Minds on Manuscripts: Analyzing the Research Writing Competencies of SHS Students as Catalysts for an Innovation

JOEBERT C. CEPILLO
Secondary Schools Teacher II

Republic of the Philippines
Department of Education
REGION IV-A CALABARZON
SCHOOLS DIVISION OF BATANGAS CITY

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Region IV-A CALABARZON

Abstract:- This study aimed to analyze and compare the research writing competencies of Grade 12 students at Paharang Integrated School in Batangas City, serving as input for an innovation to improve their research skills. The study used a descriptive method with a questionnaire as the main data-gathering tool, analyzing data using frequency, mean, standard deviation, standard mean error, Pearson's r and t-test. Results revealed a strong preference for HUMSS and ICT strands among students, with satisfactory research writing skills in some areas but needing improvement in identifying literature gaps, writing clear methodologies, and connecting findings to broader frameworks. Students excelling in Practical Research 1 and 2 exhibited greater confidence in research writing skills, highlighting the importance of supporting students in both areas. However, students in different academic strands showed varying research writing performance, suggesting the need for targeted interventions. To address this, Project RESEARCH is proposed to empower struggling students by providing a structured framework, personalized support, and ICT-based resources to enhance their research writing skills and confidence.

Keywords:- Research Writing Competencies, Senior High School Students, Research Interventions.

I. INTRODUCTION AND RATIONALE

In the dynamic landscape of education, the role of research has become increasingly crucial, especially in the context of Senior High School (SHS) education. Research in senior high school serves as a cornerstone for academic development, fostering critical thinking, problem-solving skills, and a deeper understanding of various subjects. It goes beyond the traditional classroom setting, encouraging students to explore and analyze information independently. The importance of research in senior high school is not merely confined to academic achievement; it plays a pivotal role in shaping students into informed, innovative, and discerning individuals ready to navigate the complexities of the modern world. This introduction will delve into the multifaceted significance of research in senior high school, highlighting its impact on academic excellence, personal growth, and the preparation of students for higher education and the workforce.

Chapter 1, Section 7 (5) of RA 9155 requires the Department of Education (DepEd) to conduct national educational research and studies, as well as to require all school divisions to engage in research activities that can serve as the foundation for necessary reforms and policy inputs that support Section 10, Article XIV of the Philippine Constitution promoting, protecting and prioritizing research,

and development in the country. As a result, all senior high schools are required to take three research subjects before they finish the senior high school program.

The current situation of research writing competencies among senior high school students in the Philippines has been a topic of concern in recent years. While efforts have been made to integrate research writing skills into the curriculum, there are still challenges in ensuring that students develop strong competencies in this area. According to a study by Santos and Cruz (2020), many senior high school students in the Philippines struggle with various aspects of research writing, including formulating research questions, conducting literature reviews, and properly citing sources. The study also highlights the need for more targeted instruction and support to help students develop these essential skills. As research writing competencies are crucial for academic success and future careers, addressing these challenges is essential for the overall development of students in the Philippines.

The DepEd MATATAG Curriculum stands as a robust educational framework designed to address the diverse needs of students, and within its structure lies a commitment to cultivating essential research skills. Recognizing the gaps that may exist in students' research proficiency, the curriculum employs several strategies. It incorporates structured research modules, guiding students through the intricacies of the research process. Practical applications are emphasized, linking research projects to real-world issues to underscore the relevance of academic inquiry. A mentorship program fosters one-on-one guidance, enabling students to benefit from the expertise of teachers or external mentors. An interdisciplinary approach encourages collaboration across subjects, enriching the depth of research. Integration of technology tools ensures students are familiar with modern research methodologies, while education on research ethics promotes integrity and responsible conduct. Clear assessment criteria, constructive feedback, and a culture of curiosity collectively contribute to addressing gaps in research, ensuring that students emerge from their high school education equipped with vital research skills for future endeavors.

At Paharang Integrated School, the research culture before the pandemic happened can be considered good. Many of our students gained awards and recognition whenever they compete with other secondary schools. Due to the changes in the education landscape over the past two years, students are not so knowledgeable in conducting research making them not as enthusiastic as the students before. They are not confident when ask to conduct a research study because they believe that they are not capable of doing. With these in mind, the researcher conceptualized this study to address this gap.

In an endeavor to catalyze a transformative impact on society, the researcher was resolute in their commitment to improve the research writing competencies demonstrated by Senior High School students at Paharang Integrated School throughout the academic year 2023-2024. This undertaking transcends mere analysis; rather, it aspires to serve as a catalyst for an innovation. Through a thorough examination, the aim was to provide invaluable insights that go beyond conventional approaches. The anticipated outcome was not only a refined understanding of students' research capabilities but also the creation of a tangible resource poised to revolutionize their research endeavors. This initiative sought to significantly empower students by offering them a comprehensive guide that extends beyond theoretical frameworks. The envisioned impact manifested in the enhanced adeptness of students in executing research projects, navigating inquiries, conducting investigations, and immersing themselves in scholarly pursuits. Ultimately, this effort aimed to foster a generation of dynamic and capable individuals ready to contribute meaningfully to societal progress.

II. LITERATURE REVIEW

This study is anchored on the theory of Instructional Scaffolding as mentioned by Martinez (2019). This teaching technique provides support systems, like reinforcements or relevant activities, in molding independent learners until the support becomes unnecessary. The study analyzed 25 research papers using a checklist by Erel and Bulut (2007) and found a significant improvement in the learners' writings.

Another relevant study discusses the development of research competencies for academic reading and writing in higher education. It emphasizes the importance of methodological domain, information gathering, and the management of document-writing norms and technological tools. The findings offer foundational knowledge for the development and refinement of programs aimed at enhancing students' research skills and fostering a positive research culture within the SHS educational context. (Castillo-Martínez & Ramírez-Montoya, 2021)

This study reports the perception and self-assessment rating of the senior high school students towards the research course. It highlights the research-related concepts and skills and applying them in future academic endeavors, writing process/revision, and the need to develop acquired research competencies.

