran, 2016). Activities that stimulate reflective and strategic approaches to learning should be integrated into regular classroom tasks (Nguyen *et al.,* 2023). A teacher shapes the learning process and determines the approach to solving problems.

Furthermore, Kallio *et al.* (2020) stated that factors such as teacher support are needed to enhance students' metacognitive awareness, which leads to the development of their independent learning. Ozcakmak *et al.*'s (2021) study explained that metacognitive awareness influences students' academic performance, including their writing skills, due to their metacognitive awareness. Therefore, metacognitive awareness is an essential component of all student efforts, especially those with a broad metacognitive perspective. The study also explained that students with a deep understanding of metacognitive awareness score higher, and this is achieved through the support of people around them and their awareness of their own learning.

On the other hand, affective disposition is related to the "individual repository" of affective marks from past perspectives, attitudes, events, and various life situations connected to the present, which potentially affect and may be affected, particularly in processes involving cognitive aspects (Muhlhoff, 2018). The general belief in teaching and learning is undoubtedly formed when every student has a positive disposition. One reason for this (Sharma, 2017) is the search for appropriate instructional materials that suit the understanding of each student with different interests in various instructional opportunities. Furthermore, the effectiveness of students depends on the classroom management habits of teachers who demonstrate a high level of disposition that students eventually adopt. This proves that students' high affective disposition depends on the proper disposition of their teachers.

Meanwhile, the social learning environment in the classroom is composed of ' perceptions of how they are encouraged to engage in interaction and connect with others, especially with classmates and teachers (Ifenthaler & Schumacher, 2023). A positive educational environment is crucial for achieving optimal outcomes in students' academic activities—learning, motivation, school adjustment, and writing skills (Almonia & Oliva, 2023).

The social learning environment is one of the suitable spaces for the development of social formation aligned with students' learning goals (Deledda, 2024). This statement is also related to Vassilica's (2009) study, which asserted that in educating today's youth, the integration of technologies, clear communication development, and the social learning environment are necessary. This is supported by Nguyen *et al.* (2023), who stated that interaction and participation consistently remain primary factors in successful learning.

The variable of academic motivation in writing refers to the drive to organize words and sentences into meaningful and cohesive academic texts, not merely to produce language (Bianco, 2024). Shaw and Weirs, in a study by Horverak and Haugen (2016), added that in their cognitive process writing model, revising texts is also part of the writing process. It is clear that a high level of language ability requires strong motivation in academic writing. Learning to write is one of the most important skills for acquiring language knowledge. It is the motivation of students to engage in thinking aimed at effective communication.

On the other hand, learning through academic writing motivation must consider awareness in writing texts and research. This is confirmed in the study by Ling (2021), stating that if students have high academic performance in writing, it will likely lead to greater academic success, even in college. Often, academic motivation in writing stems from the desire to contribute knowledge, develop critical thinking, and clearly express ideas in pursuit of intellectual challenge (Patrick & Ryan, 2023). Therefore, academic motivation in writing enhances argumentation, clarity, and accuracy, which are essential for academic success.

This study also examined the relationship of exogenous variables—metacognitive awareness (Song *et al.,* 2021), affective disposition (Kaya & Ebenezer, 2007), and the social learning environment—to the endogenous variable of writing motivation (Wilby, 2020), as shown in the following conceptual framework. This conceptual model illustrates the direct relationship of the latent exogenous variables.

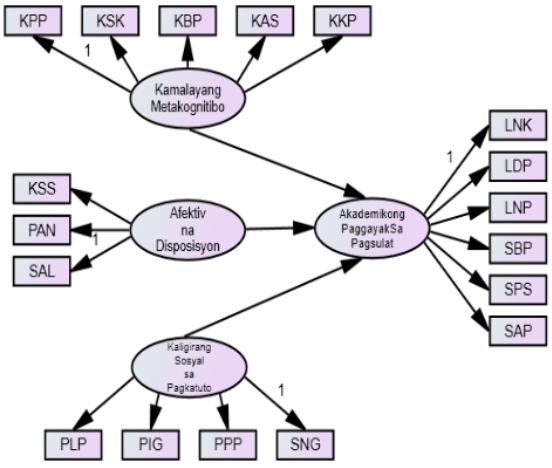

Figure 1: Hypothesized Model Showing the Direct Relationship of Latent Exogenous Variables

Legend:

kam_met = Metacognitive Awareness	afe_dis= Affective Disposition	aka_ pag=Academic Performance
KKP= Awareness of necessary resources for problem-solving	PAN= Perception	LNK= Goals achieved in skill mastery

KAS= Awareness of Alternate Solution	SAL= Attitude	LDP= Goals achieved in performance approach
KBP= Awareness of speed/time of response	SNG= Teacher's Support	LNP= Goals achieved in performance avoidance
KSK= Awareness of one's own ability		SBP= Self-efficacy in paraphrasing
KPP= Awareness of engagement in self-monitoring		SPS= Self-efficacy in citing sources
		SAP= Self-efficacy in academic writing

This study is anchored on the Cognitive Writing Theory of Flower and Hayes, as cited in the study by Pablo and Lasaten (2018). According to this theory, writing is defined as a distinct process. This means that the writer undergoes a process of organizing and structuring while generating ideas. Therefore, writing depends on the writer's orientation and motivation toward their goal. This theory sharpens the process of academic writing and provides pedagogical development to address deficiencies and difficulties. On the other hand, Bandura's Social Cognitive Theory, as discussed in the article by Lamorte (2022), states that learning occurs in a context involving dynamic and reciprocal interaction between the individual, the environment, and behavior. Also supporting this study is Bandura's Self-Efficacy Theory, which states that students can overcome any task in any situation as long as they possess sufficient motivation and disposition toward learning.

This study also discusses Leontiev's Activity Theory, which holds that tasks can be accomplished through understanding the reactions and interactions of individuals with the world around them. Therefore, it responds to social aspects of learning that lead to practical human actions. In addition, this study considers Maslow's Motivation Theory, which states that motivation is composed of the interaction between a person's personal goals, their perceived capacity or belief in their own skills, belief in content, not just in the support of the surrounding environment, and the emotional processes toward one's goal

Although studies have already been conducted regarding metacognitive awareness (Ozcakmak *et al.,* 2021), affective disposition, social learning environment (Raspopovic *et al.,* 2017), and students' academic motivation in writing, no research has yet been conducted to measure students' academic motivation in writing through these variables using a structural equation model approach. Thus, this gap requires immediate academic attention and is the reason this study was established.

It is important that this study receives prompt attention in the education sector to identify the strengths and weaknesses of implemented programs, especially those aiming to develop and enhance students' academic motivation in writing (Graham, 2020). Furthermore, the results of this research may serve as a basis for future reforms that aim to improve and strengthen academic motivation in writing (Jiang, 2021).

Specifically, the first objective is to measure the level of metacognitive awareness of senior high school students in public schools through awareness of self-monitoring, awareness of personal abilities, awareness of response time, awareness of alternative solutions, and awareness of needed resources for problem-solving. Second, to determine the level of affective disposition of students through their attitudes toward Filipino, perceptions of Filipino, and self-confidence in Filipino. Third, to assess the level of the students' social learning environment through teacher support, promotion of mutual respect, promotion of interaction-related activities, and support for performance goals. Fourth, to evaluate the level of academic motivation in writing through goals achieved in skills, goals achieved in performance approach, goals achieved in performance avoidance, self-efficacy in paraphrasing, self-efficacy in citation, and self-efficacy in academic writing. Fifth, to examine the relationships between metacognitive awareness and academic motivation in writing, affective disposition and academic motivation in writing, and social learning environment and academic motivation in writing. Most importantly, as the sixth objective, to identify the most appropriate model in the structural equation modeling approach to academic motivation in writing.

