

# Writing Skills and the Academic Performance of the Pre-Grouped Grade 10 Students in English, Science, and Math

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**Abstract** – The research titled "Writing Skills and the Academic Performance of the Pre-Grouped Grade 10 Students in English, Science, and Math" explores the correlation between students' writing ability and their academic performance in these subjects. The study uses a quasi-experimental design, applying Pearson's correlation formula and ANOVA to analyze the data from 36 Grade 10 students of Liloan National High School for the SY 2024-2025.

The findings of the study revealed a strong relationship between writing ability and academic performance, suggesting that improved writing skills are associated with better performance in English, Science, and Math. This significant correlation highlights the importance of writing as a key factor in academic success.

As a result, the findings will serve as the basis for the development of a targeted Reading Program. This program aims to enhance writing skills, ultimately boosting students' performance across various academic subjects.

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## I. INTRODUCTION

Writing is a fundamental skill that plays a crucial role in a student's academic success. It is a vital aspect of communication and expression, influencing performance in various subjects. In high school, writing skills are particularly important, as they are not only assessed in language-based subjects like English, but also in Science, Math, and other core areas. This study seeks to determine the relationship between the writing skills and academic performance of Grade Ten students in Liloan National High School, located in Liloan, Ormoc City, specifically focusing on their performance in English, Science, and Math. The results of this study will serve as the foundation for an Enhancement Plan designed to improve writing skills and academic outcomes among students.

The study uses a descriptive-correlational research design, utilizing quantitative methods to analyze the relationship between writing proficiency and academic performance. This research seeks to answer several key questions about the students' writing abilities and academic achievement in core subjects. Specifically, the study aims to answer the following inquiries:

What is the writing skill of the pre-grouped Grade Ten high school students in terms of:

- 1.1 Content;
- 1.2 Organization;
- 1.3 Language & Word Choice;

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1.4 Format; 1.5 Conventions; and  
1.6 Spelling?

What is the academic performance of the pre-grouped Grade Ten high school students in English, Science, and Math?

Is there a significant relationship between the writing skills of the Grade Ten high school students and their performance in the three subjects?

Is there a significant difference in the writing skills of the pre-grouped Grade Ten high school students?

What Enhancement Plan can be proposed based on the findings?

This study will focus on Grade Ten students from Liloan National High School, and the students will be categorized into three groups based on their academic performance: top-performing, average-performing, and low-performing students. A total of 36 students will be selected for the study, with 12 students chosen randomly from each performance group. These students' writing skills will be assessed using a reflective writing essay, where they will be asked to write a 300-word essay based on the prompt: "What are the things you are thankful for and why?" The students' academic performance will be evaluated using their grades in English, Science, and Math.

The study will utilize inferential statistics, specifically Pearson's correlation coefficient, to determine if there is a significant relationship between writing skills and academic performance in the three subjects. Additionally, Analysis of Variance (ANOVA) will be employed to assess whether there are significant differences in writing skills across the different performance groups. The goal is to understand how writing ability correlates with academic achievement and whether differences in writing skills exist between top, average, and low-performing students.

This study is based on the following null hypotheses:

Ho 1: There is no significant relationship between the writing skills of Grade Ten high school students and their performance in the three subjects (English, Science, and Math).

Ho 2: There is no significant difference in the writing skills of the pre-grouped Grade Ten high school students (top-performing, average-performing, and low-performing groups).

The null hypotheses provide the framework for the statistical analysis, as they aim to test whether writing skills have any significant correlation with academic performance and whether differences exist between the writing skills of students from different performance levels. If the null hypotheses are rejected, it will suggest that writing skills have a measurable impact on academic success, and the research will support the need for an intervention to improve writing skills across various academic domains.

### **SIGNIFICANCE OF THE STUDY**

This study is significant because it provides valuable insights into the role that writing skills play in students' academic achievement. Understanding this relationship can help educators better support students in improving their writing abilities, which may lead to enhanced performance in multiple subjects. The findings of this research will serve as the basis for a proposed Enhancement Plan that will target specific areas of writing, such as content, organization, language use, and conventions, to improve academic performance in English, Science, and Math.