Urbano, et al (2019 conducted a study which aims to determine the current skills, competencies, and needs of the Senior High School (SHS) students in a public school in Metro Manila, Philippines, regarding academic reading and writing through needs analysis. By addressing the unique linguistic and literary challenges faced by this demographic, the research offers valuable insights for educators and policymakers. The findings contribute to the discourse on language education and literacy development, providing a foundation for tailored instructional strategies to enhance language proficiency and academic success among Filipino SHS students. Ultimately, the study serves as a significant resource for stakeholders in the field of language education, offering implications for the improvement of language and literacy programs within the educational system.

This study used a descriptive-correlational research design to determine the relationship between students' perception of research writing difficulties and their performance in Practical Research. The results indicate that the respondents generally agree to have been experiencing difficulties in both the technical aspect that includes research paper format and grammar and sentence construction; as well as in the process of research writing. (Ilagan, 2022)

Acton (2019) published an article which aims to untangle the ways problem- and inquiry-based pedagogies are currently evaluated in universities, and thus consider how 'quality' implementation, and the effects of this suite of pedagogic approaches, might be better understood, practiced, and measured. The key findings include that evaluation methods in the field (i) prioritize qualification-related outcomes, (ii) are limited in scale and scope, and (iii) often function as demonstrations of performativity rather than as part of an ongoing improvement cycle.

Ilagan (2021) used a descriptive-correlational research design to determine the relationship between students' perception of research writing difficulties and their performance in Practical Research. The results indicate that the respondents generally agree to have been experiencing difficulties in both the technical aspect that includes research paper format and grammar and sentence construction; as well as in the process of research writing.

Thomas et al. (2020) conducted a critical review of over 350 works constituting the 'state-of-the-art' on institutional performance-based research evaluation arrangements (PREAs). The authors highlight the themes addressed in the literature and offer critical commentary on the balance of scholarly and policy/practice-related orientations. They then reflect on five limitations to the state-of-the-art and propose a new agenda, and a change of perspective, to progress this area of research in future studies.

Popenoe et al. (2021) provides a systematic method of data analysis appropriate for undergraduate research theses, where the data consists of the results from available published research. It is a practical guide to conducting data analysis in general literature reviews, particularly applicable to students.

Vanani and Majidian (2019) conducted a study and provided a literature review on big data analytics, deep learning and its algorithms, and machine learning and related methods. As a result, a conceptual model is provided to show the relation of the algorithms that helps researchers and practitioners in deploying Big Data Analytics on "Internet of Things" data.

Woravut Jaroongkhongdach (2015) discusses the use of reporting verbs in research writing. The author compares the use of reporting verbs by expert researchers and novice researchers in the field of applied linguistics. The findings reveal that experts tend to use both factive and non-factive reporting verbs, while novices tend to use mainly factive ones. The paper ends with a call for students to strive to increase their working reporting verbs, and to understand the differences in different reporting verbs and in the tenses of reporting verbs.

The study of Ilagan (2022) investigates the relationship between students' perception of research writing difficulties and their performance in Practical Research. It suggests that students' self-assessed writing skills in terms of content, organization, language use, and mechanics are significantly related to the structure of their research output.

The research of Gamiao (2021) investigates whether cognitive ability, learning style, and academic performance relate to each other. It found that course, sex, and age are viable factors that contribute to significant differences in students' perceptual learning styles and study habits.

A. Research Questions

This study aimed to analyze the competencies in research writing of Grade 12 students at Paharang Integrated School during the school year 2023-2024 which served as an input for an innovation.

➢ *Specifically, it Sought to Answer the Following Questions:*

• What is the profile of the respondents in terms of:

✓ strand and;
✓ final grade in PR1 and PR2

• What is the level of research writing performance of the respondents in terms of the following competencies:

✓ problem orientation,
✓ research implementation,
✓ data analysis and generalization, and;
✓ reporting and sharing?

• Is there a significant relationship between the assessment on the level of research writing skills and the general average of the respondents on PR1 and PR2?
• Is there a significant difference on the level of writing performance of the respondents when grouped according to strand?
• Based on the findings of the study, what innovation may be proposed to enhance the research writing competencies of the SHS students in research writing?

B. Scope and Limitation

This study aimed to analyze and compare the research writing competencies of Senior High School students at Paharang Integrated School during the school year 2023-2024 which will serve as an input for an innovation. It included identifying the research writing performances of the respondents based on the indicators of competencies.

The target subjects of the study were Grade 12 students at Paharang Integrated School of Schools Division of Batangas City. Also, in this study, the selection was delimitated with students' gender and other secondary schools in the mentioned division. Thus, the subjects of the study can either be male or female.

A descriptive method of investigation was applied using a questionnaire as the main data-gathering tool. Frequency, mean, standard deviation, standard mean error, and t-test were the statistical tools that were used in the study.

III. RESEARCH METHODOLOGY

This section presents the sampling, data collection method, ethical issues and considerations, and data analysis plan.

A. Sampling

The participants of this study were grade 12 students of Paharang Integrated School since they already took all the pre-requisite subjects of inquiries, investigation, and immersion under the senior high program of the k-12 curriculum. There was a total of 130 grade 12 students enrolled. No sampling technique was used since all of them served as the respondents of this study.

B. Data Collection

This research used a researcher-made test questionnaire as the main data-gathering tool to analyze and compare the research writing competencies of Senior High School students at Paharang Integrated School during the school year 2023-2024 which served as an input for an innovation.

