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Effects of Modeling Strategy on Research Writing Skills of Grade 11 Students

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ABSTRACT: The study investigated the effects of integrating Social Learning Theory's modeling strategy into teaching Practical Research 1 to improve the research writing skills of senior high school automotive students. The researcher observed that students struggled with applying research writing skills, prompting the use of this instructional approach. Key objectives included examining the students' pretest and posttest performance and determining whether the strategy significantly impacted their research writing abilities. A quasi-experimental research design was employed, with Grade 11 Automotive students selected purposively as participants. Pretest results indicated that students generally performed poorly in research writing, particularly in describing methodologies and forming logical conclusions. However, they demonstrated some understanding of ethical considerations, excelling in intellectual honesty. Posttest results revealed notable improvements in describing methodologies and maintaining ethical practices, with many students achieving very good to excellent ratings. Despite these gains, skills like identifying patterns, forming conclusions, and making recommendations showed only slight progress, with most students remaining in the fair or poor performance categories. The findings suggest that implementing a modeling strategy significantly enhanced certain aspects of students' research writing skills, particularly in methodology description and ethical considerations. However, challenges persisted in more complex analytical tasks, such as identifying patterns and drawing logical conclusions. These difficulties may be attributed to limited motivation, the nature of distance learning, and a lack of direct guidance from research teachers. The study highlights the need for additional strategies to support students in mastering advanced research skills.

KEYWORDS: modelling strategy, research writing skills, automotive

INTRODUCTION

Learners are the key recipients of our education system in the Philippines. Department of Education (DepEd), as a result of the pandemic, wants to help students not be left behind when it comes to learning. Thus, it introduced the Most Essential Learning Competencies (MELCs) to implement the K to 12 curricula (Gonzales, 2020 as referenced in Marquez, 2020), increasing Philippine basic education from 10 to 12 years under RA 10533 [1]. The MELCs further narrow down all the essential lessons, concepts, and skill sets a student must know, acquire, and understand, even if the classes are conducted through different modalities sans face-to-face physical classroom interactions.

Having multiple modalities suited to the learners, their ability to learn independently is the new normal. Lestari (2020) mentioned in the result of his study that difficulties dealing with students' motivation, most of the students feel that they had no strong desire to finish it. This type of motivation should be put first when writing a thesis because if someone has a strong desire, another factor can be solved. It is intrinsic motivation; if the students do not do this well, they will stick to starting their thesis writing. In terms of external motivation, the students did not feel it was too difficult because, in the findings, it was shown as the lowest score they achieved, which means that people around them did not become difficulties for them [2].

In the context of the Philippines, research writing is considered difficult because of several outside factors. It is hard to become researchers here as they lack resources such as the right tools or training. Copying or plagiarizing other people's work is also an issue. Senior high school students struggle with standards while understanding the different aspects of research writing. Since the system wants to prepare them for work, addressing these difficulties becomes more important.

Automative students in Lutucan High School are pursuing vocational education and encounter unique challenges in research writing. Even if the topic is very different from their track. They can still benefit from developing proficiency in research writing. Since there is a demand for workers who are both experts in different disciplines and innovative in the automotive industry, equipping students with research skills empowers them to contribute to it. Research writing can help senior high students to study and explore knowledge from different areas. They are required to go through research subjects, where they can study different fields deeply. By doing so, they not only develop in academics but also become more aware of changes in the world.

According to Paurillo (2019), many students struggled with research writing as they found it hard and boring. They stated that they needed more motivation to engage with the subject. However, there was also hope for them to improve as they were willing to participate in motivational activities related to research writing [3].

Since research writing teaches senior high school students many skills, such as critical thinking and analysis, educators need to find ways to make the matter more engaging. Motivation can seem to help.

OBJECTIVES OF THE STUDY

This study aimed to investigate the effects of the modeling strategy on the research writing skills of Grade 11 Automotive students in Lutucan Integrated National High School. Through thorough examination and analysis, it seeks to address several research questions.

First, it aims to determine the mean pretest score for research writing skills among Grade 11 students. Second, it examines the mean posttest score for the same group. Finally, the study explores whether there is a significant difference between the pretest and posttest scores for research writing skills among Grade 11 students.

METHODOLOGY

Research Design

The method employed in this study is Quasi-experimental. Baraceros (2017) elaborated that the lack of adherence to a random selection of respondents distinguishes this research design, hence its designation as quasi-experimental research, which yields approximate or somewhat accurate findings [4]. Utilizing a single-subject quasi-experimental design, the researcher applied a condition or treatment to a single subject, such as a class of learners, and subsequently assess the effects of the treatment on the entire class.