MATERIALS AND METHODS

Respondents of the Study

Out of the total number of 168,098 Grade 12 Senior High School students in the entire Region 12, the researcher only selected a sample of four hundred twelve (412) students based on the result of the Raosoft calculator. This is supported by Aschliman (), who stated that having 400 or more respondents demonstrates and presents the importance of effective evidence in the current study, especially in terms of the respondents' perspectives on the use, knowledge, skills, and importance of their writing. Meanwhile, according to the study of Gardner (3), the Raosoft calculator is an online tool used to calculate the sample size and number of responses for surveys to achieve a margin of error, which is commonly 5%.

To identify the 400 or more participants suitable for the Structural Equation Model, the stratified random sampling technique was used. According to Francisco (), the stratified sampling technique involves dividing the sample into what are called strata. The participants from the Division of General Santos numbered fifty-five (55), fifty-nine (59) from the Division of South Cotabato, forty-eight (48) from the Division of Sarangani, forty-six (46) from the Division

of Koronadal City, forty-eight (48) from the Division of Tacurong, fifty-eight (58) from the Division of Cotabato, forty-nine (49) from the Division of Sultan Kudarat, and forty-nine (49) from the Division of Kidapawan City. Only students from large schools in Region 12 were included in the stratified sampling technique.

Among the primary respondents in this study are Grade 12 Senior High School students who are eighteen (18) years old and above, enrolled in public schools in SOCCSKSARGEN and currently registered for the academic year 2023–2024. Their participation in the conducted research was voluntary and not mandatory. The respondents also underwent an orientation to make them aware of the type of information that would be asked from them in connection with the study. Students from private schools in SOCCSKSARGEN were not included in this study. Also excluded were students aged seventeen and below in public schools, even if they were enrolled in the academic year 2023–2024. Because the number of responses was based on proportional percentage, the number of respondents from each school varied depending on the number of groups and the total population of each school in Region XII.

Participants were given the freedom to refuse or withdraw at any time they wished. Their refusal did not involve any penalty or loss of benefits. The researcher informed them that they could withdraw their consent at any time and discontinue without punishment. They could not be deprived of any legal privileges, rights, or benefits due to their participation in the study.

Research Instrument

This study utilized questionnaires from web sources. The first instrument used to assess metacognitive awareness was adapted from the study Metacognitive Awareness Scale, Domain Specific (MCAS-DS): Assessing Metacognitive Awareness During Raven's Progressive Matrices by the Division of Psychology, School of Applied Sciences of De Montfort University, United Kingdom by Song and Lond, which contains fifteen items and five (5) indicators: (1) Awareness of Engagement in Self-Monitoring, (2) Awareness of Own Ability, (3) Awareness of Speed/Time of Response, (4) Awareness of Alternative Solutions, and (5) Awareness of Necessary Resources in Problem Solving.

The second Instrument used, which measured the affective disposition of students, was adapted from the research of Kaya and Ebenezer titled High School Students' Affective Dispositions in Science: Scientific Inquiry with Information Technologies from Wayne State University, College of Education, Department of Science Education in Detroit-MI, USA, with three (3) indicators: (1) Attitude, (2) Perspective, and (3) Self-Confidence.

The third instrument, which assessed the social learning environment of students, was validated through the study of Patrick from Purdue University and Ryan from the University of Illinois, Urbana-Champaign, titled "Identifying Adaptive Classrooms: Analyses of Measures of Dimensions of the Classroom Social Environment", which contains four (4) indicators: (1) Teacher Support, (2) Promotion of Mutual Respect, (3) Promotion of Task-Related Interaction, and (4) Promotion of Performance Goals.

The Instrument used to measure the level of students' writing ability was taken from the study of Wilby titled The Academic Writing Motivation and Self-Regulation Questionnaire (AMSRQ) from Edge Hill University, which has six (6) indicators: (1) Mastery Goals, (2) Performance-Approach Goals, (3) Performance-Avoidance Goals, (4) Self-Efficacy in Paraphrasing, (5) Self-Efficacy in Referencing, and (6) Self-Efficacy in Academic Writing.

The questionnaire used the following scale: If the mean range is between 4.20–5.00, it corresponds to a very high description with the interpretation that Metacognitive Awareness, Affective Disposition, Social Learning Environment, and Academic Motivation in Writing are always demonstrated; a mean between 3.40–4.19 corresponds to high, interpreted as often demonstrated; a mean between 2.60–3.39 corresponds to moderate, interpreted as occasionally demonstrated; a mean between 1.80–2.59 corresponds to low, interpreted as rarely demonstrated; and a mean between 1.0–1.79 corresponds to very low, interpreted as not demonstrated at all.

The Instrument underwent validation by six (6) experts and received a total mean score of 4.41 with a very high description. In fact, the questionnaires were modified to include only items relevant to the study. The first draft was presented to the research adviser for comments and suggestions.

As a result of the Cronbach's alpha test, the metacognitive awareness of students had a Cronbach alpha based on standardized items of .873 with a good description. The affective disposition had a Cronbach alpha of .873 with a good description. The social learning environment had a Cronbach alpha of .826, also described as good. Overall, the instrument had a Cronbach alpha of .889, which is likewise described as good.

Research Design and Methodology

This study used a quantitative non-experimental research method with the appropriate Structural Equation Model, as it gathered various types of quantitative data regarding Metacognitive Awareness, Students' Affective Disposition, Social Learning Environment, and Academic Motivation in Writing as variables. According to Salmos, the quantitative non-experimental design examines social phenomena without directly manipulating the conditions experienced by participants. The participants were not assigned to different groups. Through this, evidence supporting causal relationships and effects is generally limited.

This study also employed the Structural Equation Model and SPSS (a software used for statistical data analysis). According to Beran and Violato (2010), SEM is a statistical method used to measure and analyze relationships between observed and latent variables. In fact, in Fernan's research, it was mentioned that

compared to other statistical methods, structural equation modeling is one of the more complex methods of data analysis, where it defines a structure for covariance between modified variables, also referred to as covariance structure modeling, thereby offering more meaningful and accurate results. It is an advanced multivariate method for examining multiple relationships simultaneously between variables. In addition, this research used the arithmetic mean to measure the levels of metacognitive awareness, affective disposition, social learning environment, and academic motivation in writing. The Pearson moment analysis was also used to determine whether there were significant differences between the exogenous variables and the endogenous variable. Regression analysis was also used to determine the relationship of the variables or the influence of exogenous variables on other indicators of the endogenous variable.

Through the use of Structural Equation Modeling (SEM) in this study, the integrity and complexity of the research are strengthened because the analysis involves steps such as model specification, data collection, model estimation, model evaluation, and possible model modification. Therefore, if the hypothesized model is rejected based on goodness-of-fit statistics, an alternative model that better fits the data must be created.

