

*An Assessment on the Level of Research Competencies of Grade 12-Senior High School Students in a Parochial School*

Gregorio Sismondo, The National Teachers College and Holy Trinity Academy,  
Philippines

The Asian Conference on Education & International Development 2020  
Official Conference Proceedings

**Abstract**

Research is one of the important academic endeavors for the senior high school. It is considered an important skill that every student should possess being part of the academe. Inquiries, investigation and immersion is a subject in Grade 12 wherein the students are expected to apply the knowledge they gained from the subjects Practical Research 1 and 2. The researcher wanted to find out the level of competencies of his students in research. He also wanted to determine which among these competencies students had developed their strengths based on the inputs provided by the teacher during discussion and weaknesses that need to be enhanced. A descriptive survey was used in this research. A validated survey instrument was utilized to gather the necessary data. Interview was used to further verify the results of the study. Weighted mean and standard deviation were used to treat the data. The results revealed that the over-all total weighted mean of the students' competencies in research was 3.24 or satisfactory. The researcher concluded that the competencies in research of the Grade 12 students need to be improved. It is hereby recommended that the teachers in research should really focus on teaching the important skills in research. Students should be trained on how to analyze data, teach them on how to properly present findings of the study and come up with sound and correct conclusions and recommendations. Finally, this recommendation should be used as guide by the researcher in teaching research for the next school years.

Keywords: Assessment, Inquiries, Investigation & Immersions, Level of Research Competencies, & Senior High School Students

**iafor**

The International Academic Forum

[www.iafor.org](http://www.iafor.org)

## **Introduction**

Research is one of the important academic endeavors included in the new K-12 curriculum for the Senior High School. In this new curriculum, the students starting from grade 11 are given ideas about research, its nature and different types or methods. As cited by Bueno (2016) research is defined by Kerlinger (1973) as systematic, controlled, empirical, and critical investigation of hypothetical propositions about the presumed relations among natural phenomena. Successful research is characterized by wide reading or literature review, thoroughness, independent of opinion or critical, originality, creativity and novelty and effectiveness (Bueno, 2016). Research as academic endeavor requires various skills from the persons who conduct it. Perfecto (2010) discussed that research paper requires reading and writing. It is perusing extensively over materials, weighing the relevance of each one and weaving such in information with the researcher's own ideas so that the paper is not merely a patchwork of quilted ideas but an appropriate integration of personal ideas and professional evidence.

Conducting research serves myriads of purposes which include seeking of knowledge and providing useful information in the form of verifiable data. It begins or starts in the recognition of problems or identification of a topic (Sanchez, 1997). Since research is a challenging and meaningful endeavor, the students should develop their skills and prepare for these skills that they need in the collegiate level. Even among the teachers, conducting research is encouraged. Research is seen as a mean to improve the teaching practices of the teachers. However, Taber (2007) clearly elucidated that changing teaching behavior on the basis of research is only advisable when educators are convinced that a research has been done well and is likely to apply in their own professional context.

Studying research provides varied purposes to the students. According to Perfecto (2010) the immediate purpose of a research is to learn about something and to present it in written form. Knowing how to write the research paper is a pre-requisite skill across disciplines in both secondary and tertiary levels. It is crucial in the academic survival that students master the skills involved in research paper writing. In a very real sense, this is the kind of activity that students expect to do over again until they graduate. Bueno (2016) mentioned that research orient students to the nature of educational research, its purposes, forms and importance. It also provides information which helps students become more intelligent consumers of educational research; where to locate it, how to understand it, and critique it. Furthermore, it also provides information on the fundamentals of doing educational research such as selecting a problem, using available tools, organizing a project. Lastly, it generates new theories, confirms existing ones or disapproves them.

Meanwhile, Brew (2006) presented what should be the focus of teachers who are teaching research among the students especially in the higher years. According to her, students may learn about the nature of research more generally. Instead of a focus on the content of research, the teaching may focus on students learning about the processes of research. In this regard, they may be expected to develop research skills and these may be related to the acquisition of selected set of graduate attributes. In addition, both the content and process of research may be the subject of students' learning. Students may be expected to engage in interdisciplinary projects or to learn

about research as critical analysis or about the use of research in professional practice or about research as a social practice.