Respondents of the Study

The respondents for this study came from Lutucan Integrated National High School's Senior High School Department. They studied automotive services, an industrial program track, and the vocational track for this study. At the time of the study, they are enrolled for the second semester of S.Y. 23-24. Since they have diverse interests and backgrounds, they provided several perspectives for the study. Additionally, they demonstrated more vital psychomotor skills in the automotive industry than their research writing skills. This presented an opportune scenario for modeling strategies to enhance their research writing abilities

Research Instrument

The researcher designed a specialized research instrument tailored to their field of expertise to evaluate the impact of the modeling strategy on respondents' research writing skills. This instrument comprises 50 multiple-choice questions, divided into pretest and posttest sections, aligning with the performance standards for research writing in the second semester's quarter. These questions address five key research writing skills outlined in the Department of Education's Most Essential Learning Competency for Practical Research 1: describing methodologies, maintaining intellectual honesty, extracting patterns and themes from data, forming logical conclusions, and crafting logical recommendations. Upon receiving the analysis results, the researcher collaborated with a statistician to interpret and utilize the findings appropriately.

Research Procedure

The researcher developed a research instrument for pretest and posttest evaluations to execute the research study. Before initiating the study, the researcher consulted three English Teachers who are expert in the field of research from Lutucan Integrated National High School and Quezon National High School for validation. Afterwards, suggestions and recommendations were modified. The updated research instrument was forwarded to the statistician and confirmed to conduct a pilot testing. After gaining confirmation from the statistician, the pretest was administered to the target respondents.

The implementation of the modeling using the performance standards of DepEd’s Most Essential Learning Competencies was done for 4 weeks. Week 1 covered the Research Methodology which about choosing appropriate qualitative research design, describing sampling procedure and sample, and planning data collection and data gathering instrument, and analysis procedure. To integrate the modeling strategy, the research conducted the “Abstract Breakdown Challenge”. Through this activity, the learners wondered about the activity. The research teacher asked stimulating questions to catch learners’ attention.

The research teacher also utilized retention activities such as acrostics and keywords to reinforce key concepts (in a form of worksheet) The research teacher began by explaining the objective of the activity. He also emphasized the importance of abstracts. Using the worksheet, the student researchers wrote the parts of research methodology that they found in the sample abstract exhibiting their motor reproduction in modeling strategy. After completing the task, the research teacher facilitated a group discussion where student researchers shared their observation and analyses of the abstract and research methodology. Also, they encouraged students to explain their reasoning behind identifying specific elements in the abstracts and to ask questions for clarification. Student researchers’ accomplished outputs were acknowledged accordingly. In recognizing the efforts of the student researchers, the research teacher implemented motivation activities using Class Dojo for monitoring and recognition, with rewards

in the form of healthy snacks. Formative assessment was done on the fourth day of the week to see the progress of the student researchers on their research writing skills.

Upon receiving the students' outputs, both positive feedback and suggestions for improvement were provided the following week. Learners whose outputs were of lower quality were encouraged to focus on specific areas for improvement in their worksheets.

On the second week, research teacher facilitated the lesson about maintaining intellectual honesty. To incorporate the modeling strategy on the lesson, the research teacher implemented the activity entitled "Interactive Critique: Unpacking Strategies for Intellectual Honesty in Data Gathering. This activity let the student researchers watched a model video about data gathering to catch their attention. Role play was done using 3 scenarios outlined in the lesson plan and research teacher highlighted the tasks they were able to remember (retention) about the model video that they have watched through Class Dojo. For the motor reproduction, student researchers created their own guidelines on how to conduct interviews and observation using the worksheet given by the research teacher. Also, they prepared their spiel whenever they communicate to their interviewees. On the fourth day, the research teacher joined the student researchers during the actual data gathering to their target respondents. After completing second week activity, they rewarded accordingly.

Similar to the first week, positive feedback and suggestions for improvement were provided upon the submission of the students' outputs.

On the third week, "Thematic Writeshop on Drawing Patterns and Themes" was initiated. The research teacher showed a model Chapter 4 (to gain attention) and the student researchers were asked stimulating questions. Their responses were acknowledged accordingly. Research teacher discussed few points in maintaining intellectual honesty. They were also asked to answer retention questions about the process of interpretation of data for qualitative research. Their responses were also acknowledged. To sustain leaners' research writing capabilities through their motor reproduction, student researchers participated in the role-play outlined in the lesson plan.

The activity was followed by actual coding from the data that they have gathered. After completing the third week's activity, they were rewarded accordingly.

This week, the submission of outputs was delayed due to the shift in learning modality to MDL. As a result, no feedback was provided on their worksheets in the following week.

On the last week of implementation, the lesson revolved around forming logical conclusions and recommendations. "Conclusion Deconstruction Exercise and Conclusion to Recommendation Analysis" activity was initiated. To gain the learners' attention, the research teacher showed a model Summary of Findings, Conclusions and Recommendations. The students were also asked stimulating and confirming retention questions. Their responses were also acknowledged accordingly. The research teacher emphasized the steps in writing conclusions and recommendations. To sharpen the learners' motor reproduction, the actual hands-on activity was distributed for 4 days activity.

After completing the activity, the student researchers wrote their conclusions and recommendations using the IMRAD template. Rewards were given accordingly.

After four weeks of experimentation, the researcher administered the posttest to the same respondents. Data analysis was conducted to determine any significant differences between the mean pretest and posttest scores for research writing skills among Grade 11 Automotive students following the implementation of the modeling strategy.