The researcher complied with and followed ethical standards in conducting this study, such as voluntary participation, privacy and confidentiality, informed consent process, recruitment, risks, benefits, plagiarism, fabrication, falsification, conflict of interest (COI), deceit, permission from the organization/location, and authorship. Furthermore, the study adhered to appropriate research guidelines. The researcher adhered to all recommendations and standards of the University of Mindanao Ethics Reviewer Committee (UMERC). All necessary considerations were completed and properly arranged, including the submission of questionnaires and forms. Ethics regarding data confidentiality, consent, and protection of participants were also fulfilled in the conduct of the study. Compliance with the above-stated considerations is documented under UMERC Certificate No. UMERC-2024-201.

RESULTS AND DISCUSSION

Metacognitive Awareness of the Students

Table 1 shows the level of metacognitive awareness of the students. Four indicators were rated as high, while one indicator was rated as very high. The indicator that received a very high level was awareness of alternative solutions, with a mean of 4.29 and a standard deviation of 0.50. Among the four indicators that received a high rating, the lowest was awareness of resources in problem-solving, which had a mean of 4.11 and a standard deviation of 0.47.

Table 1: Level of students' metacognitive awareness

Indicator	SD	Mean	Descriptive Level
Awareness of engagement in self-monitoring	0.57	4.15	High
Awareness of one's own ability	0.50	4.18	High
Awareness of response speed/time	0.53	4.17	High
Awareness for Alternative Solution	0.50	4.29	Very High
Awareness of necessary resources in problem-solving	0.47	4.11	High
Overall	0.37	4.18	High

The results imply that the students' metacognitive awareness is clearly being utilized. This indicates that students are able to effectively plan how they learn, exercise control, and conduct evaluations based on their learning needs. They are also able to gather strategies to address cognitive demands, as metacognition is essential for efficient independent learning. The main reason is that it promotes self-reflection and introspection.

This aligns with the study of Abdelrahman (2020), which found that when students have a high level of metacognitive awareness, they also possess a strong ability to develop meaningful steps in solving academic problems, apply evaluation to outcomes and results of their actions, and adjust approaches and strategies when necessary based on prior knowledge—not only in the subject of Filipino but also, as shown in the study of Sinaga *et al.* (2023), in the subject of mathematics—contributing to students' ability to process information. Furthermore, Nguyen *et al.*'s (2023) study supports that metacognitive awareness helps students achieve personal goals by selecting cognitive tools that enhance academic motivation and performance.

Affective disposition of Students

Table 2 presents the second variable, which is about the affective disposition of the students. Two of its

Table 2: Level of the Affective Disposition of Students

Indicators	SD	Mean	Descriptive Level
Attitude	0.46	4.01	High
Perception	0.45	4.26	Very High
Self Confidence	0.52	4.03	High
Overall	0.37	4.10	High

indicators—attitude and self-confidence—both received a high level, while one received the highest level. The indicator with the highest level was perspective, with a standard deviation of 0.45 and a mean of 4.26. The lowest was the students' attitude, with a standard deviation of 0.46 and a mean of 4.01.

The results indicate that students make high use of their affective disposition based on their attitude, perspective, and self-confidence in order to succeed academically, especially in writing. This implies that affective dispositions are essential for students to achieve their life goals, particularly in the academic aspect.

The results are consistent with the study of Goctu (2017), which states that students' positive affective dispositions—such as attitude, perspective, and self-confidence—are influenced by a positive educational framework, teaching students to think positively, and training in various aspects of education.

Social Learning Background of the Students

Table 3 presents the third variable, which is the social learning background of the students. Two indicators received a high level, while two others received a very high level. The indicator with the very high level was Promotion of Mutual Respect, with a standard deviation of 0.56 and a mean of 4.51. The lowest indicator was Promotion of Performance Goals, with a standard deviation of 0.51 and a mean of 4.15.

Table 3: Level of Students' Social Learning Background

Indicators	SD	Mean	Descriptive Level
Teacher's Support	0.57	4.19	High
Promotion of Mutual Respect	0.56	4.51	Very High
Promotion of task-related interaction	0.53	4.45	Very High
Promotion of performance goals	0.51	4.15	High
Kabuoan	0.42	4.32	Very High

The results indicate that the indicators such as mutual respect for the opinions of teachers and students, providing help during academic needs, respecting each other's views in class, and cooperatively discussing outputs have a significant impact on promoting performance goals. This suggests that fostering a culture of inquiry related to student tasks greatly contributes to language learning. Student motivation is clearly influenced by the people around them.

Tubaon and Palma (2022) emphasized that students need a deep understanding of everything related to learning, including the surrounding factors such as teacher support and mutual respect during classroom interactions, in order to succeed in their academic tasks. This also confirmed that the social learning environment has a strong influence on the improvement of language skills, including knowledge and academic motivation in writing. In other words, the social learning environment plays a significant role in students' learning.

Academic Motivation in Students' Writing

Table 4 presents the fourth variable, which is the academic motivation in students' writing. Four indicators received a very high level, while two indicators received a high level. The indicator with the highest level was Goals Achieved in Skill Development, with a standard deviation of 0.48 and a mean of 4.43. The indicator with the lowest level was Goals Achieved in Performance Approach, with a standard deviation of 0.53 and a mean of 4.15.

The results imply that the expression of ideas and goals,

Table 4: Level of Academic Motivation in Students' Writing

Indicators	SD	Mean	Descriptive level
Goals achieved in skill development	0.48	4.43	Very High
Goals achieved in performance approach	0.53	4.15	High
Goals achieved in performance avoidance	0.51	4.18	High
Self-efficacy in paraphrasing	0.57	4.23	Very High
Self-efficacy in citing sources	0.47	4.22	Very High
Self-efficacy in academic writing	0.46	4.24	Very High
Overall	0.37	4.24	Very High

mastery of reading texts, understanding of logical content, and the improvement of students' skills contribute significantly to developing creative and competent student writers. Additionally, students value the thoughts of others, their own work, avoiding inappropriate articles, and paraphrasing what they read. They also apply critical analysis, comparison of similarities and differences, use of references, avoidance of plagiarism, clear expression of opinions, and construction of logical outlines when engaging with texts before writing essays. This demonstrates a deep implication for student development and academic performance.

According to Ling (2021), there is strong validation that students can achieve positive and high academic performance when they possess academic motivation in writing. This is supported by the study of Cordero *et al.* (2023), which states that motivation helps explain differences in the effects of interventions aimed at improving student writing outcomes. It drives students to strive not only in developing writing skills but also in ensuring long-term academic growth. This adds that academic motivation in writing can be intrinsic—coming from personal interest and enjoyment in learning—or extrinsic—coming from external incentives such as grades and rewards.

Relationship between Metacognitive Awareness and Academic Motivation in Students' Writing

Table 5 shows the significant relationship between metacognitive awareness and academic motivation in students' writing. The overall r-value obtained was .660, with a corresponding probability of $p < .000$, which is lower than the 0.05 level of significance set in this study. Therefore, the null hypothesis stating that there is no significant relationship between metacognitive awareness and academic motivation in students' writing is rejected. The correlation coefficient $r = .660$ confirms a strong relationship between metacognitive awareness and academic motivation in writing. Furthermore, a high level of student knowledge in the use of metacognitive awareness may result in a high level of academic motivation in writing.