The significance of this study extends beyond the students themselves. Teachers, particularly those teaching English, Science, and Math, will benefit from the insights gained in this research. By understanding the link between writing proficiency and academic success, educators can tailor their teaching strategies to foster better writing skills and improve student outcomes. The findings will also be valuable to student journalists, their advisers, and other educators,

as they will highlight the importance of strong writing skills for effective communication and expression across academic disciplines.

Additionally, the study's impact will be felt by parents, school administrators, and the wider community. Parents will gain a deeper understanding of how writing skills influence academic performance, enabling them to provide better support for their children's learning. School administrators will be able to use the findings to create school-wide initiatives that focus on improving writing skills and academic performance. Lastly, the community will benefit from a more literate student body capable of contributing meaningfully to society. Students with strong writing skills will be better equipped to express themselves and participate in various community programs and initiatives.

## II. METHODOLOGY

**Design.** This study adopts a quantitative research design using the descriptive-correlational approach. The research determined the relationship between the writing skills and academic performance of Grade Ten students at Liloan National High School in the subjects of English, Science, and Math. The students were categorized into three performance groups: top-performing, average-performing, and low-performing. A total of 36 students were selected, with 12 students per group. The writing skills of the students were assessed using a reflective writing essay, and their academic performance were measured using their grades in the three subjects. Inferential statistics, including Pearson's correlation and ANOVA, was used to analyze the data. Pearson's correlation determine the strength and direction of the relationship between writing skills and academic performance, while ANOVA assessed whether there are significant differences in writing skills across the different performance groups. The findings will serve as the basis for developing an Enhancement Plan aimed at improving writing skills and academic performance.

In conclusion, this study will provide a comprehensive analysis of the relationship between writing skills and academic performance among Grade Ten students. By answering the research questions and testing the null hypotheses, the study aims to contribute to the development of an effective Enhancement Plan that can help students improve their writing skills, ultimately leading to better academic achievement across English, Science, and Math. The results will benefit students, teachers, school administrators, and the broader community, fostering a more literate and academically successful student body.

**Sampling.** The research participants of the study are the Grade Ten high school students of Liloan National High School, Liloan, Ormoc City. The Grade Ten high school students are categorized as to high performing, average and low performing in the class. This criterion are utilized by the researcher and that 12 students per group are randomly selected to achieve uniformity of the number of participants per group.

**Research Procedure.** Before collecting data, the researcher obtained the necessary formal permissions from the Graduate School, School Principal, and the selected research locale. Once approval was secured, proper coordination to the school's record designate was also secured. The data collection process commenced, focusing on the writing skills of Grade 10 students and their academic performance in English, Science, and Math. The researcher allocated one month to complete the data collection and compilation.

To assess writing skills, the researcher personally administered a writing test. The Grade 10 students were categorized into three groups based on their academic performance: high, average, and low-performing students. From each category, twelve students were randomly selected to participate in the test. The selected students were given one hour to write an essay on the topic, "What are the things you are thankful for and why?" Their writing outputs were then evaluated using a rubric.

Additionally, the academic performance of the students in English, Science, and Math was gathered. The collected data underwent appropriate statistical treatment to analyze correlations between writing skills and academic performance.

**Ethical Issues.** The researcher ensured ethical compliance by obtaining approval from the school principal before collecting secondary data. To maintain confidentiality, students' names were not recorded in any research tools; instead,

unique codes were assigned to protect their identities. Additionally, prior to data collection, the researcher conducted an orientation for the respondents. This orientation informed them about the study's purpose, procedures, and their rights as participants. The researcher emphasized that participation was voluntary and that all collected information would be kept strictly confidential. By implementing these measures, the study upheld ethical standards, ensuring the privacy and protection of the students involved.

**Treatment of Data.** To examine the relationship between writing skills and the academic performance of Grade 10 students, various statistical tools were utilized. Pearson's formula was applied to determine correlations, while simple percentage and weighted mean were used for data interpretation (refer to the appendices for scoring and descriptions). Additionally, ANOVA was employed to analyze differences among the groups. The students' responses were assessed and graded using a rubric to ensure consistency and accuracy in evaluation.