Similar to the third week, there was a delay in submitting the outputs due to the shift in learning modality. Upon the resumption of face-to-face classes, both positive and negative feedback were provided for the same topic. Many of the outputs exhibited low quality, suggesting that learners may have rushed to complete them, with some items left incomplete.

In adherence to research ethics, the researcher obtained permission from the school head to conduct the study. Additionally, assistance was sought from the senior high school coordinator, TVL subject group head, and research coordinator to ensure smooth instrument retrieval. The data was submitted to the statistician for further analysis and treatment.

Statistical Treatment of Data

Following the data collection, data then underwent statistics. The researcher divided the data into tables. Afterward, he analyzed and interpreted the results to come up with the findings and conclusions.

The test of difference was utilized as the primary statistical treatment to assess the significant difference between the pretest and posttest scores of the respondents. The test items are divided into 5 performance standards based from DepEd' Most Essential Learning Competencies and each of the category has 10 questions. The student researchers will be evaluated based on their scores. In high-level research writing, the 1-10 points per performance standard interpreted in a structured way to evaluate the quality test scores. Scores of 9-10 (Excellent) reflect outstanding results or methodologies, 7-8 (Very Good) suggest strong work with minor improvements needed, and 5-6 (Good) indicate satisfactory but average performance. 3-4 (Fair) points to areas requiring significant improvement, while 0-2 (Poor) highlights major flaws or deficiencies that need a complete re-evaluation.

As part of this study, improvement was measured by the increase in learners' scores between their pretest and posttest results.

RESULTS AND DISCUSSION

Table 1. Performance Standards in Research Writing Skills Pretest Mean Scores

Table 1

Performance Standards in Research Writing Skills Pretest Mean Scores

SCORE	Describing Methodologies		Maintaining Intellectual Honesty in Data Gathering		Drawing Patterns and Themes from Data		Forming Logical Conclusions		Formulating Recommendations		INTERPRETATION
	f	%	f	%	f	%	f	%	f	%	
9 -10	0	0.00	0	0	0	0	0	0	0	0	EXCELLENT
7 -8	0	0.00	2	6.67	6	20	2	6.67	0	0	VERY GOOD
5 -6	7	23.33	14	46.67	4	13.33	2	6.67	7	23.33	GOOD
3 -4	9	30.00	8	26.67	12	40.00	12	40.00	9	30.00	FAIR
0 -2	14	46.67	6	20	8	26.67	14	46.67	14	46.67	POOR
TOTAL	30	100	30	100	30	100	30	100	30	100	
Mean	2.9		4.4		3.8		2.93		2.8		
SD	1.71		1.87		2.24		1.7		1.71		

Legend: 9-10 Excellent, 7-8 Very good, 5-6 Good, 3-4 Fair, 0-2 Poor

Table 1 shows the respondents' pretest scores before conducting the modeling strategy. The test contains questions about research writing skills from their Practical Research 1 Quarter 2 lessons, such as describing methodologies, maintaining intellectual honesty, drawing patterns and themes from data, forming logical conclusions, and formulating recommendations.

On the first lesson specifically describing methodologies, majority of the respondents scored as poor having fourteen respondents which could be interpreted as challenged in identifying the sampling method to be used in their study as this area recorded their lowest score.

Under the fair category, there are nine respondents. Most of the respondents in the Fair category understand the study's core objectives and the use of qualitative research design, however their areas of confusion are about choosing the participants and data analysis.

In the good category, there are seven respondents demonstrated an understanding of research methodologies as they know how to select the research instrument and the use of data analysis however, they are also challenged with the sampling method to be used in the study.

Furthermore, there are no students who gain a score under the category of very good and excellent in the pretest in describing methodologies.

The class recorded a 2.9 mean score in describing methodologies with an interpretation of fair. It is evident that they are challenged by structural analysis. It appears to be a relatively low score since the respondents do not have any background yet in research writing before they enter senior high school.

According to Keith and Zikar (2023), they discovered many practices that led to samples with better quality. One practice is using better screening to improve quality. A common issue here is that while there is technology that helps researchers collect a lot of data, it can be inconsistent when it comes to data on samples [5].The study also tested various sampling methods such as convenience.

On the second lesson in Practical research 1 which is maintaining intellectual honesty in data gathering, twenty percent of the respondents scored poor as they failed to get the correct answers on the test items exhibiting an understanding of ethical dilemma and its implications within the context of the research prescribed.

For the fair category, there are eight respondents who have basic understanding of ethical dilemmas particularly when identifying the problem. However, their performance drops when asked to evaluate the broader consequences of integrity, outcome, and ethical standards.

Fourteen respondents scored good, which appears to be the highest in the category in maintaining intellectual honesty in data gathering. Most of the respondents prove that they can easily identify ethical issues in research and address them through their decision-making skills.

For the very good category of scores, two of the respondents exhibit a solid understanding of the ethical aspect of data gathering.

Moreover, there are no respondents who got a score for excellent category in the pretest of maintaining intellectual honesty in data gathering.

