The competency level of research students in writing research paper: Basis for recalibrating the research curriculum in the junior high school level

Julie Ann B. Real
Philippine School Doha, Qatar
eilujannreal@gmail.com

ABSTRACT

Writing a research paper is one of the major activities in educational institutions. In order to promote quality, the research writing process should be considered. This study aims to explore the specific research part where the students have difficulty writing the research paper. Identifying the weakest point can lead to the success of the research writing process. This study made an assessment of the competency level of the research students in writing their research paper. It utilized the quantitative descriptive method and followed the purposive sampling technique, wherein the lead researchers and writers were chosen as respondents in the study. Data revealed that females dominated the number of research leaders, and showed that the experimental research design was preferred by the research students. Moreso, it was revealed that students had difficulty in citing related literature and studies; writing the research questions in the Statement of the Problem; interpreting data; and formulating the research title. The recalibration of the research curriculum and integration of research parts with other subjects are recommended.

INTRODUCTION

Writing research papers is one of the major activities in educational institutions. To cope with the demands of the twenty-first century, students need to do more than study the core subjects, but also to write quality research papers where they can solve society's problem or contribute to the body of knowledge. Research is not only for individuals who wish to pursue an academic career. It is essential to professional life in the twenty-first century, since it employs approved scientific approach to address issues and generates broadly acceptable new knowledge (Brew, 2017; Healey et al., 2014). In addition, research enables students to develop independent critical thinking skills along with oral and written communication skills. The research process impacts valuable learning objectives that have lasting influence on students' lifelong learning skills (Javed, 2019; Tabuena, 2020).

Society expects academic institutions to take the lead in research, which has resulted in a slew of legislative proposals and programs to support research and innovation. As a result, students need to comply by submitting a research paper and defend it at the end of the school year (Oriokot et al., 2011; Tabuena, 2020). In order to keep up with the times and requirements, students should be able to draft, write, submit, revise, and accomplish the ready-to-defend or ready-to-publish remark. In writing a research paper, students are guided by the rules in terms of format, content, and mechanics, which involves a critical process in finishing the paper. In terms of format, the usual format of research paper that students write is Germanic format, which usually has five chapters: Chapter 1: The Problem and Its Setting; Chapter 2: The Review of Related Literature and Studies; Chapter 3: Research Methodology; Chapter 4: Presentation, Analysis, and Interpretation of Data, and Chapter: Summary, Conclusion, and Recommendation.

Research is integral to any learning institution in securing learning goals. An institution's inability to produce and publish high-quality research is a strong indication that higher learning is not supported (Padagas & Hajan, 2020). Research quality has always been the main concern of every academic institution. In order to promote quality research papers, the research writing process should be considered. As the students' research outputs are crucial, keeping track of their performance is a key ingredient in the quality research papers. As consumers and readers of research, students are valuable sources of information to quality improvements. Students today dread the word research in their academic years. It was reported that students have challenges in writing a full research paper (Tabuena, 2020), and writing issues are due to lack of writing skill and lack of confidence in writing research papers (Wilang et al., 2018).

Providing the students with an interesting and supportive learning environment that encourages and sustains research writing is a challenge for research teachers. The primary objective of this study is to describe the competency level of the students in writing the research papers. This present study involves the selected Junior High School students taking research as an elective subject. As part of their curriculum, as early as grade seven, students are trained about the process of research writing and publishing. In the Grade ten curriculum, research students are expected to write the complete research paper and should pass the final defense. Students need to take the research subject and are expected to gain knowledge and apply that knowledge through a research output. The result of this study would help the students in the research writing process and research teachers to enhance and develop the curriculum that will benefit the students, teachers and institution. This study would also aid future researchers in identifying new ways of teaching research procedure, and serve as a reference if they were to do a study on the subject.

Research Questions

This study aimed to describe the competency level of the research students in writing the research paper. Specifically, the study sought to answer the following questions:

1. What is the profile of the respondents in terms of
   1. 1. sex and
   1.2 research design?

2. What is the competency level of the respondents in writing research paper in terms of its parts?

3. Is there any significant difference in writing the parts of research paper in terms of
   3.1 sex and
   3.2 research design?

Hypotheses of the Study:

Ho: There is no significant difference in the research competency level of respondents in terms of sex.
Ho: There is no significant difference in the research competency level of respondents in terms of research design.

Method

This study utilized the quantitative descriptive method, because it is the most suitable method to come across the objective of the study, which is to gather the needed data in order to summarize, analyze, and recommend implications in view of the competency level of the students in research writing. This study used the survey-questionnaires, through Google form. It questioned the respondents' profiles and evaluated their competency in writing the research paper. The first part consists of their profile in terms of sex, male or female; and the research paradigm they used in their research paper, descriptive research or experimental research. The second part consists of 20 items, which shows the different tasks in writing the Germanic format research paper. The respondents needed to evaluate their research writing competencies by ticking the level of their competencies using the four- point Likert scale. The instrument's reliability was checked using Cronbach's alpha at .90 and validated by the other research teachers. The data were analyzed using the descriptive statistics, such as Frequency, Percentage, Weighted Mean and T-test.

Respondents

This research made an assessment of the competency level of the research students in writing their research paper. The population of this study consists of the Grade 10 Junior High School research students in Qatar enrolled in the SY 2020-2021. This also utilized the purposive sampling technique, wherein the group leaders of the research groups were chosen as respondents in the study.