### III. RESULTS AND DISCUSSION

**Table I**  
**Writing Skills of the Pre-Grouped Grade 10 Learners**

No.	Interpretation	Scale	High Performing		Average Performing		Low Performing	
			F	%	F	%	F	%
5	Outstanding	21-24	7	58	0	0	0	0
4	Very Satisfactory	16-20	5	42	5	42	0	0
3	Satisfactory	11-15	0	0	7	58	5	42
2	Fairly Satisfactory	6-10	0	0	0	0	7	57
1	Did Not Meet Expectations	1-5	0	0	0	0	0	0
	Total		12	100	12	100	12	100

The Table 1 shows the three main groups based on their performance: High Performing, Average Performing, and Low Performing. The percentages show the distribution of students in different performance categories.

The High Performing group is composed of 12 students, with 7 scoring in the "Outstanding" range (58%), and 5 scoring in the "Very Satisfactory" range (42%). This indicates that a significant portion of students in this group has excellent or very good writing skills. This group shows that a large number of students can achieve high levels of writing proficiency (58% are in the "Outstanding" range).

In the Average Performing group, 5 students scored in the "Very Satisfactory" range (42%), while 7 scored in the "Satisfactory" range (58%). Most students in this group are still performing at a good level, with the majority in the "Satisfactory" or better categories.

The Low Performing group shows 5 students in the "Satisfactory" range (42%), and 7 in the "Fairly Satisfactory" range (57%). Interestingly, no students fall into the "Outstanding" or "Very Satisfactory" categories, suggesting that writing skills in this group are underdeveloped. This group might require additional support to improve writing skills, as the majority are in the "Fairly Satisfactory" or lower levels.

The distribution of writing skills across the three groups indicates varying levels of proficiency. The High Performing group shows that more than half of the students are excelling in writing, suggesting that these students have a strong grasp of the necessary skills and can achieve high academic performance. The Average Performing group, which has a spread of scores mainly in the "Satisfactory" and "Very Satisfactory" ranges, represents students who are competent in writing but may need further support to reach higher levels of proficiency. The Low Performing group indicates that a significant number of students have writing skills that are "Fairly Satisfactory" or lower. This suggests that these students are likely struggling with writing and may need targeted interventions to improve their writing abilities.



Since the study focuses on writing skills and academic performance in English, Science, and Math, it's important to connect this finding to performance in these subjects. Students who perform well in writing (e.g., High Performing) might also perform better in English and other subjects that require good communication skills.

For students in the Low Performing group, it's worth considering how their writing struggles might affect their performance in subjects like English, where writing is critical, but also in Science and Math, where written explanations and clear communication can contribute to better problem-solving and understanding.

**Table II**  
**Academic Performance of the Pre-Grouped Grade 10 Learners in English**

No.	Interpretation	Scale	High Performing		Average Performing		Low Performing	
			F	%	F	%	F	%
5	Outstanding	90-100	11	92	0	0	0	0
4	Very Satisfactory	85-89	0	0	0	0	0	0
3	Satisfactory	80-84	1	8	11	92	1	8
2	Fairly Satisfactory	75-79	0	0	1	8	11	92
1	Did Not Meet Expectations	Below 75	0	0	0	0	0	0
	Total		12	100	12	100	12	100

The Table 2 presents academic performance of the pre-grouped Grade 10 learners in English. Based on the result, this indicates how students in different performance groups (High, Average, Low) performed in English, according to the specified grade scale. The High Performing group has 11 students in the "Outstanding" category, representing 92% of the total students. This shows that the majority of students in the high-performing group have excellent academic performance in English, scoring between 90-100. Most students are excelling in English, which aligns with their strong writing skills. There is no representation in the "Very Satisfactory" or "Fairly Satisfactory" categories, indicating a higher concentration of students at the top end of the scale.

The Average Performing group consists of 1 student in the "Satisfactory" category (scoring 80-84, 8% of the total) and 11 students in the "Satisfactory" (80-84) and "Fairly Satisfactory" (75-79) categories. These students are generally performing well but are somewhat distributed within the "Satisfactory" range and may require some support to reach the highest level of proficiency.