The class recorded a 4.4 mean score in maintaining intellectual honesty in data gathering which appears to be the highest pretest score among the Practical Research 1 Quarter 2 lessons. It is interpreted as fair and a majority of them recognize handling the ethical dilemma along with the interpretation that some respondents might need further clarification or have different interpretations of maintaining intellectual honesty in data gathering.

This is supported by the study of Fahim et al. (2024) who have delineated intellectual honesty and integrity as foundational pillars in any research endeavour. The principles of sound scientific practice necessitate that research be conducted responsibly [6].

In the third lesson, which is about drawing patterns and themes from data, there are eight respondents who are in the poor category wherein they are challenged in in identifying common themes from data.

The majority of the respondents, specifically twelve of them, fall under the category of fair and it appears that they are challenged in summarizing the trends from the text given.

There are six respondents scored as good and all of them can draw patterns and themes based on the perspective and experiences given in the text.

Furthermore, there are no students who gained a score of excellent in the pretest scores of drawing patterns and themes from data.

The class has a mean score of 3.8 which can be interpreted as fair. The respondents struggled with summarizing and finding common themes from the text presented.

As Bautista (2021) asserts qualitative research demands researchers to exercise reasoning and draw conclusions based on empirical evidence before reaching final judgments. He also underscores the importance of ensuring depth and quality in qualitative research analysis despite the availability of software that aids qualitative researchers in their analytical endeavours [7].

In the fourth lesson of Practical Research 1 Quarter 2 lessons which is about forming logical conclusions, fourteen respondents scored as poor and most of them were challenged in answering logical inferential questions.

Twelve of the respondents fall under the category of fair and appear to have struggled with the analysis type of questions to form logical conclusions.

For the good category, two of the respondents however they encounter difficulty in inductive analysis while they also know how to evaluate interpretative questions.

In the very good category, there are also two respondents who can form logical conclusions by answering logical, evaluative, and deductive questions while they are also challenged in answering inductive and interpretative questions.

Moreover, there are no students who gained a score of excellent in the pretest of forming logical conclusions.

The class has a mean score of 2.93 which is interpreted as fair which appears to be another difficulty of the respondents in research writing in forming logical conclusions. It is a skill that may require analyzing techniques to conclude the text read by the respondents.

Librero (2012) stressed how one should conclude their paper. Conclusions should always follow the parts before, such as the research objects and findings so they are all connected [8].

In the fifth lesson focusing on formulating recommendations, fourteen of the respondents scored poor as they had a hard time choosing accurate suggestions and recommendations.

There are 9 respondents fall under the category of fair as they are challenged in determining recommended actions that can be suggested based on the scenario given.

Seven of the respondents are under the category of good. They are doing well in aligning recommendations, however challenged with recommended strategies and proposals.

Furthermore, there are no students who gained scores of very good and excellent in formulating recommendations for Practical Research 1 lessons.

The class has a meaning of 2.8 which has an interpretation of fair in formulating recommendations. This indicates that the respondents are grappling with formulating recommendations.

The results from the pretest scores on research writing skills highlight a significant percentage scoring poorly, particularly in describing methodologies and forming logical conclusions and recommendations while there is some understanding of ethical considerations in research as indicated by the highest mean score in maintaining intellectual honesty in data gathering.

The overall performance of the respondents in the pretest in research writing suggests a need for further instruction and support in improving their research writing capabilities as they don't have prior knowledge yet in writing it. Based on recent literature, challenges in research writing, particularly among students, are often attributed to a need for more formal instruction in the necessary skills, such as describing methodologies and forming logical conclusions and recommendations. Students, in one study, had difficulty when it came to writing their research method. They can struggle when it comes to stating how the methodology is the correct one for their research and if it was implemented successfully. Another concern is whether they selected consistent data that resulted from the research method (Sitompul & Anditasari, 2022) [9]. A 2021 study by Bulqiyah et al. highlighted that those students commonly struggle with the structural and analytical aspects of writing, which parallels the difficulties observed in the study, particularly in forming conclusions and recommendations [10].When it comes to this portion in research writing, students have common struggles. They can have difficulty picking the data to write and interpret results about. Others have a hard time analyzing their results and comparing them to prior literature or research. Students must develop the skill to explain deeply the results of their research paper, under conclusions and recommendations.

Furthermore, a 2022 study by Esfandiari et al. note that students often have challenges in aligning their writing with academic conventions, which includes maintaining intellectual honesty and drawing patterns from data, which are areas of relative strength and weakness in the results [11]. Prioritizing ethical rules such as intellectual honesty is a must for students to become

better at research writing. Students who follow these rules usually produce papers that not only follow important academic values but are of high quality. Their submissions follow the necessary structure and details of research writing (Alavi, 2024) [12].