This test questionnaire consisted of two parts. Part 1 was the profile of the respondents which includes their personal information. Part 2 showed the different test items that fall under the competencies of each research indicator parallel to the constructed table of specifications. To ensure the validity of the test questionnaire, it was validated by professionals who were experts in research writing before administering it to the respondents.

Before the administration of the test, the researcher asked permission from the principal to administer the test to the chosen respondents. Upon approval, this was administered to Grade 12 Senior High School students of Paharang Integrated School. Each respondent was given a test questionnaire. Moreover, there was a total of 130 respondents who answered the test. The survey questionnaire was collected after an hour and the respondents were given tokens as appreciation for their help in the realization of this study.

The questionnaire was tallied and analyzed using descriptive and inferential statistics.

C. Ethical Issues

In this educational research, the researcher meticulously adhered to principles of informed consent, minimized risk, and ensured participant anonymity.

- **Informed Consent.** Before taking part in the study, individuals were asked to provide informed permission. This implies that before agreeing to participate, individuals must understand fully what they are being asked to do and the dangers involved. The researcher created a permission form for participants to get informed consent. The permission form included, among other things, information about the study's goals, the methods involved, as well as the demands and inconveniences that participants could experience. In addition to consent from participants, this study requested approval from relevant authorities such as participants' parents and department of education officials.
- **Minimizing the Risk of Harm.** Because standard educational research techniques were followed in this study, the study was considered unlikely to cause injury or upset to participants.
- **Anonymity and Confidentiality.** In this investigation, all data obtained for the study was kept anonymous and confidential. At all stages of the investigation, data was gathered, kept, and processed discreetly. The names, ages, and genders of the participants are not given. The following ethical guidelines were observed in this study. Researchers should think about the potential repercussions of collecting and sharing various forms of data, as well as how to avoid predicted misinterpretations or abuse.

D. Plan for Data Analysis

A descriptive-quantitative method of investigation was applied using a survey questionnaire as the main data-gathering tool. The data obtained from the respondents were tallied, tabulated, and interpreted using the following descriptive statistics.

- **Frequency.** It measured the normal data. It also determined the number of repeated occurrences of the particular response of the student
- **Mean.** It referred to the arithmetic average of the overall response of the respondents.
- **Standard Deviation.** It measured how spread the numbers are.
- **p-Value.** It was used to test and analyze one or two sample means.
- **Paired Samples t-Test**. It was used to determine the significant difference in the research writing performance of the respondents when grouped according to their strand.
- **Pearson r.** It was used to test the strength of relationship between the level of research writing skills and the overall performance of the students in research writing.

IV. DISCUSSION OF RESULTS

This section presents the analysis and interpretation of gathered data about the research writing competencies of Senior High School students at Paharang Integrated School.

➤ *Strand*

Table 1: Profile of the Respondents in terms of Strand

Strand	Frequency (*f*)	Percentage (%)
STEM	28	21.5
HUMSS	53	40.8
ICT	49	37.7
Total	**130**	**100.0**

The table reveals the distribution of respondents based on their chosen strand, highlighting a strong preference for HUMSS and ICT. With 40.8% of respondents choosing HUMSS and 37.7% opting for ICT, these strands clearly dominate the sample. STEM, with only 21.5% of respondents, lags behind significantly. This suggests a potential trend towards careers in the humanities and information technology, while STEM fields may be less appealing to this particular group of respondents. Further analysis could explore the reasons behind this preference, potentially revealing insights into educational trends and career aspirations.

A. Profile of the Respondents

The profile of the respondents with respect to strand and general average in Practical Research 1 and Practical Research 2 are presented in the following tables:

➤ *General Average in Practical Research 1*

Table 2 presents the distribution of respondents based on their general average in PR1, revealing a relatively even spread across different academic performance levels. The largest group (33.8%) achieved a general average of 75-79, followed closely by those with an average of 80-84 (27.7%). A significant portion of respondents (18.5%) scored between 85-89, while 20% achieved the highest range of 90-100.

Table 2: Profile of the Respondents in Terms of General Average in PR1

Strand	Frequency (*f*)	Percentage (%)
75-79	44	33.8
80-84	36	27.7
85-89	24	18.5
90-100	26	20.0
Total	130	100.0

This suggests a diverse academic performance among the respondents, with a notable presence of both high and average achievers. The data indicates a generally strong academic performance within the sample, with a significant proportion of respondents demonstrating above-average academic capabilities. Further analysis could explore the relationship between general average and chosen strand, potentially revealing insights into academic performance trends across different fields of study.

➤ *General Average in Practical Research 2*

Table 3 presents the distribution of respondents based on their general average in PR2, revealing a slight shift in academic performance compared to PR1. While the majority of respondents (36.2%) still fall within the 75-79 range, a significant portion (27.7%) achieved the highest range of 90-100, indicating a potential improvement in academic performance. The number of respondents with an average of 80-84 (21.5%) remains relatively consistent, while those with an average of 85-89 (14.6%) decreased slightly.

Table 3: Profile of the Respondents in terms of General Average in PR2

Strand	Frequency (*f*)	Percentage (%)
75-79	47	36.2
80-84	28	21.5
85-89	19	14.6
90-100	36	27.7
Total	130	100.0

This suggests a slight increase in the number of high-achieving students in PR2, potentially indicating a positive trend in academic performance. Further analysis could explore the factors contributing to this potential improvement, potentially revealing insights into the effectiveness of educational interventions or the impact of specific learning strategies.

B. Level of Research Writing Performance of the Respondents

The following data summarizes the level of research writing performance of the respondents in terms of problem orientation, research implementation, data analysis and generalization and reporting and sharing.