There is one subject in the Grade 12 wherein the students are expected to apply the knowledge they gained from the subjects Practical Research 1 and 2. This subject refers to Inquiries, Investigation and Immersion. In this subject, the students should manifest the competencies stipulated in the curriculum guide provided by the Department of Education (Deped) which are mostly about research. This is the first time that this subject is given to the Senior High School wherein the researcher is also a teacher. Since the subject is offered for the first time, the researcher being a first timer teacher in handling this subject would like to find out the level of competencies of his students in research. He also wants to determine which among these competencies the students had developed their strengths based on the inputs provided by the teacher during discussion and weaknesses that need to be enhanced in the remaining months before the end of the semester.

To achieve this objective, the researcher will find answers to the following specific questions:

1. How do the students assess their competencies in research in terms of the following:
  - 1.1. writing and developing the problem and its background;
  - 1.2. writing and reviewing related literature and studies;
  - 1.3. writing and preparing the method of study;
  - 1.4. writing, presenting, analyzing and interpreting data and
  - 1.5. reporting the findings, conclusions and recommendations?
2. How can the over-all level of research competencies of the grade 12 students be described based from their assessment?

According to the formulated research objectives and specific problems, the researcher chose the quantitative method as an appropriate research method. According to Bueno (2016) as he cited the idea of Creswell (1994), quantitative research is an inquiry into a social or human problems, based on testing a theory composed of variables, measured with numbers and analyzed with statistical procedure, in order to determine whether the predictive generalizations of the theory holds true. Specifically, he chose the descriptive survey design as an appropriate design for this research. According to Misa (2013) as he cited the ideas of Garcia and Raganit (2010), survey research is used to learn about people's attitudes, beliefs, values, demographics facts, behaviors, opinions, habits, desires, ideas and other information. Descriptive survey is the general procedure employed in studies that have for their chief purpose the description of phenomena in contrast to ascertaining what caused them and what their value and significance are (Sanchez, 1997)

The researcher started with development of research instrument in which its contents came from the competencies stipulated and prescribed in the curriculum guide of the Department of Education. The said research instrument is composed of five major competencies which include writing and developing the problem and its background, writing and reviewing related literature and studies, writing and preparing the method of study, writing, presenting, analyzing and interpreting data and reporting finding, conclusions and recommendations. These five major competencies have twenty eight

sub-competencies. The said instrument was validated by the expert in terms of its content and grammar.

Interview was also used in order for the researcher to verify the answers of the respondents and support the results or findings of the study.

The participants involved in this research were selected from the two classes being handled by the researcher during the second semester of School Year 2017-2018. The total number of participants is 63 learners. Convenience sampling was utilized by the researcher in choosing his participants in this research.

In order to determine and describe the level of competencies of the Grade 12 students in research, the likert scale presented below was used.

4.50-5.00	-	Excellent
3.50-4.49	-	Very Satisfactory
2.50-3.49	-	Satisfactory
1.50-2.49	-	Good
1.00-1.49	-	Needs Improvement

To determine the strengths and weaknesses of the students in their competencies in research, the students should get an assessment below or above 2.50 or quantitative description of satisfactory. Furthermore, to determine and describe the over-all performance of the students in the different competencies in research weighted mean and standard deviation were used. The Microsoft excel was utilized to processed the data derived in this study.

The researcher attempted to seek answers to five four questions, and the findings and discussions are provided in the subsequent paragraph.

1. How do the students assess their competencies in research in terms of the following:

Table 1. Assessment of the Students' Competencies in Research in terms of Writing and Developing the Problem and Its Background

<b>Sub-Competencies</b>	<b>WM</b>	<b>Description</b>	<b>Rank</b>
1.Design a research that is useful	3.56	Very Satisfactory	1
2.Write an acceptable research problem	3.41	Satisfactory	5
3.Describe background of specific research	3.37	Satisfactory	6.5
4.State research questions or objectives	3.48	Very Satisfactory	3
5.Indicate scope and delimitations of study	3.43	Very Satisfactory	4