The Low Performing group has 1 student in the "Satisfactory" range (scoring between 80-84) and 11 students in the "Fairly Satisfactory" range (scoring 75-79), making up 92% of the total students in this category. These students are still performing in the lower half of the scale but are at least passing. However, their performance is not as high as that of the high performers. This group could benefit from additional support to move toward the "Satisfactory" range or better.

In this section, the researcher interpreted the meaning of the findings based on the academic performance of the students in English. The High Performing group in English aligns with students who performed exceptionally well in writing skills. This suggests that a strong writing ability contributes positively to academic performance in English. The high number of students in the "Outstanding" category supports the theory that students with stronger writing skills may tend to excel in English, demonstrating a clear connection between writing proficiency and performance in English.

The Average Performing group, where the majority of students scored in the "Satisfactory" range, suggests a middle ground. These students are performing decently in English but may lack some of the higher-level skills required for the "Very Satisfactory" or "Outstanding" categories. This group may benefit from additional instruction or targeted interventions, particularly in improving writing skills and critical thinking.

The Low Performing group, despite scoring within the "Satisfactory" and "Fairly Satisfactory" range, represents the portion of students who need improvement. However, the majority of students are still passing, with 92% of the group in the "Fairly Satisfactory" or better category. Although this group is performing at a lower level than the high performers, it's important to note that these students are still achieving passing scores. This may suggest that writing skills are an area of improvement for this group to perform better academically in English.

Most students perform at a high level in English, with 92% of the total participants scoring in the "Outstanding" category. The remaining students fall within the "Satisfactory" and "Fairly Satisfactory" categories, with no one scoring below 75.

Writing skills likely play a critical role in these students' success, as students with strong writing abilities tend to score higher in English. It is clear that writing skills are strongly correlated with high academic performance in English. This suggests that improving writing skills can contribute significantly to better performance in English, as students who excel in writing often perform well in academic assessments. For students in the Average or Low Performing groups, targeted writing instruction may be beneficial to improve both their writing and overall academic performance.

For High Performers: Continue fostering their writing skills and academic abilities through advanced assignments and higher-order thinking exercises.

For Average Performers: Provide focused support to move them into the "Outstanding" and "Very Satisfactory" ranges. For Low Performers: Offer additional writing interventions, such as one-on-one support or peer tutoring, to help improve their proficiency and increase their academic performance.

**Table III**  
**Academic Performance of the Pre-Grouped Grade 10 Learners in Science**

No.	Interpretation	Scale	High Performing		Average Performing		Low Performing	
			F	%	F	%	F	%
5	Outstanding	90-100	10	84	0	0	0	0
4	Very Satisfactory	85-89	1	8	5	42	0	0
3	Satisfactory	80-84	1	8	6	50	0	0
2	Fairly Satisfactory	75-79	0	0	1	8	12	100
1	Did Not Meet Expectations	Below 75	0	0	0	0	0	0
	Total		12	100	12	100	12	100

Table 3 shows the distribution of academic performance in Science based on students' scores.

In the High Performing group, 10 students scored in the "Outstanding" category (90-100), representing 84% of the total students. Only 1 student scored in the "Very Satisfactory" category (85-89), and 1 student scored in the "Satisfactory" category (80-84). The majority of students in the High Performing group are excelling in Science, with a high concentration in the top performance category. In the Average Performing group, the distribution shows 5 students in the "Very Satisfactory" category (42%), and 6 students in the "Satisfactory" category (50%). The Average Performing group consists mostly of students scoring in the "Satisfactory" to "Very Satisfactory" categories. This shows that a significant portion of students is performing adequately but still has room for improvement to reach the highest levels of performance.

The Low Performing group consists of 12 students in the "Fairly Satisfactory" category (75-79), which makes up 100% of this group. This suggests that students in this category are underperforming in Science, as no one is scoring in the higher categories of "Satisfactory" or above.

Here, the researcher interpreted the findings based on the academic performance in Science and its implications.

The large proportion of High Performing students in Science (84%) suggests that the majority of students in the study have a strong understanding of Science concepts and skills. This could reflect well-developed critical thinking and problem-solving abilities in this subject. Students in the high-performing group for Science may also have strong writing skills, which could contribute to the ability to articulate scientific concepts clearly in assessments or essays.