RESULTS

Writing research papers is one of the major activities in educational institutions. This study made an assessment of the competency level of the research students in writing their research paper . For a vivid comprehension, the results were patterned according to the questions previously stated in the objective of this study. Below are the specific findings in the study:

1.1. The profile of the respondents in terms of sex

Table 1. Profile of Respondents in Terms of Sex

Sex	Frequency	Percentage
Female	37	62.71
Male	22	37.29

Total	59	100

Table 1 exposes that out of 59 respondents, there are 37 or 62.71% female and 22 or 37.29% are male. The respondents in the study were the group leaders and the lead writers in the research group. In terms of assigning the group leaders, the group members were asked to select the group leader per group. Based on the data, it is revealed in this study that females dominated the number of research leaders. As usually observed in the academic setting, it cannot be denied that female students are more engaged in writing the research paper, that is why they are usually selected as group leaders. Also, they have skills in writing fluency and writing composition.

Females outperform males in terms of writing fluency and text quality. Females' superiority in writing fluency and text quality is a consequence of their superiority in English proficiency (Al-Saadi, 2020). In addition, it was found that girls consistently outperformed boys in writing composition (Cordeiro et al, 2018; Reynolds et al. 2015).

1.2. The profile of the respondents in terms of research design

Table 2. Profile of Respondents in Terms of Research Design

Research Design	Frequency	Percentage
Descriptive Research	24	40.68
Experimental Research	35	59.32
Total	59	100

Table 2 presents the profile of the respondents in terms of research design that they used in their studies. 35 or 59.32% of the respondents utilized Experimental Research design, while 24 or 40.68% utilized Descriptive Research design. In total, there were 59 respondents in the study.

In terms of research design, the group of researchers were given the option to choose the research design of their study. It is evident that experimental research design was preferred by the respondents. Experimental research design determines the "cause and effect" relationship by demonstrating what outcome occurs when variables are manipulated (Harland, 2011). The respondents opted to create a research output, which they can test the hypothesis and measure the variables and compare the results. It also depicts that respondent were more likely to create an output for innovation and sustainability, which is also the main goal of doing the experimental research. With the continuous development and advancement of modern society, the demand for innovation is becoming increasingly urgent.

On the other hand, there were respondents who have opted to do the Descriptive research, wherein it is a type of research design which is non-experimental and describes characteristics of a population or phenomenon being studied (Siedlecki, 2020). In purest form, descriptive research aims to describe *what*, rather than *how or why* something has happened. It can also be interpreted those respondents were interested in describing the phenomenon or issues that are related to them.

Another reason in choosing the descriptive research design is that in doing the experimental research, researchers need to buy the materials and prepare the equipment in doing the research output. Unlike in descriptive

research, the use of survey questionnaires through Google form as a data collection device in gathering the data is easier and more economical (Dillman & Bowker, 2001).

2. The competency level of the respondents in writing a research paper

Table 3. The Competency Level of the Respondents in Writing the Research Paper

PARTS OF RESEARCH PAPER	WEIGHTED MEAN	VERBAL INTERPRETATION	Rank
1. Formulating the research title	2.10	Difficult	20th
2. Writing the Introduction part	3.14	Easy	5th
3. Writing the research problem (Background of the Study)	3.08	Easy	6th
4. Writing the research questions in the Statement of the Problem	2.29	Difficult	18th
5. Formulating hypothesis	3.55	Very easy	2nd
6. Writing the Scope and Limitation of the Study	2.96	Easy	8th
7. Identifying the beneficiaries of the study by writing the Significance of the Study part	3.16	Easy	4th
8. Citing related literature	2.33	Difficult	16th
9. Citing related studies	2.31	Difficult	17th
10. Writing the definition of terms	3.57	Very easy	1st
11. Making the conceptual framework	3.02	Easy	7th
12. Writing research methodology	2.80	Easy	12th
13. Presenting data in tabular form (Chapter 4)	2.78	Easy	13th
14. Presenting data in textual form (Chapter 4)	2.65	Easy	15th
15. Interpreting data with citations from the findings of other studies (Chapter 4)	2.24	Difficult	19th
16. Summarizing the findings of the study in Chapter 5	2.82	Easy	11th
17. Writing the Conclusion part in Chapter 5	2.94	Easy	9th
18. Writing the Recommendation part in Chapter 5	2.69	Easy	14th
19 Formatting the Reference page/s	3.18	Easy	3rd
20. Writing the abstract part	2.90	Easy	10th

Overall Weighted Mean	2.83	Easy

Legend:

3.26-4.00	Very easy
2.51-3.25	Easy
1.76-2.50	Difficult
1.00-1.75	Very Difficult

Table 3 exhibits the competency level of the respondents in writing the parts research paper. Among the parts of the research paper, the respondents found it *'very easy'* to write the *definition of terms* and *formulating hypothesis,* which garnered the weighted mean of 3.57 and 3.55 respectively. In addition, respondents rated that *formatting the reference page/s* as '*easy',* with the weighted mean of 3.18. It is then followed by *Identifying the beneficiaries of the study by writing the Significance of the Study part,* with the weighted mean of 3.16; *Writing the Introduction part,* with the weighted mean of 3.14; *Writing the research problem in the Background of the Study* with the weighted mean of 3.08; *and Making the Conceptual Framework* with the weighted mean of 3.02, which are all verbally interpreted as '*easy'* task for the respondents.

Moreover, based on the data, the respondents answered that it is also *'easy'* for them to write the *Scope and Limitation* and the *Conclusion* parts of the study, with the weighted mean of 2.96 and 2.94 respectively. Respondents also found it *'easy'* to write the *Abstract part,* with the weighted mean of 2.90 and *'easy' summarize the findings of the study in Chapter 5*, with the weighted mean of 2.82. Furthermore, the respondents rated that *writing the research methodology part* is *'easy'* for them, with the weighted mean of 2.80, same with *presenting the data in tabular form in Chapter 4,* with the weighted mean of 2.78. Respondents also found it *'easy'* to *write the recommendation part in Chapter 5* and *present data in textual form*, with the weighted mean of 2.69 and 2.65, respectively.