Table 5: Significant Relationship Between Metacognitive Awareness and Academic Motivation in Students' Writing

Metacognitive awareness	**Academic motivation in writing**						
	LNK	**LDP**	**LNP**	**SBP**	**SPS**	**SAP**	**Kabuoan**
Awareness of engagement in self-monitoring	.293** .000	.296** .000	.231** .000	.267** .000	.370** .000	.402** .000	.418** .000
Awareness of one's own ability	.356** .000	.309** .000	.331** .000	.359** .000	.412** .000	.493** .000	.510** .000
Awareness of response speed/time	.308** .000	.355** .000	.325** .000	.274** .000	.385** .000	.442** .000	.471** .000
Awareness of alternative solutions	.354** .000	.315** .000	.307** .000	.345** .000	.381** .000	.414** .000	.478** .000
Awareness of necessary resources in problem-solving	.303** .000	.361** .000	.330** .000	.344** .000	.405** .000	.427** .000	.491** .000
Overall	.450** .000	.456** .000	.424** .000	.442** .000	.545** .000	.608** .000	.660** .000

Legend:
LNK- Goals achieved in skill development;
LDP- Goals achieved in performance approach;
LNP- Goals achieved in performance avoidance;
SBP- Self-efficacy in Paraphrasing;
SPS- Self-efficacy in citing references;
SAP- Self-efficacy in academic writing.

Specifically, the results indicate that all indicators of metacognitive awareness are related to academic motivation in writing, with p-values less than 0.05. The corresponding r-values are: .418 for awareness of engagement in self-monitoring, .510 for awareness of one's own ability, .471 for awareness of response speed/time, .478 for awareness of alternative solutions, and .491 for awareness of necessary resources in problem-solving. As shown in Table 5, all indicators across the variables are interrelated. Therefore, there is a clear connection between the two variables.

These findings are supported by the study of Abdelrahman (2020), which states that metacognitive awareness helps students achieve goals such as writing proficiency through cognitive tools like motivation.

Relationship between Affective Disposition and Academic Motivation in Students' Writing

Table 6 shows the results of the assessment of the relationship between affective disposition and academic motivation in writing. As stated in the hypothesis, the relationship was tested at the 0.05 level of significance. The overall r-value is .593 with a p-value lower than .05, indicating that the null hypothesis is rejected. This suggests that there is a strong relationship between affective disposition and academic motivation in students' writing.

If examined individually, all the indicators of affective disposition have a positive relationship with academic motivation in writing, each showing p-values less than 0.05. The r-values are .426 for attitude, .535 for perspective, and .415 for self-confidence. As a result, there is a significant relationship between affective disposition and academic motivation in writing. This has deep implications for the learning process and the focus on teaching strategies for writing.

The positive relationship between attitude, perspective, and self-confidence with academic motivation in writing suggests that when students have a good attitude, a positive outlook, and high confidence in their abilities, their motivation to write and effort in writing tasks increases.

These findings are supported by themes from Zhang *et al.*'s (2022) study on how disposition influences writing. It was found that having a positive disposition clearly relates

Table 6: Significant Relationship Between Metacognitive Awareness and Academic Motivation in Students' Writing

Affective Disposition	Academic motivation in writing						
	LNK	**LDP**	**LNP**	**SBP**	**SPS**	**SAP**	**Overall**
Attitude	.219** .000	.381** .000	.318** .000	.258** .000	.332** .000	.370** .000	.426** .000
Perception	.434** .000	.288** .000	.373** .000	.338** .000	.443** .000	.507** .000	.535** .000
Self-Confidence	.224** .000	.351** .000	.340** .000	.256** .000	.291** .000	.367** .000	.415** .000
Overall	.375** .000	.443** .000	.446** .000	.368** .000	.457** .000	.535** .000	.593** .000

Legend:
LNK- Goals achieved in skill development;
LDP- Goals achieved in performance approach;
LNP- Goals achieved in performance avoidance;
SBP- Self-efficacy in Paraphrasing;
SPS- Self-efficacy in citing references;
SAP- Self-efficacy in academic writing.

to writing skills. Therefore, students will have positive academic motivation in learning if they possess a positive disposition. This stated that a student cannot achieve excellence in academic motivation for writing without support from parents and teachers.

Relationship between Social Learning Background and Academic Motivation Ins Students' Writing

Table 7 shows the significant relationship between social learning background and academic motivation in students' writing performance. The data indicates a correlation coefficient of .580 at the 0.05 level of significance. This means there is a significant relationship between social learning background and academic motivation in students' writing.

Specifically, since social learning background and academic motivation in writing are related, all the indicators are also significant. Teacher support has a correlation coefficient

Table 7: Significant Relationship Between Social Learning Background and Academic Motivation in Students' Writing

Social learning background	Academic motivation in writing						
	LNK	**LDP**	**LNP**	**SBP**	**SPS**	**SAP**	**Overall**
Teacher support	.437** .000	.246** .000	.237** .000	.271** .000	.380** .000	.408** .000	.443** .000
Promotion of mutual respect	.481** .000	.167** .001	.224** .000	.244** .000	.301** .000	.250** .000	.374** .000
Promotion of task-related interaction	.545** .000	.201** .000	.299** .000	.374** .000	.401** .000	.407** .000	.499** .000
Promotion of performance goals	.358** .000	.354** .000	.340** .000	.326** .000	.380** .000	.431** .000	.494** .000
Overall	.587** .000	.309** .000	.351** .000	.389** .000	.470** .000	.479** .000	.580** .000

Legend:
LNK- Goals achieved in skill development;
LDP- Goals achieved in performance approach;
LNP- Goals achieved in performance avoidance;
SBP- Self-efficacy in Paraphrasing;
SPS- Self-efficacy in citing references;
SAP- Self-efficacy in academic writing.

of .443, promotion of mutual respect has .373, promotion of task-related interaction has .499, and promotion of performance goals has .494, all with p-values less than .05. This proves that social learning background has a positive correlation with academic motivation in writing. Overall, the results suggest that social learning background plays an important role in enhancing academic motivation in writing. Strengthening the social learning background can be a strategy to improve students' academic motivation in writing.

According to the study by Hafizoglu (2024), in student learning, consideration of constructivist beliefs such as teacher support, participation, inquiry, and equality are assessed to foster motivation in academic writing.

Influence of Metacognitive Awareness, Affective Disposition, and Social Learning Background on Academic Motivation in Students' Writing

Table 8 presents the influence of metacognitive awareness, affective disposition, and social learning background on students' academic performance in writing. The F-value is 152.216 with a corresponding p-value of 0.000, indicating that the regression level is significant. Therefore, the null

hypothesis stating that metacognitive awareness, affective disposition, and social learning background have no significant influence on academic motivation in writing is rejected. It can be concluded that these variables significantly predict academic motivation in writing.

Additionally, the R^2 value of .536 means that 53.6 percent of the variance in academic motivation in writing is explained by the predictor variables: metacognitive awareness, affective disposition, and social learning background. This indicates that the remaining 46.4 percent of the variation may be attributed to other factors not included among the three variables.