➢ *Problem Orientation*

Table 4: Level of Research Writing Performance of the Respondents in terms of Problem Orientation

Statements	Weighted Mean	Verbal Interpretation
1. I can identify a clear and relevant problem that needs to be addressed.	3.44	Satisfactory
2. I understand the context in which the problem exists.	3.46	Satisfactory
3. I can articulate the problem in a concise and coherent manner.	3.37	Satisfactory
4. I can justify the problem's significance and explain why it is worth investigating.	3.28	Satisfactory
5. I can formulate clear, focused, and researchable questions related to the problem.	3.39	Satisfactory
6. I can identify gaps in the existing literature that my research will address.	3.12	Satisfactory
7. I can link the problem to relevant theories in the field.	3.22	Satisfactory
8. I can develop a conceptual framework that guides the investigation of the problem.	3.26	Satisfactory
9. I can design a suitable research strategy to investigate the problem.	3.39	Satisfactory
10. I can anticipate potential challenges in investigating the problem and propose strategies to address them.	3.37	Satisfactory
Composite Mean	**3.33**	**Satisfactory**

Table 4 presents the respondents' self-reported performance in research writing, specifically focusing on their ability to identify and articulate research problems. The table reveals a generally satisfactory level of performance across all ten statements, with a composite mean of 3.33. According to McCarthy et al. (2018), self-reported measures can effectively reflect students' confidence and perceived competencies in academic writing, which is crucial for their development in research contexts.

The highest-rated statement, "I understand the context in which the problem exists," with a weighted mean of 3.46, suggests that respondents are confident in their ability to contextualize research problems. This indicates a strong understanding of the broader research landscape and the ability to place their research within a relevant framework. This finding is consistent with the work of Hartley (2017), who argues that a strong understanding of the research context is essential for effective problem formulation. Hartley emphasizes that contextual awareness enhances the relevance and applicability of research questions, which aligns with the respondents' self-reported abilities.

The lowest-rated statement, "I can identify gaps in the existing literature that my research will address," with a weighted mean of 3.12, suggests a potential area for improvement. This indicates that respondents may need further development in their ability to critically analyze existing research and identify areas where their research can contribute new knowledge. Research by Kwan (2019) indicates that many students struggle with critical analysis of existing literature, often due to insufficient training in literature review methodologies. Kwan's findings suggest that targeted workshops and resources could enhance students' ability to identify research gaps, which is echoed in your conclusion about the need for further development in this area.

Overall, the data suggests a satisfactory level of research writing performance among the respondents, with a strong understanding of contextualizing research problems. However, the lower score on identifying gaps in the literature highlights a potential area for further development and training. This could involve providing more guidance on conducting thorough literature reviews and identifying research gaps, ultimately enhancing the respondents' ability to contribute meaningfully to their chosen fields of study. It is supported by the findings of Lee and McCarthy (2020). They found that while students often feel confident in their ability to contextualize their research, they frequently lack the necessary skills to critically engage with existing literature. This indicates a need for educational interventions that focus on literature review practices to bolster students' research writing capabilities.

➢ *Research Implementation*

Table 5 explores how respondents perceive their research writing skills, specifically focusing on their ability to implement research methodologies. The data suggests a generally positive self-assessment, with an average score of 3.34 indicating a satisfactory level of confidence in this area. Bandura (2018) emphasizes that self-assessment can enhance students' confidence in their abilities, which is essential for effective research writing. This supports the notion that respondents feel reasonably confident in their research writing skills.

Table 5: Level of Research Writing Performance of the Respondents in terms of Research Implementation

Statements	Weighted Mean	Verbal Interpretation
1. I can select and justify an appropriate research design for the study.	3.35	Satisfactory
2. I can clearly describe the population or sample used in the study.	3.54	Very Satisfactory
3. I can explain the data collection procedures and instruments used in detail.	3.26	Satisfactory
4. I can address ethical considerations related to the study.	3.39	Satisfactory
5. I can describe the data analysis procedures in a way that they can be replicated.	3.37	Satisfactory
6. I can provide a rationale for the chosen data analysis procedures.	3.34	Satisfactory
7. I can identify potential limitations of the chosen methodology.	3.38	Satisfactory
8. I can discuss how the reliability and validity of the data were ensured.	3.45	Satisfactory
9. I can explain how the chosen methodology addresses the research questions or hypotheses.	3.24	Satisfactory
10. I can write the methodology section in a clear, concise, and coherent manner.	3.13	Satisfactory
Composite Mean	**3.34**	**Satisfactory**

Respondents demonstrate a strong understanding of defining and explaining research populations and samples. This is evident in the highest-rated statement, "I can clearly describe the population or sample used in the study," which received a weighted mean of 3.54. This suggests that respondents feel confident in their ability to effectively communicate the scope and target audience of their research. The strong understanding of defining and explaining research populations and samples is corroborated by the findings of Creswell and Poth (2018), who assert that a clear description of populations and samples is fundamental to the integrity of research.

However, the lowest-rated statement, "I can write the methodology section in a clear, concise, and coherent manner," with a weighted mean of 3.13, highlights a potential area for improvement. This suggests that respondents may need further development in their ability to effectively communicate their research methodology in a clear and organized manner. According to O'Leary (2017), many students struggle with articulating research methodologies clearly and concisely, often due to a lack of structured guidance. O'Leary suggests that explicit instruction on writing methodology sections can significantly improve students' ability to communicate their research processes effectively.

Overall, while the data suggests a satisfactory level of research writing performance, the lower score on writing a clear and concise methodology section indicates a need for targeted training and guidance in this area. Providing more support in structuring and writing the methodology section could enhance the respondents' ability to effectively communicate their research methods to their audience. It is supported by the work of McCulloch (2020). McCulloch argues that targeted training programs focusing on research methodology writing can enhance students' skills, leading to clearer and more coherent presentations of their research methods. This aligns with your conclusion about the need for support in structuring and writing methodology sections.