Table 2. Performance Standards in Research Writing Skills Posttest Mean Scores

Table 2

Performance Standards in Research Writing Skills Posttest Mean Scores

SCORE	Describing Methodologies		Maintaining Intellectual Honesty in Data Gathering		Drawing Patterns and Themes from Data		Forming Logical Conclusions		Formulating Recommendations		INTERPRETATION
	f	%	f	%	f	%	f	%	f	%	
9 -10	0	0.00	8	26.667	0	0	0	0	0	0	EXCELLENT
7 -8	13	43.33	12	40.00	0	0	0	0.00	0	0	VERY GOOD
5 -6	13	43.33	4	13.33	10	33.33	3	10.00	10	33.33	GOOD
3 -4	3	10.00	4	13.33	16	53.33	14	46.67	14	46.67	FAIR
0 -2	1	3.33	2	6.6667	4	13.33	13	43.33	6	20.00	POOR
TOTAL	30	100	30	100	30	100	30	100	30	100	
Mean	5.7		7.1		3.8		2.7		3.7		
SD	1.67		2.39		1.49		1.53		1.4		

Legend: 9-10 Excellent, 7-8 Very good, 5-6 Good, 3-4 Fair, 0-2 Poor

Table 2 shows the respondents' post-test scores after conducting the modeling strategy. The respondents are measured on their research writing skills from their Practical Research 1 Quarter 2 lessons same topics in the pretest such as describing methodologies, maintaining intellectual honesty, drawing patterns and themes from data, forming logical conclusions, and formulating recommendations.

In describing methodologies, thirteen students scored very good. Another thirteen students scored good, three students in fair, and only 1 student is in the poor category.

The class mean score increased from 2.9 to 5.7 which is interpreted as good, reflecting respondents' ability to describe methodologies. The respondents are capable of deciding the research instrument and sampling method to be used in the study.

The respondents of the study have shown appropriateness in choosing their research instrument and sampling method. Mandal (2018) explained appropriateness in research as the evaluation criteria that cannot be random and needs to be compatible with the research question. It depends on the methodology, aims, and assumptions of the research [13]. Based on arguments, qualitative researchers are urged to select the criteria for evaluation with caution and only after considering all the aspects of the research.

In the second lesson focusing on maintaining intellectual honesty in data gathering, eight respondents scored excellent. There are also twelve of the respondents who scored in the very good category. The number of fair is four and two respectively.

The mean score is 7.1 which is interpreted as very good, indicating the highest score in the posttest among performance standards of research writing skills in Quarter 2 lessons of Practical Research 1. Respondents have shown significant scores in maintaining intellectual honesty in data gathering, especially in identifying ethical dilemmas in research and the approach to addressing them.

Honesty also gives other benefits to the researcher. When a researcher is honest and ethical in his study, others tend to trust his research more. Thus, researchers should never forget to cite others who supported or influenced their work (Taylor & Black, 2019, as cited in Gupta & Mishra, 2024) [14].

On the third lesson, specifically drawing patterns and themes from data, ten respondents scored good while the fair have sixteen respondents and four is poor.

The mean score remains at 3.8 which is interpreted as fair indicating low capabilities in drawing inferences and summarizing statements accurately.

Achieving proficiency in writing is important. It enables individuals to articulate their observations and perceptions effectively. Some researchers argue that children require writing skills education to express their experiences, observations, imaginations, senses, and creativity and to utilize language proficiently (Özçelik & Zekerya, 2023) [15].

On the fourth performance standard covering the research skills in forming logical conclusions, three of the respondents scored good. However, fourteen respondents are in the fair range and thirteen students scored as poor. No respondents scored in the very good and excellent categories in this area.

The class mean score is 2.7 which is interpreted as fair in this area. They are challenged in answering analysis questions and evaluating questions to draw conclusions.

On the fifth lesson about formulating recommendations, ten respondents scored good. Fourteen of the respondents is in the fair range while the percentage of poor performers has six respondents.

The class mean in formulating recommendations increased from is 3.7 which is interpreted in the fair category. It appears as a slight capability in formulating recommendations or coming up with strategy-based solutions.

Overall, the respondents exhibited significant improvement in describing methodologies and maintaining intellectual honesty, as reflected in higher mean scores. However, challenges persist in drawing patterns from data, forming logical conclusions, and formulating recommendations, with many respondents in the fair and poor categories. This suggests difficulties in applying complex analytical skills.

According to the data gathered, modeling strategies, where students learn by observing expert performance, have proven effective in fostering academic writing skills, particularly when combined with cognitive and metacognitive activities such as reflection and comparison (Kellogg, 2008; Braaksma et al., 2006). These methods encourage deeper engagement with the material, enabling students to internalize complex skills like methodological description more effectively (Wischgoll, 2016) [16].

However, the limited improvement in areas such as drawing patterns, forming conclusions, and formulating recommendations might suggest additional instructional interventions. Studies show that while modeling can enhance specific skills, it may be less effective for more complex analytical tasks, which often require inquiry-based approaches or scaffolded learning processes to develop fully (Graham, 2006) [17]. This suggests that while the modeling strategy was beneficial for some aspects of research writing, a more tailored approach may be necessary to address areas where students still struggle.