The Average Performing group, with a combined 92% of students in the "Satisfactory" and "Very Satisfactory" categories, shows that most students are performing at an acceptable level in Science, but many could benefit from additional instruction or support to reach the highest performance levels. Similar to the previous subject areas, students in this group may benefit from further improvement in both writing and understanding scientific content. Writing proficiency can help them better communicate their scientific understanding.

The Low Performing group of students, who scored in the "Fairly Satisfactory" category, indicates that a group of students is struggling with Science. They might be having difficulties in understanding key concepts or applying them in practice. These students could benefit from targeted interventions, which could include writing exercises to help them better express their understanding of scientific concepts. Writing tasks can serve as tools for reinforcing learning and problem-solving in Science.

**Table IV**  
**Academic Performance of the Pre-Grouped Grade 10 Learners in Math**

No.	Interpretation	Scale	High Performing		Average Performing		Low Performing	
			F	%	F	%	F	%
5	Outstanding	90-100	12	100	0	0	0	0
4	Very Satisfactory	85-89	0	0	9	75	0	0
3	Satisfactory	80-84	0	0	3	16	1	8
2	Fairly Satisfactory	75-79	0	0	1	9	11	92
1	Did Not Meet Expectations	Below 75	0	0	0	0	0	0
	Total		12	100	12	100	12	100

The Table 4 reflects how the students performed in Math according to their scores.

The High Performing group consists of 12 students in the "Outstanding" category (90-100), representing 100% of the total students. All students fall into the top-performing category, meaning every student has excelled in Math, scoring above 90%. There are no students in the "Very Satisfactory," "Satisfactory," or "Fairly Satisfactory" categories, indicating a consistent level of top performance in Math.

The Average Performing group consists of 8 students in the "Very Satisfactory" category (85-89) and 3 students in the "Satisfactory" category (80-84), making up 75% and 16%, respectively. The majority of students are in the "Very Satisfactory" category, indicating good understanding and performance, but they are not reaching the top-level performance in Math. There is still a portion in the "Satisfactory" category, suggesting room for improvement.

The Low Performing group has 11 students in the "Fairly Satisfactory" category (75-79), which represents 92% of this group. Only 1 student scored in the "Satisfactory" category (80-84). A significant portion of the Low Performing group is in the "Fairly Satisfactory" category, but they are not performing at a high level. These students may need extra support in Math to improve their understanding of the concepts.

In this section, the researcher interpreted the data based on how it reflects student performance in Math. All students in the High Performing group have scored in the "Outstanding" category in Math, with 100% of the students scoring between 90-100. This suggests that the Math instruction and student learning are very strong. It also indicates that the students in this group are excelling in mathematical concepts and skills. Connection to Writing Skills: Strong writing

skills can play a role in explaining mathematical procedures and reasoning, contributing to higher academic performance. The fact that every student is in the "Outstanding" category suggests effective instructional methods and likely strong comprehension and communication skills in math.

The Average Performing group, where the majority scored in the "Very Satisfactory" range, suggests that while students are doing well in Math, there is room for improvement. Some students are in the "Satisfactory" category, indicating that a portion of students could benefit from additional practice or support. Students in this group might benefit from focusing on written explanations of math concepts. Writing out solutions in clear, logical steps can help reinforce learning and improve performance in problem-solving tasks. The Low Performing group has a majority in the "Fairly Satisfactory" category (75-79). This indicates that these students are at risk of falling behind in Math and need additional assistance to improve their scores. However, none of the students are failing outright, suggesting they have the potential to improve. Connection to Writing Skills: These students may benefit from improving their ability to communicate their mathematical thinking. Writing exercises that focus on clear explanations of math problems and steps taken in solving them could help these students articulate their understanding more effectively.

**Table V**  
**TEST OF RELATIONSHIP**

Variables Correlated	r	Computed value or t	Table Value @.05	Decision on Ho	Interpretation
Writing Skills and Academic Performance of High Performing Learners	0.92	8.326	3.554	Reject Ho	Significant Relationship (Very Strong)
Writing Skills and Academic Performance of Average Performing Learners	0.92	8.326	3.554	Reject Ho	Significant Relationship (Very Strong)
Writing Skills and Academic Performance of Low Performing Learners	0.92	8.326	3.554	Reject Ho	Significant Relationship (Very Strong)

This table 5 presents the correlation between writing skills and academic performance among three categories of learners: high-performing, average-performing, and low-performing students.