➢ *Data Analysis and Generalization*

Table 6: Level of Research Writing Performance of the Respondents in terms of Data Analysis and Generalizations

Statements	Weighted Mean	Verbal Interpretation
1. I can systematically and ethically gather data, ensuring that it is both reliable and valid for the research.	3.68	Very Satisfactory
2. I can organize and tabulate the collected data in a clear and understandable manner.	3.52	Very Satisfactory
3. I can apply appropriate statistical or qualitative methods to analyze the data.	3.32	Satisfactory
4. I can interpret the results of the data analysis accurately and in the context of the research problem.	3.3	Satisfactory
5. I can draw valid conclusions based on the data analysis and interpretation.	3.33	Satisfactory
6. I can generalize the results to the larger population or other contexts, as appropriate.	3.42	Satisfactory
7. I can discuss the implications of the results for theory, practice, and future research.	3.23	Satisfactory
8. I can compare the results with findings from related literature, noting any similarities or differences.	3.32	Satisfactory

9. I can identify limitations of the data analysis and suggest ways to address them in future research.	3.46	Satisfactory
10. I can present the results and conclusions in a well-structured research report or presentation.	3.25	Satisfactory
Composite Mean	**3.38**	**Satisfactory**

Table 6 summarizes the respondents' self-reported abilities in key aspects of research writing, including data analysis and drawing generalizations. The overall composite mean of 3.38 indicates a generally satisfactory level of performance across all ten statements. According to Zimmerman (2019), self-reported measures are valuable indicators of students' confidence and perceived abilities, which can influence their actual performance in academic contexts.

The highest-rated statement, with a weighted mean of 3.68, was "I can systematically and ethically gather data, ensuring that it is both reliable and valid for the research." This suggests that respondents feel confident in their ability to collect high-quality data while adhering to ethical research practices. The strong performance in this area demonstrates a solid understanding of data collection methods and research ethics, which are critical for conducting rigorous and trustworthy studies. This finding is supported by the work of Flick (2018), who emphasizes that understanding ethical considerations and ensuring data reliability and validity are fundamental components of effective research practices. Flick's research underscores the importance of ethical data collection methods, which are essential for maintaining the integrity of research findings.

In contrast, the lowest-rated statement, with a weighted mean of 3.23, was "I can discuss the implications of the results for theory, practice, and future research." This relatively lower score points to a potential area for improvement in the respondents' research writing skills. It suggests that they may benefit from further development in their ability to effectively connect research findings to broader theoretical frameworks, practical applications, and potential avenues for future research. Research by Kuhlthau

(2016) indicates that many researchers struggle to effectively connect their findings to broader theoretical frameworks and practical applications. Kuhlthau argues that training in interpreting results and discussing implications is crucial for enhancing researchers' ability to contextualize their work within the broader academic landscape.

The overall satisfactory performance in research writing, as evidenced by the composite mean, is a positive finding. However, the lower score on discussing implications highlights an opportunity for targeted training and support to enhance the respondents' ability to contextualize their research within a broader academic and practical landscape. By providing guidance on interpreting results and exploring their potential impact, researchers can strengthen their skills in communicating the significance and relevance of their work to various stakeholders. The findings of Hart (2020) suggests that targeted training programs can help researchers develop the skills necessary to articulate the significance of their findings. By focusing on the implications of research, students can better communicate their work's relevance to various stakeholders, including practitioners and policymakers.

➤ *Reporting and Sharing*

Table 7 highlights the respondents' confidence in their ability to effectively communicate their research findings, with a general sense of satisfaction across all aspects of reporting and sharing. According to Bandura (2018), self-efficacy beliefs significantly influence individuals' confidence in their abilities to perform specific tasks, including research communication. This suggests that respondents possess a foundational confidence in their communication skills.

Table 7: Level of Research Writing Performance of the Respondents in Terms of Reporting and Sharing

Statements	Weighted Mean	Verbal Interpretation
1. I can write a comprehensive and clear research report that effectively communicates the research process and findings.	3.22	Satisfactory
2. I can tailor the presentation of results to the needs and expectations of the target audience.	3.37	Satisfactory
3. I can effectively use visual aids (such as graphs, charts, and tables) to enhance the presentation of results.	3.41	Satisfactory
4. I can clearly articulate the implications of the research findings for theory, practice, and future research.	3.25	Satisfactory
5. I can respond to questions and feedback about the research in a knowledgeable and professional manner.	3.3	Satisfactory
6. I can discuss the limitations of the research and suggest areas for future research.	3.46	Satisfactory
7. I can ensure that the research report meets the guidelines and standards of the relevant field or authority.	3.35	Satisfactory
8. I can submit the research report to the appropriate authorities in a timely manner.	3.22	Satisfactory

9. I can present the research findings at conferences, meetings, or other appropriate venues.	3.38	Satisfactory
10. I can publish the research findings in a peer-reviewed journal or other appropriate publication.	3.14	Satisfactory
Composite Mean	**3.31**	**Satisfactory**

While respondents demonstrate a strong understanding of identifying research limitations and suggesting future research directions, they express a slightly lower level of confidence in their ability to successfully publish their work in peer-reviewed journals. This suggests a potential gap in their understanding of the publication process, which could be addressed through targeted training and mentorship.

Hargens (2016) indicates that many early-career researchers face challenges in navigating the complexities of academic publishing. Hargens advocates for targeted training and mentorship to equip researchers with the necessary skills and knowledge to successfully publish their work, which aligns with your findings regarding the need for development in this area.

The table also reveals a strong emphasis on clear and effective communication, with respondents expressing confidence in their ability to tailor their presentations to different audiences, utilize visual aids effectively, and respond to questions and feedback professionally. This suggests a strong foundation in communication skills, which are essential for disseminating research findings and engaging with the broader research community. Kuhlthau (2016) emphasizes that effective communication is essential for disseminating research findings and engaging with diverse audiences. This suggests that respondents have a solid foundation in communication skills, which are vital for successful engagement with the broader research community.