Table 3 Significant Difference of the Performance Standards in Research Writing Skills of Pretest and Posttest Mean Scores

Table 3

Significant Difference of the Performance Standards in Research Writing Skills of Pretest and Posttest Mean Scores

	Pretest		Posttest		t	df	p
	Mean	SD	Mean	SD			
Describing Methodologies	2.90	1.71	5.70	1.66	-6.433	29	0.000
Maintaining Intellectual Honesty in Data Gathering	4.40	1.87	7.07	2.39	-4.853	29	0.000
Drawing Patterns and Themes from Data	3.80	2.25	3.80	1.49	0.000	29	1.000
Forming Logical Conclusions	2.93	1.70	2.73	1.53	0.465	29	0.645
Formulating Recommendations	2.80	1.71	3.67	1.40	-2.319	29	0.028

Legend: t is significant at $p < 0.05$

Table 3 represents the significant difference of performance standards in research writing skills between pretest and post-test scores.

Modeling strategy has been used by the researcher in teaching Quarter 2 lessons of Practical Research 1. In the delivery of the lesson, the researcher incorporates attention, retention, reproduction, and motivation anchored to the concept modeling rooted in the Social Learning Theory of Albert Bandura.

Utilizing this approach, the effectiveness of the modeling strategy is further evidenced by the statistical results gathered from the pretest and posttest assessments.

The T-value is significantly negative in describing methodologies, and the p-value is less than 0.05. This indicates a statistically significant improvement in the ability to describe methodologies from the pretest to the posttest.

The application of modeling strategy in this research writing performance standards seems to play an important role. Techniques like the Abstract Breakdown Challenge were employed alongside with stimulating questions, while retention activities were reinforced through worksheets. Students demonstrated motor reproduction skills and were rewarded with Class Dojo points, as well as free healthy snacks and lunch.

On the same concept, a study by Geurts et al. (2024) involving students in shaping their education allows for more suitable, acceptable, and practical education regarding their research writing, explicitly describing methodologies [18].

In maintaining intellectual honesty in data gathering, the t-value is significantly negative, and the p-value is less than 0.05. This indicates statistically significant improvement with the integration of modeling strategy.

The video model was paired with an activity titled Interactive Critique: Unpacking Strategies for Intellectual Honesty in Data Gathering. Students applied motor reproduction by creating their own guidelines for conducting interviews and observations using worksheets provided by the research teacher. Role plays were also conducted based on three scenarios outlined in the lesson

plan, and the research teacher highlighted tasks students retained from the model video they watched, Class Dojo, was also used for receiving points.

While doing research, students need to remain honest. They need to make sure that the literature and studies they choose to include follow ethical rules. Intellectual honesty should always remain in research. Moreover, scholarly and academic works must comply with Republic Act No. 8293, the Intellectual Property Code.

In connection with intellectual honesty, transparency is closely intertwined. Byerly (2023) suggested that intellectual transparency can be seen as an exceptionally robust or ideal form of intellectual honesty or as a separate virtue distinct from intellectual honesty but more fundamental [19]. Throughout his discussion, he also identified areas where arguments could be made for refining or clarifying Miller's and King's explanations of honesty and intellectual honesty.

On the third performance standard of research writing skills which is drawing patterns and themes from data, the t-value is 0, and the p-value is 1.000, indicating no significant difference between the pretest and post-test scores. This suggests that the modeling strategy did not improve drawing patterns and themes from data particularly in drawing inferences and summarizing statements accurately.

While transitioning on the third week of the delivery of modeling strategy in teaching Practical Research 1, Lutucan Integrated National High School shifted from face-to-face classes to alternative delivery through modular distance learning due to the extreme heat index. The Department of Education reiterated the provisions of the Department Order 037 which was initially issued in 2022 about the guidelines on the cancellation or suspension of class and work in schools in times of calamities such as natural disasters.

The respondents were instructed to bring their Practical Research 1 worksheets for the study. Instructions were disseminated through an online platform. However, it was observed that not all respondents fully engaged with the online instructions. Upon submission of their outputs, a significant portion of the tasks were incomplete. This outcome suggests that the application of essential research skills, such as analytical thinking and summarizing, was not fully realized. These skills are crucial for developing competence in identifying patterns and themes from data, which are fundamental to effective research writing.

The result is supported by López et al. (2017) as they explored the effects of direct instruction and strategy modeling on upper-primary students' writing development. They found that both direct instruction and modeling were equally effective in improving writing skills, such as planning and drafting. Modeling can aid in students' learning as it can bridge the gap between them and their teachers. Teachers demonstrate the behavior or act for the student's understanding. On the other hand, students become more involved as they process the information they watched and are encouraged to interact with the teacher (Rexhepi, 2021).

In the fourth lesson, the t-value is positive, and the p-value is greater than 0.05, indicating no significant difference between the pretest and posttest scores in forming logical conclusions. This means the modeling strategy is not significant in the respondents' ability to form logical conclusions. They are still challenged in answering analysis questions and evaluating questions to draw conclusions.

Additionally, during the fourth lesson, the respondents were engaged in a distance learning setup, which limited their ability to receive real-time guidance and feedback from the instructor. The absence of direct feedback likely hindered the respondents' ability to complete tasks that integrated the modeling strategy effectively. As a result, tasks such as the Conclusion Deconstruction Exercise and Conclusion to Recommendation Analysis were not fully accomplished or modified as intended.