Interestingly, when the respondents were asked to rate the level of their competency in writing their research paper, they answered that *citing related literature* and *related studies* are *'difficult' t*asks, with the weighted mean of 2.33 and 2.31, respectively. Adding to the '*difficult'* parts are *writing the research questions in the Statement of the Problem*, and *interpreting data with citations from the findings of other studies in Chapter 4,* with the weighted mean of 2.29 and 2.24, respectively. Finally, the last on the rank that respondents rated as *'difficult'* is *formulating the research title,* which got the lowest weighted mean of 2.10. The overall weighted mean of competency level of the respondents in writing the parts of a research paper is 2.83, and is verbally interpreted as *'easy'*.

The data shows that in writing the research paper, the *very easy* task for the respondents is the definition *of terms*. It is due to the reason that researchers were already certain in operationally and conceptually defining some important concepts found in the research paper. Defining the words and terms in research is important because it helps the readers and other researchers to understand the study thoroughly.

However, the data revealed that in writing the research paper, respondents answered that *citing related literature* and *related studies* are *difficult t*asks for them. The data were gathered during the pandemic and quarantine days. Libraries were closed and most resources were found on the internet. The unseemly and unprecedented occurrences of the pandemic have greatly affected the wide population, causing such detrimental effects to students. (Real et al., 2022b).

In the advent of technology, respondents had the leverage to search the internet in the comfort of their home, but citation is not an easy thing to do. Aside from looking for valid open access journal where students can see the recent related literature and studies, they also need to cite and synthesize properly, and by doing that, they need to follow the proper format and structure.

Adding to the *difficult* parts is *writing the research questions in the Statement of the Problem.* Respondents found it difficult to formulate research questions that a researcher attempts to answer. It signifies that though the

respondents have the approved research title, they were still perplexed as to what variable or phenomenon to investigate in the study.

Also, statistics revealed that respondents found it *difficult interpreting data with citations from the findings of other studies in Chapter 4.* Though the data have been presented, respondents are puzzled on how to interpret them, and how to relate or negate it through citing from other studies. Respondents had difficulty in terms of making meanings of data.

It is also evident that the last on the rank that respondents rated as *'difficult'* is *formulating the research title.* It is surprising to see that the first part in writing the research paper is the hardest part for the respondents.

3.1 Significant difference in writing the parts of research paper in terms of sex

Table 4. Significant Difference in Writing the Parts of Research Paper in Terms of Sex

PARTS OF RESEARCH PAPER	FEMALE	VERBAL INTERPRETATION	MALE	VERBAL INTERPRETATION
1. Formulating the research title	2.08	Difficult	2.17	Difficult
2. Writing the Introduction part	3.16	Easy	3.08	Easy
3. Writing the research problem (Background of the Study)	3.08	Easy	3.08	Easy
4. Writing the research questions in the Statement of the Problem	2.22	Difficult	2.58	Easy
5. Formulating hypothesis	3.59	Very easy	3.42	Very easy
6. Writing the Scope and Limitation of the Study	2.95	Easy	3.00	Easy
7. Identifying the beneficiaries of the study by writing the Significance of the Study part	3.19	Easy	3.08	Easy
8. Citing related literature	2.30	Difficult	2.42	Difficult
9. Citing related studies	2.22	Difficult	2.50	Difficult
10. Writing the definition of terms	3.62	Easy	3.42	Very easy
11. Making the conceptual framework	3.11	Easy	2.75	Easy
12. Writing research methodology	2.81	Easy	2.75	Easy
13. Presenting data in tabular form (Chapter 4)	2.86	Easy	2.50	Difficult
14. Presenting data in textual form (Chapter 4)	2.68	Easy	2.58	Easy

15. Interpreting data with citations from the findings of other studies (Chapter 4)	2.19	Difficult	2.42	Difficult
16. Summarizing the findings of the study in Chapter 5	2.89	Easy	2.58	Easy
17. Writing the Conclusion part in Chapter 5	3.08	Easy	2.50	Difficult
18. Writing the Recommendation part in Chapter 5	2.78	Easy	2.42	Difficult
19 Formatting the Reference page/s	3.38	Very easy	2.58	Easy
20. Writing the abstract part	2.97	Easy	2.67	Easy
Overall Weighted Mean	2.86	Easy	2.73	Easy

p-value	.282
Decision	Fail to reject Ho
Remarks	No significant difference

Table 4 shows the difference of respondents in writing the parts of research paper in terms of sex. Both sexes, male and female respondents, found it *'difficult'* to *formulate research title*. This is shown on the 2.08 overall weighted mean from the female respondents, while 2.17 weighted mean from the male respondents. Moreover, when the respondents were asked to rate the level of their competency level in writing the research paper, both sexes, male and female, answered that it was '*easy' to write the introduction part*. It is based on the weighted mean of 3.16 from female respondents and 3.08 from male respondents. It is followed by the data that both groups of respondents answered that it was '*easy' to write the research problem in the Background of the study part, which* is manifested on the same weighted mean of 3.09, from both female and male respondents.

On the other hand, in *writing the research questions in the Statement of the Problem part,* the respondents have different views on it. Female respondents answered that it was '*difficult' to write the research questions*, as shown on their responses with 2.22 weighted mean, while male respondents rated that it was *'easy'* to write research questions, with the 2.58 weighted mean.

It also shows that both sexes found it *'very easy'* to formulate hypothesis, based on the weighted mean of 3.59 from the female respondents, and 3.42 from the male respondents. Furthermore, both groups answered that it was '*easy' to *write the Scope and Limitation of the Study and* '*easy' to *identify beneficiaries of the study by writing the Significance of the Study part*. In the former part, 2.95 weighted mean was garnered from the female respondents, while 3.00 weighted from the male respondents. In the latter part, 3.19 weighted mean was garnered from the female respondents, while 3.08 weighted from the male respondents.