Table 8: Significant Influence of Metacognitive Awareness, Affective Disposition, and Social Learning Background on Academic Motivation in Writing

Academic Motivation for Writing					
(Variables)		**B**	**β**	**t**	**Sig.**
Constant		.748		4.542	.000
Metacognitive Awareness		.383	.384	8.257	.000
Affective Disposition		.211	.211	4.583	.000
Social Learning Environment		.237	.271	6.475	.000
R	.732				
R^2	.536				
ΔR	532				
F	152.216				
ϱ	0.000				

According to the study of Camacho *et al.* (2020), affective disposition is key to success in academic writing, and as supported by Ramadhanti *et al.* (n.d), this success is achieved through planning, organizing, managing, and evaluating—factors found in metacognitive awareness. These influence students' ability in academic writing. Likewise, Monteiro *et al.* (2021) emphasized the importance of the social environment, including academic communication, effective support through teacher-student relationships, active social interaction, and efficient participation in collaborative learning to facilitate learning.

Therefore, the three endogenous variables play a significant role in addressing the challenges students face in academic writing—especially now that the Philippines is focusing on 21st-century skills, including communication skills, in which writing is a core component. These three competencies—critical thinking skills, problem-solving skills, and information literacy skills—are essential, especially as the Philippines ranked low in the 2022 results of the Programme for International Student Assessment (PISA).

Three Model Regression

Table 9 presents the regression of the three models affecting the endogenous variable. Based on the first model, metacognitive awareness resulted in a regression coefficient of r = .485***, indicating a positive and significant relationship with the endogenous variable. Meanwhile, affective disposition obtained r = .259***, which means it has a moderate and positive effect on the endogenous variable. In the case of social learning background, it resulted in r = .312***, also indicating a moderate and positive effect on the endogenous variable.

Table 9: Regression Weights of the 3 Generated Models

Exogenous Variables to Endogenous Variable			
Model	**Metacognitive Awareness**	**Affective Disposition**	**Social Learning Environment**
1	.485***	.259***	.312***
2	.522*	$.137^{NS}$	.214**
3	$.672^{NS}$	$-.494^{NS}$	$.566^{NS}$

Meanwhile, in the second model, metacognitive awareness showed a regression coefficient of r = .522*, indicating a strong and positive relationship but only a moderate effect on the endogenous variable. On the other hand, affective disposition did not show a significant effect, with r = .137NS on the endogenous variable. Social learning background, however, demonstrated a moderate and positive effect on the endogenous variable, with r = .214*.

Finally, based on the third model, metacognitive awareness showed no effect on the endogenous variable, with r = .672NS, as did affective disposition with r = –.494NS, and social learning background with r = .566NS.

Covariances of the Three Variables in Determining the Most Suitable Model

Table 10 shows the covariances of the three variables in

Table 10: Covariances: (Group number 1 – Best Fit Model)

Academic Motivation for Writing					
Variables			**Estimates**	**S.E.**	**P-value**
Metacognitive Awareness	<-->	Affective Disposition	.064	.011	***
Affective Disposition	<-->	Social Learning Environment	.076	.013	***
Metacognitive Awareness	<-->	Social Learning Environment	.084	.014	***

determining the most suitable model.

Between metacognitive awareness and affective disposition, the estimated covariance is .064 with a standard error (SE) of .011, indicating a positive and significant covariance between the two variables. This means that as students' metacognitive awareness increases, their affective disposition also increases, or vice versa. Between affective disposition and social learning background, the estimated covariance is .076 with an SE of .013, also showing a positive and significant relationship between the variables. This suggests that when students' affective disposition increases, their social learning background also improves, or vice versa. Finally, between metacognitive awareness and social learning background, the estimated covariance is .084 with an SE of .014, which likewise indicates a positive and significant relationship. This illustrates that an increase in students' metacognitive awareness corresponds to an increase in their social learning background.

Measurement of the Different Models

Table 11 presents the measurements of the different models. Each model demonstrates how well the data fit within each respective framework.

Table 11: Summary of Goodness of Fit Measures of the Three Generated Models

Model	P-value (>0.05)	CMIN / DF (0<value<2)	GFI (>0.95)	CFI (>0.95)	NFI (>0.95)	TLI (>0.95)	RMSEA (<0.05)	P-close (>0.05)
1	**0**	**6.036**	**0.817**	**0.762**	**0.729**	**0.724**	**0.112**	**0**
2	0	3.438	0.877	0.887	0.849	0.866	0.078	0
3	0.156	1.295	0.987	0.994	0.977	0.987	0.027	0.93

Based on the results, the first model obtained a p-value of .000, indicating a poor fit. The other fit indices also reflect this: CMIN/DF (6.036 > 2), GFI (.817 < 0.95), CFI (.762 < 0.95), NFI (.729 < 0.95), TLI (.724 < 0.95), RMSEA (.112 > 0.05), and P-close of .000. These results suggest that the data do not fit the first model well. Overall, the first model demonstrates a weak fit across all measurement indices.

In the second model, the p-value is also .000, indicating

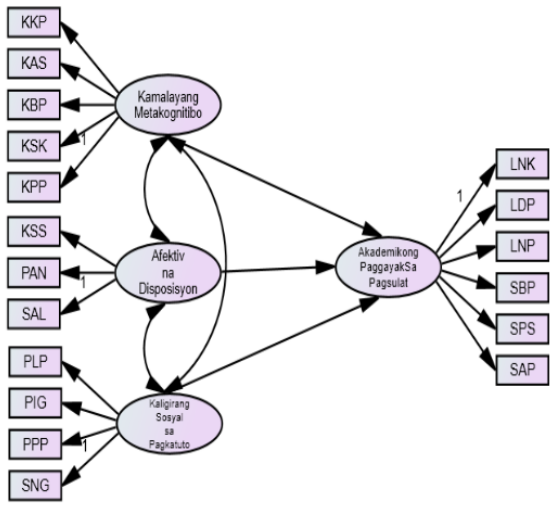

Figure 2: Hypothesized Model 2

Legend:

kam_met = Metacognitive Awareness
KKP= Awareness of necessary resources for problem-solving
KAS= Awareness of Alternate Solution
KBP= Awareness of speed/time of response
KSK= Awareness of one's own ability
KPP= Awareness of engagement in self-monitoring

afe_dis= Affective Disposition
PAN= Perception
SAL= Attitude
SNG= Teacher's Support

aka_pag= Academic Performance
LNK= Goals achieved in skill mastery
LDP= Goals achieved in performance approach
LNP= Goals achieved in performance avoidance
SBP= Self-efficacy in paraphrasing
SPS= Self-efficacy in citing sources
SAP= Self-efficacy in academic writing

a poor fit. However, some indices show a moderate fit: CMIN/DF (3.438 > 2) suggests a moderate fit, GFI (.877 < 0.95), CFI (.887 < 0.95), NFI (.849 < 0.95), and TLI (.866 < 0.95) are all slightly below the ideal thresholds but closer to acceptable values. RMSEA (.078 > 0.05) and P-close of .000 further indicate a less-than-ideal fit. In summary, the second model shows a mixture of moderate and poor fit indicators.

In the third model, a p-value of .156 was obtained, indicating an acceptable model fit. Furthermore, all its fit indices showed superior results across the board: CMIN/DF (1.295 < 2), GFI (.987 > 0.95), CFI (.994 > 0.95), NFI (.977 > 0.95), TLI (.987 > 0.95), RMSEA (.027 < 0.05), and P-close (.930 > 0.05). Overall, the third model demonstrated the best and most appropriate fit across all measurement indices.