6.Cite benefits and beneficiaries of specific research	3.51	Very Satisfactory	2
7.Defend feasibility of the research	3.25	Satisfactory	8
8.Look, cite and explain appropriate theory or concept to develop theoretical framework or conceptual framework	3.19	Satisfactory	9
9. Define the terms operationally	3.37	Satisfactory	6.5
10. List the hypothesis of the study	3.06	Satisfactory	11
11.Present the written statement of the problem	3.08	Satisfactory	10
<b>Total Weighted Mean</b>	<b>3.34</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.17</b>		

Table 1 reveals that indicator number 1 which is design a research that is useful received the highest assessment of 3.56 or very satisfactory. Next to this indicator is number 6 which is “cite benefits and beneficiaries of specific research” with 3.51 or very satisfactory. Furthermore, indicator number 4 received an assessment of 3.48 or very satisfactory.

Indicators number 2, 3, 7, 9, 8, 10 and 11 have weighted means of 3.41, 3.37, 3.25, 3.06, 3.19, 3.06 and 3.08 respectively and described as satisfactory. The total weighted mean is 3.34 or satisfactory. The standard deviation is 0.17.

The result of this research only suggests that the respondents believe that they can design a research that is useful. This competency begins from the awareness of the respondents about the problem they encounter in the institution or the environment they are part of which necessitate research. They are also competent in citing the benefits of the research that they think about or develop. They also believe that they can indicate the scope and delimitation of their study.

On the other hand, the respondents revealed that there is a need to strengthen their research competence in the areas such as presenting the statement of the problem and listing the hypothesis of the research. This indicates the researcher as teacher in this subject should strengthen the skills of the students in this area. This result is similar to the idea developed by Kerlinger (1973) that research as systematic, controlled, empirical, and critical investigation of hypothetical prepositions about the presumed relations among natural phenomena.

Table 2. Assessment of the Students’ Competencies in Research in terms of Writing and Reviewing Literature and Studies

<b>Sub-Competencies</b>	<b>Weighted Mean</b>	<b>Description</b>	<b>Rank</b>
1.Select, cite and synthesize judiciously related literature	3.22	Satisfactory	3.5
2. Use sources according to ethical standards	3.22	Satisfactory	3.5

3. Present written review of literature	3.25	Satisfactory	1
4. Select and cite relevant literature using standard style	3.24	Satisfactory	2
<b>Total Weighted Mean</b>	<b>3.23</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.015</b>		

Table 2 presents the assessment of the students on their competencies in research in terms of writing and reviewing literature and studies. Indicator number 3 which is “present written review of literature” has a weighted mean of 3.25 or satisfactory. This is followed by indicator number 4 “select and cite relevant literature using standard style” with weighted mean of 3.24 or satisfactory. On the other hand two indicators have similar weighted means of 3.22 or satisfactory. The total weighted mean is 3.23 or satisfactory. These indicators are “select, cite and synthesize judiciously related literature and “use sources according to ethical standards”. The standard deviation in this competency is 0.015.

This result only suggests that the researcher really needs to strengthen the competencies of the students in terms of writing and reviewing literature and studies. The competencies of the students in this area are needed to be developed because literature review is also an essential part in providing interpretation in the chapter four of the research. Aside from this, literature review also requires students to have the ability to rephrase and synthesize the information that they find from the sources. This part of the research also requires the students to have the ability to identify if the information they find are really relevant to the topics of their research. These skills must be properly taught to the students for them to come up with better review of literature and studies. This result coincides with Perfecto (2010) who elucidated that research is perusing extensively over materials, weighing the relevance of each one and weaving such in information with the researcher’s own ideas so that the paper is not merely a patchwork of quilted ideas but an appropriate integration of personal ideas and professional evidence.