In terms of *writing the related literature and studies*, both groups of respondents, male and female, found it *'difficult'* to *cite related literature and studie*s. It is based on the weighted mean that was accumulated from *citing the related literature part*, where 2.30 weighted mean from the female respondents and 2.42 weighted mean from the male respondents, and manifested from the weighted mean that was accumulated from *citing the related studies part*, where 2.22 weighted mean from the female respondents and 2.50 weighted mean from the male respondents.

In *writing the definition of terms,* each group has a different level of competency. Female respondents rated that it was *'easy'* defining the terms, with 3.62 weighted mean, while the Male respondents said that it was '*very easy'* defining the terms, with the weighted mean of 3.42.

Both sexes, male and female respondents, answered that *making the conceptual framework* and *writing the research methodology* are *'easy'* tasks. It is based on the weighted mean that was accumulated from *Making the conceptual framework*, where 3.11 weighted mean from the female respondents and 2.75 weighted mean from the male respondents, and manifested from the weighted mean that was accumulated from *Writing research methodology part,* where 2.81 weighted mean from the female respondents and 2.75 weighted mean from the male respondents.

In presenting data in tabular form in Chapter 4, the respondents have different views on it. Female respondents answered that it was 'easy' to present data in tabular form, as shown on their responses with 2.86 weighted mean, while male respondents rated that it was '*difficult'* to present data in tabular form, with the 2.50 weighted mean. Also, both sexes found it *'easy'* to present data in textual form in Chapter 4. It is based on the 2.68 weighted mean from the female respondents, and 2.58 weighted mean from the male respondents. In connection to data, it shows that both groups of respondents rated that it was *'difficult'* to interpret *data with citations from the findings of other studies in Chapter 4.* It is manifested on the 2.19 weighted mean from the female respondents, and 2.42 weighted mean from the male respondents.

Furthermore, both sexes, male and female respondents, found it *'easy'* to *summarize the findings of the study in Chapter 5.* This is shown on the 2.89 overall weighted mean from the female respondents, while 2.58 weighted mean from the male respondents. While in *writing the conclusion part in Chapter 5,* each group has a different level of competency. Female respondents rated that it was *'easy' writing the conclusion part*, with 3.08 weighted mean, while the male respondents said that it was '*difficult' writing the conclusion part*, with the weighted mean of 2.50. Moreso, in writing the *Recommendation part in Chapter 5*, respondents have different point of view. Female respondents found it *'easy'* to *write the Recommendation part*, with the accumulated 2.78 weighted mean, while the male respondents found it *'difficult' to write the Recommendation part* as shown in the accumulated 2.42 weighted mean. In terms of formatting the reference page, the female respondents rated it as *'very easy',* with the weighted mean of 3.38, while the male respondents rated it as *'easy'*, with the weighted mean of 2.58.

Lastly, when the respondents were asked to rate the level of their competency level in writing the abstract part, both sexes, male and female, answered that it was '*easy'* to write it, based on the weighted mean of 2.97 from the female respondents and 2.67 from the male respondents.

The data shows that both sexes, male and female, found it *'easy'* to write the parts of research paper. It is manifested on the accumulated 2.86 overall weighted mean from the female respondents and 2.73 overall weighted mean from the male respondents.

The data revealed that the p-value 0.282 is greater than 0.05 level of significance, therefore, it fails to reject the null hypothesis, which manifests that there is no significant difference in writing the parts of research paper in terms of sex, both sexes, male and female, found it *'easy'* to write the parts of research paper.

3.2 Significant difference in writing the parts of research paper in terms of research design

Table 5. Significant Difference in Writing the Parts of Research Paper in Terms of Research Design

PARTS OF RESEARCH PAPER	Descriptive Research	Verbal Interpretation	Experimental Research	Verbal Interpretation
1. Formulating the research title	2.36	Difficult	2.00	Difficult

2. Writing the Introduction part	3.29	Very easy	3.09	Easy
3. Writing the research problem (Background of the Study)	3.07	Easy	3.09	Easy
4. Writing the research questions in the Statement of the Problem	2.50	Difficult	2.23	Difficult
5. Formulating hypothesis	3.57	Very easy	3.54	Very easy
6. Writing the Scope and Limitation of the Study	3.14	Easy	2.89	Easy
7. Identifying the beneficiaries of the study by writing the Significance of the Study part	3.43	Very easy	3.06	Easy
8. Citing related literature	2.43	Difficult	2.29	Difficult
9. Citing related studies	2.50	Difficult	2.20	Difficult
10. Writing the definition of terms	3.79	Very easy	3.49	Very easy
11. Making the conceptual framework	3.21	Easy	2.94	Easy
12. Writing research methodology	3.14	Easy	2.66	Easy
13. Presenting data in tabular form (Chapter 4)	2.93	Easy	2.71	Easy
14. Presenting data in textual form (Chapter 4)	3.00	Easy	2.51	Easy
15. Interpreting data with citations from the findings of other studies (Chapter 4)	2.57	Easy	2.11	Difficult
16. Summarizing the findings of the study in Chapter 5	3.00	Easy	2.74	Easy
17. Writing the Conclusion part in Chapter 5	3.07	Easy	2.89	Easy
18. Writing the Recommendation part in Chapter 5	3.00	Easy	2.57	Easy
19 Formatting the Reference page/s	3.29	Very easy	3.14	Easy
20. Writing the abstract part	2.93	Easy	2.89	Easy
Overall Weighted Mean	3.01	Easy	2.75	Easy
p-value		.056		
Decision		Fail to reject Ho		