In summary, the first and second models showed inadequate and weak fit indices. Only the third model showed strong and consistent model fitness across all statistical measures.

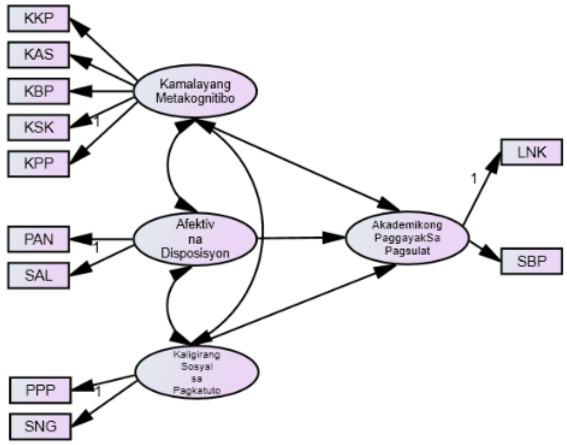

Figure 2: Hypothesized Model 3: Most Suitable Model for Academic Motivation in Students' Writing

Legend:

kam_met = Metacognitive Awareness	afe_dis= Affective Disposition	aka_pag= Academic Performance
KKP= Awareness of necessary resources for problem-solving	PAN= Perception	LNK= Goals achieved in skill mastery
KAS= Awareness of Alternate Solution	SAL= Attitude	LDP= Goals achieved in performance approach
KBP= Awareness of speed/time of response	SNG= Teacher's Support	LNP= Goals achieved in performance avoidance
KSK= Awareness of one's own ability		SBP= Self-efficacy in paraphrasing
KPP= Awareness of engagement in self-monitoring		SPS= Self-efficacy in citing sources
		SAP= Self-efficacy in academic writing

The remaining indicators for metacognitive awareness include: awareness of necessary resources for problem-solving, awareness of alternative solutions, awareness of speed/time of response, awareness of engagement in self-monitoring, and awareness of one's own ability. For affective disposition, the retained indicators are perspective and attitude. In the social learning background, the remaining indicators are promotion of mutual respect and teacher support. Most importantly, the retained indicators for academic motivation in writing are goals achieved in skill mastery and self-efficacy in paraphrasing.

The analysis of significant relationships between metacognitive awareness, affective disposition, and social learning background was structured into three (3) models. These models were tested to identify the most suitable framework for explaining students' academic motivation in writing. The evaluation of model fit followed standard criteria for acceptance or rejection. Results confirmed that the model integrating the three endogenous variables as predictors of academic motivation in writing is a strong representation of how students apply academic motivation in their daily school activities—especially in social engagement and task completion.

The finalized model clearly emphasizes the importance of five (5) metacognitive indicators:

- KKP – Awareness of Necessary Resources for Problem-Solving
- KAS – Awareness of Alternative Solutions
- KBP – Awareness of Speed/Time of Response
- KSK – Awareness of One's Own Ability
- KSP – Awareness of Engagement in Self-Monitoring

Two (2) indicators for affective disposition:

- PAN – Perspective
- SAL – Attitude

And two (2) indicators for social learning background:

- PPP – Promotion of Mutual Respect
- SNG – Teacher Support

These variables and indicators are shown to have a strong interconnected relationship, forming a robust and well-supported model for understanding students' academic motivation in writing.

CONCLUSIONS

The study revealed that students demonstrated high levels of metacognitive awareness, affective disposition, and a strong social learning environment, all of which were significantly linked to academic motivation in writing. Academic motivation was also found to be at a very high level. Among the tested models, Model 3

emerged as the most appropriate in explaining how these variables influence students' writing motivation. The findings aligned with several educational theories. Motivation system theory explains that motivation is influenced by personal goals, confidence, and social relationships. Cognitive writing theory views writing as a process shaped by experience and interaction. Social cognitive theory emphasizes the role of self-monitoring and reciprocal interaction between the learner and their environment. Additionally, self-efficacy theory suggests that students perform differently depending on task complexity and the presence of evaluators, while activity theory highlights learning through meaningful, socially-driven engagement.

Supporting studies also confirmed these findings. Ozcakmak *et al.* (2021) found that factors such as planning, emotion, and peer influence enhance motivation. Similarly, Zhang *et al.* (2022) emphasized that affective disposition thrives in a supportive environment, involving teachers, peers, and family. Overall, the study concluded that metacognitive awareness, affective disposition, and the social learning environment are strong predictors of academic motivation in writing.

REFERENCES

Abadikhah, S., Aliyan, Z., & others. (2018). EFL students' attitude towards self-regulated learning strategies in academic writing. *The International Education Journal: Comparative Perspectives, 4*(0), 1–17. Retrieved November 14, 2022, from https://www.iier.org.au/iier28-/abadikhah-abs.html

Abdelrahman, R. M. (2020). Metacognitive awareness and academic motivation and their impact on academic achievement of Ajman University students. *Heliyon, 6*(9), e04192. https://doi.org/10.1016/j.heliyon.2020.e04192

Alahmad, M. (2020). *Strengths and weaknesses of cognitive theory* (pp. 1584–1593).

Alghonaim, A. S. (2020). *Impact of related activities on reading comprehension of EFL students* (pp. 1916–4750).

Al-Jarrah, J. M., Al-Jarrah, T. M., Mansor, N., & Talafhah, R. (2019). *A review of research into metacognitive strategies in the process of education: Teaching and learning of English skills*. Retrieved from https://www.researchgate.net/publication/330901482

Almonia, A., & Oliva, E. (2023). The classroom environment's mediating effect on the relationship between teacher creativity and stability of student. *European Journal of Education Studies, 11*(1). https://doi.org/10.46827/ejes.v11i1.5147

Arani, J. (2018). *Advancing academic writing in a mobile Skype-based blended model* (pp. 86–99). Retrieved November 10, 2022, from https://core.ac.uk/download/pdf/196580361.pdf

Arifin, R. B., Wahab, N. B. A., Mat The, K. S., Otman, S., & Shahril, O. (2018). Influence of social environment on students' behavior. *International Journal of Academic Research in Business and Social Sciences*. https://dx.doi.org/10.6007/IJARBSS/V8-i7/4520(https://dx.doi.org/10.6007/IJARBSS/V8-i7/4520)

Arnold, H. W. (2017). *Improving the writing skills of English learners: An impact on student learning analysis*. Retrieved from https://research.avondale.edu.au/teach

Astika, G. G. (2022). *Analytical assessments of foreign students' writing*. 2. Retrieved November 10, 2022, from https://journals.sagepub.com/doi/abs/10.1177/003368829302400104

Bai, B., & Gua, W. (2019). Motivation and self-regulated strategy use: Relationships to primary school students' English writing in Hong Kong. *Language Teaching Research*. Retrieved November 18, 2022, from https://journals.sagepub.com/doi/abs/10.1177/1362168819859921

Beran, T. N., & Violato, C. (2010). Structural equation modeling in medical research: a primer. *BMC research notes, 3,* 267. https://doi.org/10.1186/1756-0500-3-267

Bernick, S. (2023). A*cademic writing in teaching research integrity*. Retrieved from https://shorturl.at/0bQJu