Table 3. Assessment of the Students’ Competencies in Research in terms of Writing and Preparing the Method of Study

<b>Sub-Competencies</b>	<b>Weighted Mean</b>	<b>Description</b>	<b>Rank</b>
1. Write and describe adequately the research design	3.14	Satisfactory	3
2. Explain the appropriate sampling procedure	3.08	Satisfactory	4
3. Explain the appropriate statistical treatment of data	3.02	Satisfactory	5
4. Present the written research methodology	3.29	Satisfactory	1
5. Create appropriate research instrument	3.27	Satisfactory	2
<b>Total weighted Mean</b>	<b>3.16</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.12</b>		

Table 3 present the assessment of the students on their competencies in research in terms of writing and preparing the method of the study. Indicator 4 “present the written research methodology” has a weighted mean of 3.29 or satisfactory. Meanwhile, the indicator “create appropriate research instrument” has weighted average of 3.27 or satisfactory. This is followed by indicator 1 “write and describe adequately the research design with weighted mean of 3.14 or satisfactory. Indicators 2 “explain the appropriate sampling procedure” and 3 “explain the appropriate statistical treatment of data” have weighted means of 3.08 and 3.02 respectively or satisfactory. The total weighted mean is 3.16 or satisfactory. The standard deviation is 0.12.

This indicates that the researcher really needs also to strengthen the competencies of the students in writing and preparing the method of study in research. The researcher really needs to expound the discussion on this part so that the students will develop deeper grasp of the research methods and how these methods are applied and conducted in a research.

Table 4. Assessment of the Students’ Competencies in Research in terms of Writing, Presenting and Interpreting Data

<b>Sub-competencies</b>	<b>Weighted Mean</b>	<b>Description</b>	<b>Rank</b>
1.Present the data correctly	3.27	Satisfactory	1.5
2.Analyze the data logically	3.22	Satisfactory	4
3.Interpret the data judiciously	3.27	Satisfactory	1.5
4.Relate appropriately the results to the cited related literature and studies	3.27	Satisfactory	1.5
<b>Total Weighted Mean</b>	<b>3.26</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.025</b>		

Table 4 presents the assessment on the competencies in research of the students in terms of writing and interpreting data. Indicators 1, 3 and 4 have weighted means or satisfactory of 3.27 while indicator 2 has 3.22 or satisfactory. The total weighted mean is 3.26 or satisfactory. The standard deviation is 0.025.

This suggests that the competencies of the students in writing, presenting and interpreting data must also need to be strengthened. Writing skill is necessary in research because without this the researcher will not clearly express his ideas. Failure on the part of the researcher to express his ideas will become difficult for him to completely accomplish any research initiative. Aside writing skill, presentation of data is very important. The researcher is required to correctly present the data after using certain technique in gathering of data. Moreover, interpretation is also necessary. Data gathered in research will remain meaningless if these will not be properly interpreted by the researcher. Correct and meaningful interpretation of data is the key towards successful research. This result is congruent to Perfecto (2010) who

discussed that research paper requires reading and writing. It is perusing extensively over materials, weighing the relevance of each one and weaving such in information with the researcher's own ideas so that the paper is not merely a patchwork of quilted ideas but an appropriate integration of personal ideas and professional evidence.

Table 5. Assessment of the Students' Competencies in Research in terms of Reporting Findings, Conclusions and Recommendations

<b>Sub-competencies</b>	<b>Weighted Mean</b>	<b>Description</b>	<b>Rank</b>
1.Present the findings logically	3.25	Satisfactory	3
2. Form logical conclusions	3.24	Satisfactory	4
3. Make recommendations based on conclusions	3.41	Satisfactory	1
4. Write and present clear study	3.32	Satisfactory	2
<b>Total Weighted Mean</b>	<b>3.31</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.079</b>		

Table 5 shows the assessment of the students on their level of research competencies in terms of reporting findings, conclusions and recommendations. It was revealed that indicator 3 “make recommendations based on conclusions has a weighted mean of 3.41 or satisfactory. It is followed by indicator 4 “write and present clear study” with weighted mean of 3.32 or satisfactory. On the other hand indicator 1 “present the findings logically” has weighted mean of 3.25 or satisfactory while indicator 2 “form logical conclusions” has weighted mean of 3.24 or satisfactory. The total weighted mean is 3.31 or satisfactory. The standard deviation is 0.079.

This result suggests that the competencies of the students in terms of reporting findings, conclusions and recommendations also need to be improved. This improvement must be done because the skills needed in this aspect of research contribute in the development or creation of knowledge.

2. How can the over-all level of research competencies of the grade 12 students be described based from their assessment?