Remarks	No significant difference

Table 5 showcases the difference of respondents in writing research paper in terms of research design. The respondents were grouped according to the research design they used in their study, the descriptive research group and experimental research group. The data shows that both groups of respondents found it *'difficult'* to *formulate research title*. This is shown on the 2.36 overall weighted mean from the descriptive research group, while 2.00 weighted mean from the experimental research group. In writing the *Introduction part*, descriptive research respondents found it *'very easy'* to write it, with the weighted mean of 3.29, while the experimental research respondents found it *easy'* to write the introduction part, with the weighted mean of 3.09.,

Moreover, when the respondents were asked to rate the level of their competency level in writing the research paper in terms of research design, both groups answered that it was '*easy' to write the research problem*. It is based on the weighted mean of 3.07 from descriptive research respondents and 3.09 from experimental research respondents. It is followed by the data that both groups of respondents answered that it was '*difficult' to write the research questions, which* is manifested on 2.50 weighted mean from the descriptive research respondents and 2.23 weighted mean from the descriptive research respondents. In addition, it also presents that both groups found it *'very easy'* to formulate hypothesis, based on the weighted mean of 3.57 from the descriptive research respondents, and 3.54 from the experimental research respondents. Furthermore, both groups answered that it was *'easy'* to *write the Scope and Limitation of the Study,* based on the accumulated weighted mean of 3.14 from the descriptive research respondents, and 2.89 weighted mean from the experimental research respondents. In *identifying the beneficiaries of the study by writing the Significance of the Study part, the* descriptive research respondents rated it as *'very easy',* *with* the 3.43 weighted mean, while the experimental research respondents rated it as *easy', with* the 3.06 weighted mean.

Intriguingly, both groups of respondents found it *'difficult'* to *cite related literature and studie*s. It is based on the weighted mean that was accumulated from *citing the related literature part*, where 2.43 weighted mean from the descriptive research respondents and 2.29 weighted mean from the experimental research respondents. It is also manifested from the weighted mean that was accumulated from *citing the related studies part*, where 2.50 weighted mean from the descriptive research respondents and 2.20 weighted mean from the experimental research respondents. Also, in terms of *writing the definition of terms,* both groups rated that it was *'very easy' defining the terms*, as shown in the data of descriptive research respondents, which garnered 3.79 weighted mean, while the experimental research respondents gained 3.49 weighted mean. Both groups answered that *making the conceptual framework* and *writing the research methodology* are *'easy'* tasks. It is based on the weighted mean that was accumulated from *Making the conceptual framework*, where 3.21 weighted mean from the descriptive research respondents and 2.94 weighted mean from the experimental research respondents, and manifested from the weighted mean that was accumulated from *Writing research methodology part,* where 3.14 weighted mean from the descriptive research respondents and 2.66 weighted mean from the male respondents.

Furthermore, both groups of respondents have the same view in *presenting data in tabular form in Chapter 4*. Both groups of respondents answered that they found it *'easy'* to *present data in tabular form,* as shown on the 2.93 weighted mean from the descriptive research respondents, and 2.71 weighted mean from the experimental research respondents. In terms of presenting data in textual form in Chapter 4, both groups found it *'easy'* to do so. It is manifested on the responses of the respondents wherein the descriptive research responses garnered 3.00 weighted mean from, while the experimental research respondents gained 2.51 weighted mean. In connection to data, it shows that each group has different competency level. Descriptive research respondents rated that it was '*easy'* to *interpret data with citations from the findings of other studies in Chapter 4,* based on the accumulated 2.57 weighted mean. *On the other hand, the* experimental research respondents rated that it was *'difficult'* to interpret *data with citations from the findings of other studies in Chapter 4, as manifested in the accumulated weighted mean of 2.11.*

Similarly, both groups rated that it was '*easy*' to *summarize the findings of the study in Chapter 5.* This is shown on the 3.00 overall weighted mean from the descriptive research respondents, while 2.74 weighted mean from the experimental research respondents. While in *writing the conclusion part in Chapter 5,* both groups answered that it was '*easy*' *writing the conclusion part*. It is based on the with 3.07 weighted mean from the descriptive research respondents, and 2.89 weighted mean from the experimental research respondents. Also, in writing the *Recommendation part in Chapter 5*, respondents have same response that it was easy to *write the Recommendation part* as shown in the accumulated 3.00 weighted mean from the descriptive research respondents and 2.57 accumulated weighted mean from the experimental research respondents. In terms of formatting the reference page, the descriptive research respondents rated it as '*very easy*', with the weighted mean of 3.29, while the experimental research respondents rated it as '*easy*', with the weighted mean of 3.14. Lastly, when the respondents were asked to rate the level of their competency level in writing the abstract part, both groups, answered that it was '*easy*' to write it, based on the weighted mean of 2.93 from descriptive research respondents and 2.89 from the experimental research respondents.

The data shows that both groups, the descriptive research group and the experimental research group, found it '*easy*' to write the research paper in terms of the type of research design. It is manifested on the accumulated 3.01 overall weighted mean from the descriptive research respondents and 2.75 overall weighted mean from the experimental research respondents. The data revealed that the p-value 0.056 is greater than 0.05 level of significance, therefore, it fails to reject the null hypothesis, which manifests that there is no significant difference in writing the parts of research paper in terms of research design, respondents found it '*easy*' to write the research paper regardless of the research design.

DISCUSSIONS

This research made an assessment of the competency level of the research students in writing their research paper. Specifically, the study sought to describe the profile of the respondents in terms of sex and research design; assess the competency level of the respondents in writing research paper in terms of its parts; find the significant difference in writing the parts of research paper in terms of sex and research design.

Profile of the researchers

Based on the data, it is revealed that females dominated the number of research leaders. As usually observed in the academic setting, it cannot be denied that female students are more engaged in writing the research paper, that is why they are usually selected as group leaders. Also, females have skills in writing fluency and writing composition. Females surpass males in terms of writing quality and text fluency. Their excellent writing style and text quality are a result of their greater English language ability (Al-Saadi, 2020). In addition, it was also found out that girls consistently outperformed boys in writing composition (Cordeiro et al, 2018; Reynolds et al. 2015).