Bianco, M. L. (2024). *A causal-comparative study of the writing motivational constructs of students with and without attention.* Retrieved from https://tinyurl.com/3pd8dnh4

Blankenstein, F. M., Saab, N., Van Der Rijst, R. M., Bakker, M. S., & Broek, P. (2019). How do self-efficacy beliefs for academic writing and research develop during an undergraduate research project? *Educational Studies, 45*(2), 209–225. https://doi.org/10.1080/03055698.2018.1446326

Cabigao, Joey. (2014). *Improving Pupils' Academic Performance Through Strengthened School-Home Partnership.*

Camacho, A., Alves-Wold, A., Viana, F. L., & Limpo, T. (2020). Writing motivation in school: A systematic review of empirical research in the early twenty-first century. *Educational Psychology Review*. Retrieved June 2024, from https://link.springer.com/article/10.1007/s10648-020-09530-4

Cini, A. (2023). *How multiple levels of metacognitive awareness operate in collaborative problem-solving?* Retrieved from https://rb.gy/wbrh5x

Cordero, T., Limpo, T., & Alves-Wold, A. (2023). Writing motivation and ability profiles and transition during a technology-based writing intervention. *Frontiers in Psychology, 14,* 1196274. https://doi.org/10.3389/fpsyg.2023.1196274

Coronado, M. A., & Fortaleza, M. (2022). *Kaligirang sosyal na pagkatuto at kakayahan sa pagsulat ng mga mag-aaral sa senior high school sa panahon ng pandemya.* PPRD Region 12.

Crox-Magno, N. (2018). *Metacognitive reading strategy and emerging reading comprehension in students with intellectual disabilities* (Doctoral dissertation, Walden University). Walden Dissertations and Doctoral Studies. https://scholarworks.waldenu.edu/dissertations

David, S. (2020). *Enhancing the academic writing abilities of first-year Bachelor of Education students in blended learning environment.*

De Laza, C. S. (2019). *Pagbasa at pagsusuri ng iba't ibang teksto tungo sa pananaliksik.* Rex Bookstore.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* Springer Science & Business Media.

Deci, E. L., & Ryan, R. M. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78.

Deledda, G. (2024). *The impact of social emotional learning on high school students in a partnered learning environment.*

Erkan, C. (2017). The instruction of writing strategies: The effect of the metacognitive strategy on the writing skills of pupils in secondary education. *SAGE Open, 9*(2). https://doi.org/10.1177/215824401984268

Falfado, R. E. (n.d.). *Quantitative research.* Lorimar Publishing Inc.

Giana, D. (2024). *The impact of social emotional learning on high school students in a partnered learning environment.* Retrieved from https://rb.gy/1fdfxw

Gizzard, M., *et al.* (2023). A comprehensive experimental test of the affective disposition theory of drama. *Journal of Communication.* https://doi.org/10.1093/joc/jqac053

Goctu, R. (2017). *Metacognitive strategies in academic writing.*

Graham, S. (2020). *The effects of writing on learning science, social studies, and mathematics: A meta-analysis.* https://doi.org/10.177/20001839221994049

Hafizoglu, A. (2024). The role of students' motivation in the relationship between perceived learning environment and academic performance in science: A mediation analysis. *Science Education International, 30*(4). https://doi.org/10.338281/sei.v30.i4.2024

Hannah, R. (2013). *The effect of classroom environment on student learning* (Honors thesis, Western Michigan University). https://scholarworks.wmich.edu/honors_theses

Horverack, M. O., & Haugen, T. (2016). English writing instruction questionnaire: The development of a questionnaire concerning English writing instruction, writing skills, and feedback practices. https://www.researchgate.net/publication/301694613

Huber, S. A. (2017). *Individual student learning disposition – Teacher and student perspectives on incoherences and their development* (Thesis, Technische Universität München).

Huck, C., & Zhang, J. (2021). *Effects of the COVID-19 pandemic on K-12 education: A systematic literature review* (pp. 53–84). Retrieved November 15, 2022. EJ1308731.pdf

Hueil, L., Yunus, M. (2021). *Strategy to improve English vocabulary achievement during COVID-19 epidemic: Does Quizizz help?* (pp. 135–141).. https://files.eric.ed.gov/fulltext/EJ1300463.pdf

Hussain, R. A. M. (2019). *An analysis of undergraduate Saudi EFL female students' errors in written English essays.* King Khalid University. https://dx.doi.org/10.24093/awej/ef11.17

Ifenthaler, D., & Schumacher, C. (2023). *Social anxiety in digital learning environments: An international perspective and call to action*. ERIC. https://rb.gy/brkq1f

Iftanti, E. (2016). Improving students' writing skills through writing journal articles. *Lingua Scientia, 8*(1).

Irawan, A., & Padmadiwi, N. (2018). Instructional materials development through 4D model. *Lingua Scientia, 4*(0), 58.

Jiang, Y. (2021). Sustaining meaningful work in crisis: Adopting and conveying a situational purpose. https://doi.org/10.1177/

Johnson, S., & Wishgoll, A. (n.d.). *Writing skills.* Educators Publishing Service.

Kallio, H., Kallio, M., Virta, K., Iiskala, T., & Hotulainen, R. (2020). Teachers' support for learners' metacognitive awareness. *Scandinavian Journal of Educational Research, 65*(1), 1–17. https://doi.org/10.1080/00313831.2020.1755358

Kalyaalp, F., & Meral, E. (2021). An analysis of the effect of writing-to-learn activities regarding students' academic achievement and self-regulation skills in writing. *Lingua Scientia,* 324–348. Available: EJC1308707(1).pdf

Kaya, O. N., & Ebenezer, J. (2007). High school students' affective dispositions in science: Scientific inquiry with information technologies. *Wayne State University, College of Education, Department of Science Education.* https://eric.ed.gov/?id=ED500737

Khan, A., Egbue, O., Palkie, B., & Madden, J. (2018). Active learning: Engaging students to maximize learning in an online course. *The International Journal of Technology in Education and Science (IJTES), 4*(0), 107–115. https://files.eric.ed.gov/fulltext/EJ1141876.pdf

Khoirunnisa, K. (2018). Reading habits and its effect on academic writing skill: A study of master degree students. *Lingua Scientia, 4*(0), 43. https://www.researchgate.net/publication/33021234

Lamorte, W. (2022). *Social cognitive theory.* Boston University School of Public Health. https://sphweb.bumc.bu.edu/otit/mph-modules/sb/behavioralcangethoeries.html

Ling, G. (2021). Writing motivation: A validity study of self-judgement and performance. *Assessing Writing, 47,* Article 100509. https://doi.org/10.1016/j.asw.2020.100509

Mentz, E. M., & Bailey, R. (2020). Self-directed learning research and its impact on educational practice. *Lingua Scientia, 4*(0), 32. https://files.eric.ed.gov/9781928523451.pdf

Miralles, T., & Nesperos, J. (2022). Classroom learning environment and student writing strategy as predictors of reading competence of senior high school students. *European Journal of Foreign Language Teaching, 6*(3). https://doi.org/10.46827/ejfl.v6i3.4447

Misa, R. M. (2021). Kakayahan sa pragmatikong Filipino ng mga mag-aaral ng Grade 9 Laboratory High School ng President Ramon Magsaysay State University. *Asian Journal of Humanities and Social Studies.*

Monteiro, V., Marques-Pinto, A., Sanches, M., &

Correia, T. (2021). Creating a supportive classroom environment through effective feedback: Effects on students' school identification and behavioral engagement. *Frontiers in Education, 6,* Article 661736. https://doi.org/10.3389/feduc.2021.661736

Muhlhoff, R. (2018). Affective disposition. In J. Slaby & C. von Scheve (Eds.), *Affective societies* (Forthcoming).