Table 6. Over-all level of Research Competencies of the Grade 12 Students

<b>Competencies</b>	<b>Total Weighted Mean</b>	<b>Description</b>	<b>Rank</b>
1. Writing and Developing the Problem and Its Background	3.34	Satisfactory	1
2. Writing and Reviewing Literature and Studies	3.23	Satisfactory	4
3. Writing and Preparing the Method of Study	3.16	Satisfactory	5



4. Writing, Presenting and Interpreting Data	3.26	Satisfactory	3
5. Reporting Findings, Conclusions and Recommendations	3.31	Satisfactory	2
<b>Over-all total Weighted Mean</b>	<b>3.24</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.07</b>		

Table 6 presents the over-all level of research competencies of grade 12 students. It was revealed that competency 1 “writing and developing the problem and its background has a total weighted mean of 3.34. or satisfactory. This is followed by competency 5 “reporting, findings, conclusions and recommendations with total weighted mean of 3.31 or satisfactory. Competency 4 “writing, presenting and interpreting data” has a total weighted mean of 3.26 or satisfactory. This is followed by competency 2 “writing and reviewing literature and studies” with total weighted mean of 3.23 or satisfactory. Lastly, competency 3 “writing, presenting and interpreting data” has a total weighted mean of 3.26 or satisfactory.

The over-all total weighted mean of the students’ competencies in research is 3.24 or described as satisfactory. The standard deviation is 0.07. This suggests that their competencies in research really need to be improved for them to become more competent in doing or conducting research.

This finding coincides with the idea of Brew (2006) who explained that students may learn about the nature of research more generally. Instead of a focus on the content of research, the teaching may focus on students learning about the processes of research. In this regard, they may be expected to develop research skills and these may be related to the acquisition of selected set of graduate attributes. Additionally, both the content and process of research may be the subject of students’ learning. Students may be expected to engage in interdisciplinary projects or to learn about research as critical analysis or about the use of research in professional practice or about research as a social practice.

## Conclusions

Based on the results and discussion, the following are the findings of this action research:

1. The weighted mean of the students in the indicator “design a research that is useful was 3.56 or satisfactory. On the other hand, their total weighted mean in the indicator “list the hypothesis of the study” was 3.06 or satisfactory.
2. The total weighted mean of the students in writing and reviewing literature and studies was 3.23 or satisfactory.
3. The total weighted mean of the students in writing and preparing the method of the study was 3.16 or satisfactory.
4. The total weighted mean of the students in writing, presenting and interpreting data was 3.26 or satisfactory.
5. The total weighted mean of the students reporting findings, conclusions and recommendations was 3.31. or satisfactory.
6. The over-all total weighted mean of the students’ competencies in research was 3.24 or satisfactory.

Based on the preceding findings, the conclusion for this research is given.:

1. The competencies in research of the grade 12 students really need to be improved.

Based on the above findings and conclusions, the following recommendations are suggested:

1. The teachers in research should really focus on teaching the important skills in research so that the students will become more capable in doing this task, how to create the hypothesis of certain research, how to properly present their citations in review of related literature and studies.
2. The teachers in research should train the students on how to analyze their data, teach the students on how to properly present findings of the study and come with sound and correct conclusions and recommendations.
3. The recommendations in this research should be used as guide by the researcher in teaching research for the next school years.

## **References**

Bueno, David C. (2016), *Practical Quantitative Research*, Books Atbp. Publishing Corporation, Barangka Drive, Mandaluyong City, Philippines.

Misa, Bryan. (2013), *The Voting Behavior of the Electorates in Baragay San Pedro, Pateros*, Unpublished Thesis, The National Teachers College, Manila, Philippine.

Perfecto, Marianne Rachel G., (2010), *Research Writing*, Anvil Publishing Incorporated, Pasig City, Philippines.

Sanchez, Custudiosa A. (1997), *Methods and Techniques*, Rex Bookstore, C.M. Recto, Avenue, Manila, Philippines.

Taber, Keith. (2007), *Classroom-Based Research and Evidence-Based Practice: A Guide for Teachers*, Sage Publication, Los Angeles, USA.

**Contact email:** [gregsismondo9377@gmail.com](mailto:gregsismondo9377@gmail.com)