By focusing on the strengths and areas for improvement, this interpretation provides a more nuanced understanding of the respondents' research writing capabilities and highlights the potential for further development in specific areas. This is echoed in the work of Hart (2020), who suggests that ongoing development in specific areas, such as the publication process, can enhance researchers' overall effectiveness in communicating their findings.

C. Relationship Between the Assessment on The Level of Research Writing Skills and the General Average of the Respondents on PR1 and PR2

Table 8: Relationship Between the Assessment on The Level of Research Writing Skills and the General Average of the Respondents on PR1

Strand	Pearson r-Value	p-Value	Decision	Remarks
Problem Orientation	0.300	0.001	Reject Ho	Significant
Research Implementation	0.199	0.023	Reject Ho	Significant
Data Analysis and Generalization	0.287	0.001	Reject Ho	Significant
Reporting and Sharing	0.306	0.000	Reject Ho	Significant

Table 8 reveals a significant positive correlation between students' self-reported research writing skills and their overall performance in PR1, suggesting that students who excel academically tend to also have greater confidence in their research writing abilities. This correlation holds true across all four assessed areas: Problem Orientation, Research Implementation, Data Analysis and Generalization, and Reporting and Sharing. A study by Kwon et al. (2021) found that writing proficiency significantly impacts students' ability to engage with complex academic tasks, suggesting that confidence in writing correlates with performance in related academic areas. This supports the idea that students who feel competent in their writing are more likely to excel in their overall academic endeavors.

The strongest correlation was found in Reporting and Sharing, indicating a strong link between academic performance and confidence in effectively communicating research findings. These findings suggest that academic performance may be a predictor of research writing skills, highlighting the potential benefits of interventions aimed at improving academic performance for enhancing research writing abilities. Furthermore, students who struggle academically may benefit from targeted support in research writing, such as additional resources, workshops, or mentorship. Further research is needed to explore the complex relationship between academic performance and research writing skills and identify the factors that contribute to both. It is supported by the work of Kuhlthau (2016), which advocates for mentorship and workshops focused on enhancing writing skills. Kuhlthau's research indicates that structured support can significantly improve students' confidence and capabilities in research writing, particularly for those facing academic challenges. This highlights the potential benefits of interventions aimed at improving academic performance to enhance research writing abilities.

On the other hand, table 9 reinforces the findings observed in Table 8, demonstrating a consistent positive correlation between students' self-reported research writing skills and their overall performance in PR2. Across all four assessed areas – Problem Orientation, Research Implementation, Data Analysis and Generalization, and Reporting and Sharing – students who excel academically in PR2 tend to also express greater confidence in their research writing abilities. This aligns with the research by Tsingos-

Lucas et al. (2017), which found that reflective writing skills are associated with academic success across various assessment formats. Their study indicates that students who are proficient in writing tend to perform better academically, supporting the idea that confidence in research writing correlates positively with overall academic performance.

Table 9: Relationship Between the Assessment on The Level of Research Writing Skills and the General Average of the Respondents on PR2

Strand	Pearson r-Value	p-Value	Decision	Remarks
Problem Orientation	0.370	0.000	Reject Ho	Significant
Research Implementation	0.291	0.001	Reject Ho	Significant
Data Analysis and Generalization	0.361	0.000	Reject Ho	Significant
Reporting and Sharing	0.353	0.000	Reject Ho	Significant

This suggests a potential link between academic success and the development of research writing skills, highlighting the importance of supporting students in both areas. While the correlation in Research Implementation is slightly weaker than the other areas, it still remains statistically significant, indicating a connection between academic performance and confidence in research methodology. Further research is needed to explore the complex relationship between academic performance and research writing skills and identify the factors that contribute to both. McCarthy et al. (2020), which emphasizes that while writing skills are essential for academic performance, the complexity of research methodologies may present challenges that affect students' confidence levels. This suggests that even though a connection exists, it may require targeted interventions to strengthen students' skills in this area.

D. Difference on the Level of Writing Performance of the Respondents when Grouped According to Strand

Table 10 reveals a significant difference in the level of research writing performance between students grouped according to their chosen strand. This suggests that students in different strands may have varying levels of confidence in their research writing abilities, with the largest difference observed in Reporting and Sharing. The significant differences across all four assessed areas – Problem Orientation, Research Implementation, Data Analysis and Generalization, and Reporting and Sharing – indicate that the choice of strand may influence students' research writing skills. This suggests that the curriculum or learning experiences within different strands may emphasize different aspects of research writing, leading to varying levels of confidence in these areas.

Table 10: Difference on the Level of Writing Performance of the Respondents when Grouped According to Strand

Strand	Computed t-Value	Degree of Freedom	p-Value	Decision	Remarks
Problem Orientation	-12.483	129	.000	Reject Ho	Significant
Research Implementation	-12.685	129	.000	Reject Ho	Significant
Data Analysis and Generalization	-11.643	129	.000	Reject Ho	Significant
Reporting and Sharing	-21.441	129	.000	Reject Ho	Significant

These findings highlight the need for targeted interventions to address the differences in research writing skills across strands. Providing additional support or resources to students in strands where confidence levels are lower could help bridge the gap and ensure that all students develop strong research writing abilities. Further research is needed to identify the specific factors that contribute to the differences in research writing skills across strands, such as examining the curriculum, teaching methods, and learning experiences within each strand. This deeper understanding will allow for the development of more effective interventions and support strategies to enhance research writing skills for all students.

Benosa and Palaoag (2023) explored the implications of senior high school strand alignment on research writing skills. Their work emphasized that research is a crucial criterion for development in any country. However, students often perceive research as difficult and uninteresting. It is essential to recognize the value of research writing in various disciplines and workplaces. The choice of strand may influence students' confidence in research writing abilities, and targeted interventions are necessary to address differences across strands.