With the challenge encountered by the student researchers, modeling by peers can help foster an inclusive learning environment. It can potentially be used in schools, following SLT and by taking into account the differences of students and their resources (Widodo & Astuti,2024). Any person within the locality of the students can be a great source of learning,

In the Fifth lesson, the t-value is negative, and the p-value is less than 0.05 for formulating recommendations. This indicates a statistically significant improvement in formulating recommendations. The modeling strategy appears to be significant in formulation of recommendations. There is a slight increase in formulating recommendations or coming up with strategy-based solutions.

Student researchers must be challenged to draw logical conclusions grounded in solid evidence, aligning with Librero's (2012) observation that many tend to include superficially impressive conclusions lacking substantive support, a critical error in research writing [20]. Additionally, the researcher observed that respondents were often hesitant to complete tasks in the absence of direct, physical guidance from the instructor.

In the last week, respondents returned to a traditional classroom setting. During this period, the research teacher implemented the activity Formulating Insightful Recommendations as outlined in the lesson plan.

As the modeling refers to the process where teachers demonstrate different teaching tasks or acts so students can understand them more easily (Rexhepi, 2021) [21]. This can help students understand the writing process and develop practical writing skills. Here, modeling provides students with real-world examples and, later, see the value of writing.

The integration of a modeling strategy in teaching Practical Research 1, with a focus on the performance standards of research writing skills, has shown a significant impact on improving students' abilities to describe methodologies, maintaining

intellectual honesty in data gathering, and formulate insightful recommendations. However, the strategy did not yield a significant effect on students' abilities to draw patterns and themes from data or form logical conclusions. Factors such as the respondents' motivation to complete tasks and the lack of physical guidance from the research teacher may have contributed to these outcomes.

Horton et al. (2024) also suggested that worry may shape performance according to attention control levels, with attention control's moderating role being more pronounced under conditions of acute worry. [22]These results show how well people can pay attention when they are worried might be a better way to predict how well they will do in real-life situations compared to testing them when they are relaxed.

Özçelik and Zekerya (2023) elaborate on the importance of achieving proficiency in writing, emphasizing its role in enabling individuals to articulate their observations and perceptions effectively[23]. Being proficient allows them to not only express themselves creatively about a topic they studied. It helps them think deeply and critically and expand on their worldview (Coloquit, et al, 2020) [24].

In relation to this, one study shows that a student can also be more motivated to write when he or she is interested in the topic. Findings showed that students were more motivated to write when they chose their writing topics. This is especially true for those who were female or had higher grades (Alzubi & Nazim, 2024) [25].

In observational learning, Bandura's Social Learning Theory features the importance of attention, retention, reproduction, and motivation (Mcleod, 2024) [26]. By understanding these components and their interactions, senior high school teachers and education can design effective modeling strategies to promote meaningful learning for the student researchers.

The edge of this study lies in its ability to enhance the research writing skills of Grade 11 students by focusing on the implementation of the modeling strategy. By addressing how teachers can effectively apply modeling techniques, this study provides valuable insights into improving students' academic writing capabilities. While numerous studies explore teaching strategies, this research specifically emphasizes the potential of modeling to support students in mastering the complexities of research writing.

CONCLUSION AND RECOMMENDATION

The study is focused on determining the effects of modelling strategy in teaching Practical Research. Based from the findings, the mean pretest scores for research writing skills among Grade 11 students are as follows: 2.9 for describing methodologies (fair), 4.4 for maintaining intellectual honesty (fair), 3.4 for drawing patterns and themes (fair), 2.93 for formulating logical conclusions (fair), and 2.8 for forming recommendations (fair). All of these scores are interpreted as fair, indicating a need for further development in these research writing areas.

For the mean posttest scores of research writing skills among Grade 11 students resulted as follows: 5.7 for describing methodologies (good), 7.1 for maintaining intellectual honesty (very good), 3.8 for drawing patterns and themes (fair), 2.7 for formulating logical conclusions (fair), and 3.7 for forming recommendations (fair).

It also shows that there is a significant difference between the pretest and posttest scores for research writing skills among Grade 11 students in describing methodologies, maintaining intellectual honesty and formulating recommendations while there is no significant difference between the pretest and posttest scores for research writing skills among Grade 11 students in drawing patterns and themes from data and formulating conclusions.

Based from the summary of findings and conclusions, Senior high school students, with the support of their research teachers, may undergo training and access resources to develop analytical skills in Practical Research 1, focusing on identifying patterns and themes in data, drawing logical conclusions, and formulating recommendations through hands-on activities, collaborative projects, and additional instructional support. Also, an alternative delivery mode for teaching Practical Research 1, using interactive activities and structured guidance for both online and offline distance learning, along with motivating assignments and regular instructor check-ins, can help overcome challenges in remote education. Research teachers may also use supplementary strategies, such as scaffolding activities, guided practice, and peer review sessions, to help students gradually develop their analytical skills in Practical Research 1. Research teachers may also implement regular formative assessments to track progress in weaker areas, allowing for timely adjustments to teaching strategies as needed.

Lastly, future researchers may develop an enhanced modeling strategy that includes more complex, real-world examples and critical thinking tasks aligned with the performance standards of Practical Research 1.