Mukarromah, L. J. (n.d.). Improving the students' writing skill through Canva application.

Nabavi, R. T. (2012). *Bandura's social learning theory and social cognitive learning theory*. Retrieved from https://www.researchgate.net/publication/267750204

Nabiryo, N., & Sekiziyivu, S. (2020). The influence of peer interaction on students' mastery of writing. *Education Quarterly Reviews, 3*. https://doi.org/10.31014/aior.1993.03.01.120

Naoua, M. (2016). *The role of metacognitive strategies in the creation of discourse*. Retrieved from https://www.researchgate.net/publication/318281825

Nee, C. C., Yunus, M. M., & Suliman, A. (2019). ICT: An effective platform to promote writing skills among Chinese primary school pupils. *Arab World English Journal, 10*(4). https://doi.org/10.24093/awej/vol1004.17

Nguyen, X. K., Tran, T. Q., Hoang, H. T., & Doan, T. H. (2023). Relationship between metacognitive awareness of undergraduate students and students' academic performance at Vietnam Military Medical University. *Advances in Medical Education and Practice, 14,* 409–418. https://doi.org/10.2147/AMEP.s412912

Özçakmak, H., Köroğlu, M., Korkmaz, C., & Bolat, Y. (2021). The effect of metacognitive awareness on academic success. *African Educational Research Journal, 9*. https://doi.org/10.30918/AERJ.92.21.020

Pablo, J. C. I., & Lasaten, R. C. S. (2018). Writing difficulties and quality of academic essays of senior high school students. *Asia Pacific Journal of Multidisciplinary Research,* 46–57.

Patrick, H., & Ryan, A. (2003). *Identifying adaptive classrooms: Analyses of measures of dimensions of the classroom social environment*. University of Illinois, Urbana-Champaign.

Payne, A. R. (2007). *Development of the academic writing motivation questionnaire*. University of Georgia. https://getd.libs.uga.edu/pdfs/payne_ashley_r_201212_mo.pdf

Premachandran, S. J. (2016). A study on the metacognitive awareness of secondary school students. *Universal Journal of Educational Research,* 165–172. http://www.hrpub.org

Ramadhanti, D., Rahayu, S., & Hidayat, A. (n.d.). Students' metacognitive awareness and its impact on writing skills. *Indonesian Journal of Learning and Instruction, 5*(3). https://doi.org/10.26858/ijole.v5i3.18978

Raspopovic, M., Cvetanovic, S., Medan, I., & Ljubojevic, D. (2017). *The effect of integrating social learning environment with online learning*. Belgrade Metropolitan University, Serbia.

Reyes, V. T. (2019). *Self-learning techniques to contribute to the learning of the English language of the students*. Retrieved from https://files.eric.ed.gov/fulltext/ED595374.pdf

Rosyada, A., & Sundari, H. (2021). Learning from home environment: Academic writing course for EFL undergraduates through Google Classroom application. *Lingua Scientia,* 710–725. https://www.researchgate.net/publication/351322627

Rowell, L., & Hong, E. (2013). Academic motivation: Concepts, strategies, and counseling approaches. *Professional School Counseling, 16*(3), 158–171. https://doi.org/10.5330/PSC.n.2013-16.15

Saija, L. M. (2019). Undergraduate students' motivation and self-regulated learning in learning statistics: Female vs male. *Journal of Physics: Conference Series, 1320*(1). https://doi.org/10.1088/1742-6596/1320/1/012104

Salmons, J. (2023). *Quantitative research with non-experimental designs*. Retrieved from https://researchmethodology.sagepub.com/blog/quantitative-research-with-non-experemintal-design

Sharma, A. (2017). Classroom environment: An analytical review of the related literature. *International Journal of Innovative Research in Science, Engineering and Technology.*

Sharma, S. (2016). Teacher support as determinant of academic achievement. *The Journal of Educational Research.* Retrieved from https://www.researchgate.net/publication/316352057

Simpson, T. (2016). *The impact of a new teacher support system on teacher efficacy* (Unpublished doctoral dissertation). Walden University.

Sinaga, B., Sitanggang, I. S., & Lubis, A. (2023). The influence of students' problem-solving understanding and results of students' mathematics learning. *Frontiers in Education.* https://doi.org/10.3389/feduc.2023.1088556

Song, J., Loyal, S., & Lond, B. (2021). Metacognitive Awareness Scale, Domain Specific (MCAS-DS): Assessing metacognitive awareness during Raven's Progressive Matrices. *Frontiers in Psychology, 11*. https://doi.org/10.3389/fpsyg.2020.607577

Sulisworo, D., & Rayu, T., *et al.* (2018). The students' academic writing skill after implementing blended learning using Facebook. Retrieved from https://www.researchgate.net/publication/324940574

Taylan, D. R. (2016). *Komunikasyon at pananaliksik sa wika at kulturang Pilipino.* Rex Bookstore.

Tipon, F. K., Villanueva, A., Baluyot, M. K., Lloyd, K., Juan, K. L. M., Cruz, N., & Tus, J. (2021). The self-efficacy and its relationship on the academic motivation to the senior high school students from public schools amidst the new normal education in the Philippines. *International Journal of Advance Research and Innovative Ideas in Education, 7*. https://doi.org/10.6084/m9.figshare.14813397.v2

Tubaon, M., & Palma, R. (2022). Active reading style, student vocabulary learning strategies and self-regulated learning: A structural model equation on

academic writing motivation and self-regulation. *Asian Journal of Education and Social Studies,* 53–63. https://doi.org/10.9734/ajess/2022/v36i4790

Türkben, T. (2021). The effect of self-regulated strategy education on the writing skills of middle school students. Retrieved from https://files.eric.ed.gov

Vassilica, J. (2009). *Towards learning environment*. Retrieved from https://www.researchgate.net/publication/224374467

Wang, W. (2024). Research on the impact of the socio-educational environment on academic performance of college students: The mediating role of study motivation. *Frontiers in Psychology*. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10797049/

Wilby, J. (2020). *Motivation, self-regulation, and writing achievement on a university foundation programme: A programme evaluation study*.

Xia, T. (2023). Effects of academic expectations stress on academic achievements. *Lecture Notes in Education Psychology and Public Media, 13,* 153–159. https://doi.org/10.54254/2753-7048/13/20230872

York, K. B. (2018). *A causal comparative study on the effect of proficiency-based education on school climate* (Unpublished doctoral dissertation). Liberty University.

Yuce, E., & Atac, B. A. (2019). Peer editing as a way of developing ELT students' writing skills: An action research. *Journal of Language and Linguistics Studies,* 1226–1235.

Zeng, X. (2018). A study on the improvement of English writing competence for college students. *Journal of Language Teaching and Research,* 1344–1348. https://doi.org/10.17507/jltr.0906

Zhang, M. (2022). Learner's perceived advantage on social-affective disposition toward online peer feedback in academic writing. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2022.973478