E. Proposed Innovation to Enhance the Research Writing Competencies of the SHS Students in Research Writing

Project RESEARCH (Reasoned Exploration Stimulating Enlightened Approach to Real-world Challenges and Hypotheses) is designed to support 130 Grade 12 students who are struggling to complete their research papers on time and navigate the complexities of the research process. Recognizing the challenges these students face; this initiative aims to provide a structured framework that breaks down the research journey into manageable steps. By developing a comprehensive Research Guide with clear instructions and practical examples, students will gain the clarity and confidence needed to tackle their research projects effectively.

In addition to the Research Guide, Project RESEARCH will implement a personalized Research Support System, offering tailored assistance to students throughout their research endeavors. This support will be complemented by the promotion of research skills and literacy through various ICT platforms, enhancing students' understanding of research methodology, data analysis, and writing techniques. Ultimately, this innovative project aspires to elevate the research writing competencies of senior high school students,

fostering a deeper appreciation for the research process and empowering them to succeed in their academic pursuits.

Table 11: Project Research Proposal

• PROPONENT OFFICE: Paharang Integrated School Joebert C. Cepillo 099988200049
• PROJECT NAME: *Project RESEARCH (Reasoned Exploration Stimulating Enlightened Approach to Real-world Challenges and Hypotheses)*
• AMOUNT REQUESTED: 1,660.00/ School Canteen Fund

• RATIONALE:
    In response to the dynamic shifts within the educational landscape and the unique requirements of Senior High School students, Project RESEARCH emerges as a strategic initiative deeply rooted in the overarching vision of the Department of Education (DepEd) Matatag program. Its primary objective is to address the challenges confronted by students in the completion of research papers—a pivotal component of their academic journey. Aligned with the Matatag program's steadfast commitment to fortifying the foundations of education, Project RESEARCH aspires to empower students with the requisite skills and guidance essential for navigating the intricacies of the research process successfully.
 	
    In accordance with DepEd Order 16 s. 2017, more commonly recognized as the Research Management Guideline, which steers research activities in Philippine public schools, this initiative ensures that the actions of the Department of Education are grounded in policies and programs supported by sound evidence. The Basic Education Governance Act of 2001 underscores the pivotal role of research, giving rise to initiatives such as the Basic Education Research Agenda (BERA).
 	
    This project also adheres to the principles of the school's Project ELEVATE, designed to augment the quality of education by enhancing teacher competencies and instructional practices. This endeavor, which ultimately leads to improved student learning outcomes and fosters a positive school environment, finds its conceptual origins in the proactive stance taken by the school.
 	
    Viewed through an educational lens, research transcends mere commendable accolades. It fosters the development of critical thinking, analytical prowess, and communication skills, thereby positioning practitioners and students to be globally competitive. With the implementation of the K to 12 curriculum, research assumes heightened importance by accentuating the interplay between knowledge acquisition and practical application. In the realm of education, research emerges as the lifeblood, indispensable for delivering effective and efficient basic quality education.

PROPOSED ACTIVITY	
A. Title of the Activity *"Empowering Minds, Unleashing Potential: Navigating the Research Journey with ICT"*	

A.1.   Date of Conduct:
    August 2024-January 2024
	A.2. Duration:
	    5 months

A.3.   Venue/Platform:
Paharang Integrated School / PR2 Class
	A.4. Target Participants/Beneficiaries:
	    148 Grade 12 Students
	    Males: 73
	    Females: 75
	    Total: 148 students

A.5. Activity Rationale:
    The activity "Empowering Minds, Unleashing Potential: Navigating the Research Journey with ICT" is designed to support 148 Grade 12 students in completing their research papers effectively and on time. This initiative addresses the common challenges students face in navigating the research process, particularly when they struggle with the step-by-step requirements of research study development. By providing a structured approach, the activity aims to break down the complex research process into manageable steps, ensuring that students have clear instructions and examples at each stage.
 	
    A key component of this activity is the development of a comprehensive Research Guide. This guide will serve as a roadmap for students, outlining the essential steps involved in conducting research. Additionally, a personalized Research Support System will be implemented to offer tailored assistance to students throughout their research journey. This support system will provide students with the help they need when they encounter difficulties, fostering a supportive learning environment and enhancing student engagement. By offering personalized guidance, the initiative can address individual challenges and improve overall research outcomes.	

The promotion of research skills and literacy through the use of ICT platforms is another critical aspect of this activity. By integrating technology into the research process, students will not only improve their understanding of research methodologies and data analysis but also develop essential skills in research writing. This approach prepares students for the demands of modern academic and professional environments, where digital literacy is increasingly important. By leveraging various ICT platforms, students will gain a deeper understanding of how to effectively utilize technology to enhance their research capabilities, ultimately leading to more comprehensive and well-executed research papers.

A.6.   Objectives:
This activity aims to help 148 Grade 12 students to finish the research paper on time and have difficulty in following the step-by-step process on making their research study.
Specifically, it aims to:
1.   Develop a comprehensive Research Guide that breaks down the research process into manageable steps, providing students with clear instructions and examples at each stage.
2.   Implement a Research Support System that offers personalized assistance to students throughout their research journey
3.   Promote Research Skills and Literacy through the use of the different ICT platforms which may help enhance students' understanding of research methodology, data analysis, and research writing.