REFERENCES

1) Marquez, L.P., Olivar, M. Brijuega C.E., Ombao, R. P. Cerio, W. C., & Baes, F.D (2020). Education (2020). Education and COVID-19: Experiences and insights from a developing country. ACCESS: *Contemporary Issues in Education* 40(1), 84-90.
2) Lestari, D. M. (2020). An Analysis of Students' Difficulties in Writing Undergraduate Thesis at English Education Program of Muhammadiyah University of Bengkulu. *Journal of English Education and Applied Linguistics*, 9(1), 17-29.
3) Paurillo, P. M. (2019). Research writing ability of senior high school students as perceived by teachers of sampled schools in Quezon City. PEOPLE: *International Journal of Social Sciences, 4(3),* 1788-1800.

4) Baraceros, E. (2017 Practical Research 1 pp.86.
5) Zickar, M. J., & Keith, M. G. (2023). Innovations in sampling: Improving the appropriateness and quality of samples in organizational research. *Annual Review of Organizational Psychology and Organizational Behavior*, 10(1), 315-337.
6) Fahim, A., Sadaf, A., Jafari, F. H., Siddique, K., & Sethi, A. (2024). Questionable research practices of medical and dental faculty in Pakistan–a confession. *BMC Medical Ethics*, *25*(1), 11.
7) Bautista, A. J. (2021). Practical Research 1 (pp. 15, 17-18, 30-31). KLEAFS Publishing.
8) Librero, F. (2012). Writing Your Thesis: A Practical Guide for Students (p. 106). UP Open
9) University.
10) Sitompul, S. K., & Anditasari, A. W. (2022). Challenges in writing academic research: An Exploration of master's students' experiences. *Getsempena English Education Journal*, 9(2),136148. https://doi.org/10.46244/geej.v9i2.1805
11) Bulqiyah, S., Mahbub, M., & Nugraheni, D. A. (2021). Investigating writing difficulties in essay writing: Tertiary students' perspectives. *English Language Teaching Educational Journal*, 4(1), 61-73.
12) Esfandiari, R., Meihami, H., & Jahani, F. (2022). Exploring Iranian postgraduate EF students' academic writing experiences and expectations: A dynamic narrative approach. TESL-EJ, 25(4).
13) Alavi, S. (2024). Investigating the Impact of Ethical Considerations in Final Assignment Submission among Postgraduate EFL Students. *Journal of Multidisciplinary in Social Sciences*, 20(1), 55-69.
14) Mandal, P. C. (2018). Qualitative research: Criteria of evaluation. Qualitative research, 3(2), 1-6.
15) Gupta, C. P., & Mishra, M. (2024). The Relation between Intellectual Honesty and Research Integrity as the Fundamental Principles of Research. Research and, 151.
16) Özçelik, M., & Batur, Z. (2023). A Literature Review on Writing Proficiency Outcomes. International Journal of Education and Literacy Studies, 11(3), 157-169.
17) Wischgoll, A. (2021). Combined Training of One Cognitive and One Metacognitive Strategy Improves Academic Writing Skills. Retrieved from https://www.frontiersin.org/journals/ psychology/articles/10.3389/fpsyg. 2016.0018 7/full
18) Graham, C. R. (2006). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), *The handbook of blended learning: Global perspectives, local designs* (pp. 3–21). San Francisco, CA: Pfeiffer Publishing.
19) Geurts, E. M., Reijs, R. P., Leenders, H. H., Jansen, M. W., & Hoebe, C. J. (2024). Co- creation and decision-making with students about teaching and learning: A systematic literature review. *Journal of Educational Change*, 25(1), 103-112.
20) Byerly, T. R. (2023). Intellectual Honesty and Intellectual Transparency. *Episteme*, 20(2), 410-428.
21) Librero, F. (2012). Writing Your Thesis: A Practical Guide for Students (p. 106). UP Open
22) University.
23) Rexhepi, B. (2021). Modelling process as an instructional strategy in language teaching process. Pendas Mahakam : *Jurnal Pendidikan dan Pembelajaran Sekolah Dasar*, 6(1), 8-16.
24) Horton, A. B., Pring, A. M., Rudaizky, D., & Clarke, P. J. (2024). The relationship between worry and academic performance: Examining the moderating role of attention control. Anxiety, Stress, & Coping, 1-16.
25) Özçelik, M., & Batur, Z. (2023). A Literature Review on Writing Proficiency Outcomes. International Journal of Education and Literacy Studies, 11(3), 157-169.
26) Coloquit, L. M., Canabal, L. A., & Paderan, M. P. (2020). Improving students' English writing proficiency through interactive writing technique. *Journal of English Education and Linguistics*, 1(1), 72-81. https://doi.org/10.56874/jeel.v1i1.50
27) Alzubi, A. A. F., & Nazim, M. (2024). Students' intrinsic motivation in EFL academic writing: Topic-based interest in focus. *Heliyon*, *10*(1), e24169.
28) Mcleod, S. (2023, July 25). Albert Bandura's social learning theory in psychology. Simply Psychology.