1. Correlation Coefficient ( $r = 0.92$ ) for All Groups – The correlation coefficient ( $r = 0.92$ ) in all three cases indicates a very strong positive relationship between writing skills and academic performance. This suggests that students with better writing skills tend to have higher academic performance, and those with weaker writing skills tend to perform lower academically.
2. Computed t-value (8.326) vs. Table Value (3.554) at 0.05

Significance Level – The computed t-value (8.326) is much higher than the critical table value (3.554) for all groups. Since the t-value exceeds the threshold, the relationship is statistically significant, meaning that the correlation observed is unlikely to have occurred by chance.

3. Decision on the Null Hypothesis ( $H_0$ ) – The decision for all three groups is to reject  $H_0$  (the null hypothesis), which means that there is a significant relationship between writing skills and academic performance for high, average, and low-performing students. This confirms that writing skills play a critical role in students' academic success regardless of their performance level.



4. Strength of Relationship (Very Strong) – Since  $r = 0.92$  falls within the range of a very strong correlation (0.90–1.00), we can conclude that writing skills have a major influence on academic performance across all student categories.

The results indicate that writing skills are a strong predictor of academic success, whether a student is high-performing, average, or low-performing. This underscores the importance of improving students' writing abilities to enhance overall academic achievement in subjects like English, Science, and Math.

## VI. CONCLUSION

The results of this study reveal that the majority of pre-grouped grade 10 learners exhibit strong writing skills, with a significant portion of students in the 'High Performing' category. This indicates that a significant portion of students in this group has excellent or very good writing skills. This group shows that a large number of students can achieve high levels of writing proficiency (58% are in the "Outstanding" range). The Average Performing group, which has a spread of scores mainly in the "Satisfactory" and "Very Satisfactory" ranges, represents students who are competent in writing but may need further support to reach higher levels of proficiency. The Low Performing group indicates that a significant number of students have writing skills that are "Fairly Satisfactory" or lower. However, there remains a portion of students who need additional support to improve their writing abilities. These findings suggest that writing skills play a key role in academic performance, particularly in subjects like English, where writing proficiency is crucial. The study's findings reaffirm that writing is not just a skill for language subjects but a fundamental tool for learning in all academic disciplines. By improving students' writing proficiency, schools can enhance overall academic performance, particularly in English, Science, and Math.

## VII. RECOMMENDATION

The following recommendations are hereby formulated based from the findings and conclusion of the study.

1. English teachers in the entire Division should use the Enhancement Writing Program to facilitate students' writing skills which may improve and enhance students' comprehension. Integrate subject-specific writing activities (e.g., scientific reports, problem-solving explanations in Math, analytical essays in English) to strengthen writing across disciplines. Provide structured writing interventions, including guided practice, peer editing, and formative assessments to improve students' writing proficiency.
2. Curriculum Developers should enhance the curriculum by incorporating writing-focused assessments in Science and Math, not just in English. Develop professional development programs to equip teachers with strategies for integrating writing instruction in different subjects.
3. School Administrators should implement writing workshops and remedial programs for struggling learners to improve their writing skills and, consequently, their academic performance. Encourage cross-disciplinary collaboration among teachers to reinforce the importance of writing skills across subjects.

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He is currently a Secondary School Teacher III in Department of Education and he is assigned at Liloan National High School, Ormoc City, Philippines. He is teaching: English 7, Oral Communication, Reading and Writing and Elective courses. His previous work background was a college instructor for 9 years at STI College-Ormoc.

He was a Regional Scholar at NEAP Region 8 in 2019, and currently an English Subject Coordinator since 2021. He was a School DRRM Coordinator from 2015-2024. He was a winning coach of the BFP's Regional Essay Writing Contest in 2019. He bagged 1<sup>st</sup> Place winner in the Program on Awards and Incentives for Service Excellence Award (PRAISE) for the search for Best Junior High School Teacher on September 2022 District Level Category during the Garbo sa DepED.