In terms of research design, when the respondents were given the option to choose the research design of their study, it is evident that the experimental research design was preferred by the research students. They opted to create a research output, which they can test the hypothesis and measure the variables and compare the results. The data also depict those respondents were more interested in creating an output for innovation and sustainability. On the other hand, there were respondents who have opted to do the Descriptive research. It can also be interpreted those respondents were interested in describing the phenomenon or issues that are related to them, which is the main objective of Descriptive research. Another reason in choosing the Descriptive research design is that it is more practical and economical compared with doing the Experimental research, wherein researchers need to buy the materials and prepare the equipment in doing the research output. Unlike in Descriptive research, the use of survey questionnaires through Google form as a data collection device in gathering the data is easier and more economical (Dillman & Bowker, 2001).

Competency Level of Students in Writing the Research Paper

When the respondents were asked to rate the level of their competency in writing their research paper, data shows that the very easy task for them is writing the Definition of terms. Students were very competent in defining the terms in the research paper due to the reason that researchers were already certain in operationally and conceptually defining some important concepts found in the research paper. Defining the words and terms in research is important because it helps the readers and other researchers to understand the study thoroughly.

However, the data revealed that in writing the research paper, respondents answered that citing related literature and related studies are difficult tasks for them, and are less competent in doing the tasks. The data were gathered during the pandemic and quarantine days. Libraries were closed and most resources were found on the internet. The unseemly and unprecedented occurrences of the pandemic have greatly affected the wide population, causing such detrimental effects to students (Real et al., 2022b). The COVID 19 pandemic has greatly affected the direct interactions, which is why most students relied on online communication (Real et al., 2021). In the advent of technology, respondents had the leverage to search the internet in the comfort of their home. Aside from looking for valid open access journals where students can see the recent related literature and studies, they also need to cite properly, and by doing that, they need to follow the proper format and structure. Beginner researchers found it difficult to review related studies. References are easily found on the internet, but the credible material related to education and research activities are questionable (Javed, 2019). Despite the importance of citation, students struggle with it since they are unaware of its relevance and lack of understanding of its significance in their work. The most common errors in the citation are found in content and format. Moreover, the sign of plagiarism and evidence of students' insufficient critical thinking are also seen in students research writing (Rezeki, 2018). Though analysis is done after the data collection phase, evaluating and critically reviewing previous research papers should also be contemplated to identify the research gap (Kelly, 2011). Spending much effort in writing the literature review would be pointless if it serves only as a substitute for the portion of the research paper that was created to offer rationale and reference for the study. Reviewing the related literature and studies, which includes the foundational analytic component in the development of meaningful inquiry, is the foundation in the development of high-quality research (Cooper et al., 2009).

Adding to the difficult parts are writing the research questions in the Statement of the Problem or the research questions. Students are less competent in writing the research questions. The important reason for any research is the questions that researchers attempt to answer. Without the questions, the investigation cannot proceed. The investigative questions clear the purpose for doing the research paper. Respondents found it difficult to formulate SMART (specific, measurable, attainable, relevant and timebound) research questions, which signifies that though the respondents have the approved research title, they were still perplexed as to what variable or phenomenon to investigate in the study. Another thing is that respondents had difficulty in formulating research questions that require measurable variables and answerable in quantifiable terms. The use of instruments and tools in collecting data are also considered. Research questions are constructed in a way that enhances and matches the project's research goals, theoretical and philosophical frameworks and methods. Research questions are written in a way that supports the research objectives, theoretical framework, and research procedures (Trede & Higgs, 2009).

Furthermore, statistics revealed that respondents found it difficult interpreting data in Chapter 4. Students are less competent in interpreting data. It is interesting to see that based on the data, respondents found it easy to present the data in tabular and textual forms. However, though the data have been presented, respondents are puzzled on how to interpret them and meaning making is difficult for them. Data do not speak for themselves, as they do not have their own meaning, that is why data must be interpreted. Interpretation of data explains what the results of the study mean. The goal of conducting research is to create results, and in order to do so, data must be analysed in order for data to be transformed into findings. Issues of quantifying the research variables lead to data that made it challenging for the students to interpret. Also, students' lack of excellent numerical sense and grasp of numbers contributed to their difficulties in interpreting the data (Glancy et al., 2017).

In addition, relating or negating the result of data through citing from related studies is one of the challenges of the research students, due to difficulty in searching for related studies and having difficulty in mastering the reference style formats (Lamptey & Atta-Obeng, 2012; Kendall, 2005). It is also evident that formulating the research title got the last on the rank that respondents rated as difficult. Students are less competent in formulating a research title.It is surprising to note that the first part in writing the research paper is the hardest part for the respondents. One of the main factors that respondents had trouble formulating research titles is that their level is still in the process of discovering and developing their field of interest. In this case, the respondents are considered too young and novice to have concrete specialization. Students are also somewhat apprehensive and hesitant to participate in research activities (Gredig & Bartelsen-Raemy, 2018; Morgenshtern et al., 2011).

In formulating a research title, students need to consider the set of guidelines set by the institutions.These guidelines include the originality, relevance, and feasibility of the topic. Students are supposed to select a topic so specialized and important that even previous researchers have neglected it (Cresswell, 2012; Pardede, 2018).

Significant difference in writing the parts of research paper in terms of sex

Overall, the data shows that there is no significant difference in writing the parts of research paper in terms of sex. Both sexes, male and female, found it easy to write the parts of the research paper. It is contrary to some of the studies that females outperform males in terms of writing fluency and text quality (Al-Saadi, 2020; Cordeiro et al, 2018; Reynolds et al. 2015).