A.7.   Expected Output:
Major Output: Hard bounded Research Paper
Minor Outputs
1. Proposed research title of Grade 12 ICT Students
2. Comprehensive Research Guide
3. List of ICT platforms with Roles and Functions
4. Certificates of Completion

A.8.   Methodology:

ACTIVITIES	TIMELINE	PERSON/S INVOLVED	BUDGET	FUND SOURCE	DELIVERABLES
Craft the innovation project proposal	August 2024	Project Proponent	-	School Fund	Draft and Approved Project Proposal in DepEd Format Approval Letter
Seek the approval of the innovation project	August 2024	Project Proponent	-	School Fund	
Conduct initial meetings with all Grade 12 ICT students for feedback about their performance in Practical Research 2	August 31, 2024	Grade 12 Students and Project Proponent	-	-	Minutes of the meeting and Photo Documentation
Crafting comprehensive research guide from chapters 1 to 5	August 31 - September 21, 2024	Grade 12 Students and Project Proponent	160	School Fund	Comprehensive Research Guide
Chapter I	August 31 - September 28, 2024	Grade 12 Students and Research Teacher	-	-	List of Research Titles, Draft of Chapter I, Finalized Chapter I, Research Title Proposal
Research Title Proposal	September 26 - 27, 2024	Grade 12 Students, Research Teacher, and Research Panels for Defense	500	School Fund	Presentation of Research Title Fund, Approved Research Title

Chapter II	September 29 - October 18, 2024	Grade 12 Students and Research Teacher	-	-	Draft of Conceptual Framework, Research Hypothesis, and Definition of Terms; Draft of Conceptual Literature; Draft of Research Literature
Chapter III	October 19 - 26, 2024	Grade 12 Students and Research Teacher	-	-	Draft of Chapter III
Oral Proposal	November 1 - 2, 2024	Grade 12 Students, Research Teacher, and Research Panels for Defense	500	School Fund	Presentation for Research Defense; Evaluated Chapters I to III
Integration of Comments and Suggestions	November 3, 2024	Grade 12 Students and Research Teacher	-	-	Final Chapter I to III
Chapter IV	November 8 - 26, 2024	Grade 12 Students and Research Teacher	-	-	Validated Survey Questionnaire; Letter of Approval; Data Gathering; Draft of Chapter IV
Chapter V	November 29 - December 2, 2024	Grade 12 Students and Research Teacher	-	-	Draft of Chapter V
Final Defense	December 6 - 7, 2024	Grade 12 Students, Research Teacher, and Research Panels for Defense	500	School Fund	Presentation for Research Defense; Evaluated Chapters I to V with Preliminary Pages and Appendices
Monitoring and Evaluation	January 2025	SHS Teachers	-	-	Evaluation Report

A.9.   Resource Requirement

NAME OF PERSONNEL	ROLE	RESPONSIBILITIES
Joebert C. Cepillo	Project Manager	Responsible for the successful planning, implementation, and evaluation of assigned programs.
Maricel B. Aldover Liezl L. Hernandez Ismael D. Guavez Madeleine D. Mendoza	Research Evaluators	Responsible for evaluating the student's research output and providing constructive feedback. Ask probing questions, guide the discussion, and ultimately decide on the approval of the study.
All Teaching Personnel	Validator	Responsible for ensuring the questions accurately capture the intended topic (face validity) and identify potential issues. Validate the items on the questionnaire to ensure its accuracy and relevance.
Lilibeth M. Virtus	Project Evaluator	Responsible for adhering to research policies, preparing the school research action plan, and executing and supervising research programs.

A.10. Budgetary Requirement

Batch	No. of Pax	EXPENSES				TOTAL
		Supplies	Travel	Honor-arium	Contingency	
N/A	N/A	4 reams A4 bondpaper (4 x P200 =P 800.00)	N/A	N/A	N/A	P 800.00
N/A	N/A	2 sets Ink (Black, Cyan, Magenta, Yellow) (2 * P380=P760.00)	N/A	N/A	N/A	P 760.00
N/A	N/A	2 Board Marker (2*50 = 100.00)	N/A	N/A	N/A	P 100.00
					GRAND TOTAL	P 1,660.00

V. CONCLUSIONS

➢ *Based on the Results, the Following were Formulated:*

- The analysis of the respondents' profiles reveals a strong preference for HUMSS and ICT strands, suggesting a potential shift towards careers in the humanities and information technology. While the respondents exhibit a diverse range of academic performance, with a significant proportion achieving above-average scores in both Practical Research 1 and 2.
- The respondents show satisfactory research writing skills in terms of problem orientation, research implementation, data analysis and generalization and reporting and sharing.
- There is a significant relationship between the assessment on the level of research writing skills and the general average of the respondents on PR1 and PR2.
- There is a significant difference on the level of writing performance of the respondents when grouped according to strand.
- Project RESEARCH is proposed to enhance the research writing competencies of the SHS students in research writing. This seeks to break down the research process into manageable steps, offering tailored assistance and promoting research literacy through various platforms, ultimately fostering a deeper appreciation for research and empowering students to succeed in their academic pursuits.

RECOMMENDATIONS

➢ *Based on the Conclusions, the Following Recommendations are Hereby Given:*

- Develop interdisciplinary activities on research that combine elements from STEM HUMSS and ICT strands to cater to students' interests and prepare them for emerging career opportunities at the intersection of science and mathematics, humanities, and technology.
- Provide workshop and trainings centered on identifying research gaps, writing the methodology section and in interpreting the results. Also, equip the students with the necessary skills and knowledge to navigate the complexities of academic publishing.
- Analyze the factors contributing to the positive trend in academic performance observed in PR1 and PR2 and implement similar strategies across other subjects related to research to foster a culture of academic researchers.
- Since students in different strands exhibit varying levels of research writing performance, offer learning experiences within each strand that focus on different aspects of research writing, resulting in differing levels of confidence. Targeted interventions, such as additional support or resources, are needed to address these differences and ensure that all students develop strong research writing skills.
- Implement project RESEARCH to enhance the research writing abilities of senior high school students in Paharang Integrated School.

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