Interestingly, there are some parts of the paper that females had difficulty writing, while males had found it easy writing, and vice versa. Female respondents had difficulty writing the research questions, while male respondents found it easy to write research questions. The respondents have different views in presenting data in tabular form in Chapter 4. Female respondents found it easy to present data in tabular form, while male respondents had difficulty presenting data in tabular form.

Significant difference in writing the parts of research paper in terms of research paradigm

The data shows that both groups, the descriptive research group and the experimental research group, found it easy to write the research paper in terms of the type of research design. It disproved the notion that experimental research is easier compared with descriptive research or vice versa, since the data shows no significant difference in writing the parts of research paper in terms of research design.

CONCLUSION AND RECOMMENDATION

In order to promote quality research papers, the research writing process should be considered. It is concluded that students were competent in writing some parts of research paper, but less competent in writing the few parts of it. They had difficulty in citing related literature and studies; had difficulty writing the research questions in the Statement of the Problem or the research questions; had difficulty in interpreting data; and had difficulty in formulating the research title. It is recommended that more lessons, more discussions, and more time in the mentioned parts of the research paper. The once-a-week research meeting is not enough for the students, since they need more time to cite related literature and studies, more time to formulate specific, measurable, attainable, relevant, and timebound (SMART) research questions; more time to interpret data; and more time to formulate research title. The other parts of research paper, specifically the ones that students found easy, should be discussed briefly. Thus, recalibration of the research curriculum in the Junior High School level should be considered. It is also concluded that females dominated the number of research leaders and lead writers. Interestingly, there are some parts of the paper that females had difficulty writing, while males had found it easy writing, and vice versa. In research groupings, maintaining the equal of number of males and females should still be considered. Overall, the result shows that there is no significant difference in writing the parts of research paper in terms of sex. Both sexes, male and female, found it easy to write the parts of the research paper, which means that there is no dominant sex that can be assigned as lead

writer or research leader. In assigning the research leaders and lead writers, males can volunteer or can be delegated in doing the task by the group members. Research teachers can also encourage the males to volunteer as research leaders and lead writers, and not be intimidated by the superiority level of the females.

Furthermore, it is also concluded that experimental research design is preferred by the students. They opted to create a research output, which they can test the hypothesis and measure the variables and compare the results. The data also depict those students were more interested in creating an output for innovation and sustainability, rather than describing the phenomenon or issues that are related to them. Moreso, in doing the descriptive research, students do the process of validating the questionnaire that should be aligned in the theoretical framework, sending emails for validation, for approval and for requests to conduct the study. In short, descriptive research is more tedious to do than experimental research. Another thing that needs to be considered is time frame. Students need to finish the research paper within ten months. The usual scenario that happens is that students wait for the deadline before submitting the paper. Since research subject is taken as early grade seven, they are expected to know the research process and research protocol. It is recommended that students should draft the research proposal as early as possible, so that they can plan ahead of time and submit the paper on or before the deadline, which gives more time for revisions. Research teachers should sustain the process of letting the students choose which research paradigm suits the students' needs and sustain the process that students can already start and proceed with the research process guided by their research teachers and research advisers.

The findings of this study can be utilized considering its weak and strong points. The recalibration of the research curriculum is highly recommended by sustaining and maintaining the development of activities that boost students' skills in writing their research paper, such as citing related literature and studies; writing the research questions in the Statement of the Problem or the research questions; interpreting data; and formulating the research title. Research teachers should structure activities and maintain support for students to help them finish writing the research papers. The emphasis given to citation practice at an early level will be of wider benefit to the students. Subject teachers should integrate lessons in citation of literature and studies in other subjects, since it is significant in their subjects, too. Subject teachers should enhance lessons on training students interpreting data and relating them to the real-world phenomenon.

Research students should attend research seminars relevant to their interests organized by different institutions, and attend research conferences for them to be familiarized with the research process. They may also seek mentorship or collaborate with other researchers from the other groups to serve as their benchmark and compare their progress. Research students should maintain the use of Gantt chart to track their progress on time. The school administration must develop professional development programs that address the needs of the research teachers and research students. School administration should consider the two-meeting-per-week schedule for research subject. This study was limited to a certain region and demographic. Further research needs to include bigger population, employ more detailed phenomenological research and elicit students' experience in writing the research paper.

REFERENCES

Al-Saadi, Z. (2020). Gender differences in writing: The mediating effect of language proficiency and writing fluency in text quality. *Cogent Education*, 7(1). https://doi.org/10.1080/2331186X.2020.1770923

Birion, J.C., De Jose, E.G., Dayrit, B.C., & Mapa, C.C. (2005). *Thesis and dissertation writing without anguish.* Valenzuela City: Mutya Publishing House, Inc.

Brew, A. (2007). *Research and teaching from the students' perspective. In: International policies and practices for academic enquiry: An international colloquium*: Marwell: Winchester, UK.

Cordeiro, C., Castro, S.L., & Limpo, T. (2018). Examining potential sources of gender differences in writing: The role of handwriting fluency and self-efficacy beliefs. *Written Communication*, 35(4), 448-473. https://doi.org/10.1177%2F0741088318788843

Cooper, H.M., Hedges, L.V., & Valentine, J.C. (2009). *The handbook of research synthesis of metaanalysis*. New York: Russell Sage Foundation.

Creswell, J.W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* (4th Ed.). Boston, MA: Pearson.

Dillman, D.A. & Bowker, D.K. (2001). The web questionnaire challenge to survey methodologists. *Online social sciences*, 7, 53-71. https://www.researchgate.net/profile/Don-Dillman/publication/

Glancy, A.W., Moore, T.J., Guzey, S., & Smith, K.A. (2017). Students' successes and challenges applying data analysis and measurement skills in a fifth-grade integrated STEM unit. *Journal of Pre-College Engineering Education Research (J-PEER),* 7(1), 5. https://doi.org/10.7771/2157-9288.1159

Gredig, D. & Bartelsen-Raemy, A. (2018). Exploring social work students' attitudes toward research courses: Predictors of interest in research-related courses among first year students enrolled in a bachelor's programme in Switzerland. *Social Work Education,* 37(2), 190-208. https://doi.org/10.1080/02615479.2017.1389880

Harland, D.J. (2011). *STEM student research handbook*. NSTA Press.

Healey, M., Jenkins, A., & Lea, J. (2014). *Developing Research-Based Curricula in College-Based Higher Education.* Higher Education Academy.

Javed, M. (2019). What are the Problems for Students in Writing The First Research Paper in a Second Language?. *International Journal Online of Humanities*, 5(5). https://d1wqtxts1xzle7.cloudfront.net/61221725/139-

Kendall, M. (2005). Tackling student referencing errors through an online tutorial. AslibProceedings: *New Information Perspectives,* 57(2),131-145. https. www.emeraldinsight.com/0001-253X.html

Kelley, C. (2011). Reviewing literature and formulating problems. *The SAGE Handbook for Research in Education: Pursuing ideas as the keystone of exemplary inquiry 2nd ed*, 83-92.

Lamptey, R.B. & Atta-Obeng, H. (2012). Challenges with Reference Citations Among Postgraduate Students at the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. *Journal of Science and Technology (Ghana)*, 32(3), 69-80. https://doi.org/10.4314/just.v32i3.8

Morgenshtern, M., Freymond, N., Agyapong, S., & Greeson, C. (2011). Graduate social work students' attitudes toward research: Problems and prospects. *Journal of Teaching in Social* Work, 31(5), 552–568. https://doi.org/10.1080/08841233.2011.615287

Oriokot, L., Buwembo, W., Munabi, I. G., & Kijjambu, S. C. (2011). *The introduction, methods, results and discussion (IMRAD) structure: a Survey of its use in different authoring partnerships in a students' journal.* BMC research notes. https://www.bmcresnotes.biomedcentral.com/articles/10.1186/1756-0500-4-250

Padagas, R.C., & Hajan, B.H. (2020). Academic reading and writing needs of undergraduate nursing students in research. *International Journal of Learning, Teaching and Educational Research*, *19*(5), 318-335. https://doi.org/10.26803/ijlter.19.5.20

Pardede, P. (2018). *Identifying and formulating the research problem.* Research gate. https://www.researchgate.net/publication/329179630

Real, J. (2020). *Fundamentals of Research Design: A Guide to Research Proposal.* Philippine School Doha, Doha Qatar.

Real, J. A. B. (2022). 21st century competencies of teachers in teacher education institutions: Basis for designing faculty development program. *International Research Journal of Science, Technology, Education, and Management, 2(2), 153-164. https://doi.org/10.5281/zenodo.6951452

Real, J.A., Carandang, M.A.D., Contreras, A.G.L., & Diokno, P.C.J. (2021). The Perceived Effects of Using Nonverbal Language to the Online Communication of the Junior High School Students. *International Journal of Research Publications*, 73(1), 12-12. https://doi.org/10.47119/ijrp100731320211823

Real, J.A., Cortez, Y.C., Meñez, J.C.M., Avendaño, H.R.D., Maquinaña, H.G.B., Reyes, S.D.E., ... & Nonato, A.B.E. (2022). Behind the Masks of Bravery: A Phenomenological Study on the Challenges and Adjustments of Filipino Frontliners in Qatar. *International Journal of Research Publications,* 93(1), 14-14. https://doi.org/10.47119/IJRP100931120222808

Real, J., Madriaga, I., Enriquez, M., Asis, M., Cunanan, J., Lantaca, P., & Lima C. (2022b). Behind the Front row: Tapping the Lived Experiences of Overseas Filipino Students with Fronliner Parents in the state of Qatar, A phenomenology. *International Journal of Advanced Research* 10(01):39-49. https://doi.org/10.21474/IJAR01/14009

Real, J., Sumaling, Y., Abdurasid, H., Dela Rosa, K., Dofredo, D., & Guiang, A. (2020). Stress Response Syndrome: The Struggles of PSD SHS Students who are Distressed in Certain Situations. *International Journal for Research in Applied Science & Engineering Technology,* 8(I), 645-661. https://doi.org/10.22214/ijraset.2020.1116

Reynolds, M.R., Scheiber, C., Hajovsky, D.B., Schwartz, B., & Kaufman, A.S. (2015). Gender differences in academic achievement: Is writing an exception to the gender similarities hypothesis?. *The Journal of genetic psychology,* 176(4), 211-234. https://doi.org/10.1080/00221325.2015.1036833

Rezeki, Y. S. (2018). Analysis of EFL Students' Citation Practices and Problems in Academic Writing. *International Journal of Educational Best Practices,* 2(1), 62-72. https://doi.org/10.31258/ijebp.v2n1.p62-72

Schilderman, H. (2012). *Quantitative method. The Wiley-Blackwell companion to practical theology*, 123-132. https://doi.org/10.1002/9781444345742

Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist*, 34(1), 8-12. https://doi.org/0.1097/NUR.0000000000000493

Tabuena, A.C. (2020). Students' perception in the implementation of the IMRaD structure approach and its implications on the research writing process. *International Journal of Research Studies in Education*, 9(7), 55-65. https://www.papers.ssrn.com/sol3/papers.cfm?abstract_id=3729119

Trede, F. & Higgs, J. (2009). *Framing research questions and writing philosophically: The role of framing research questions. In Writing qualitative research on practice.* Brill. https://doi.org/10.1163/9789087909086_003

Wilang, J.D., Jantori, P., & Chutataweesawas, S. (2018). *Worries of Novice Researchers in Writing Research Papers.* ERIC. https://www. eric.ed.gov/?id=ED583670