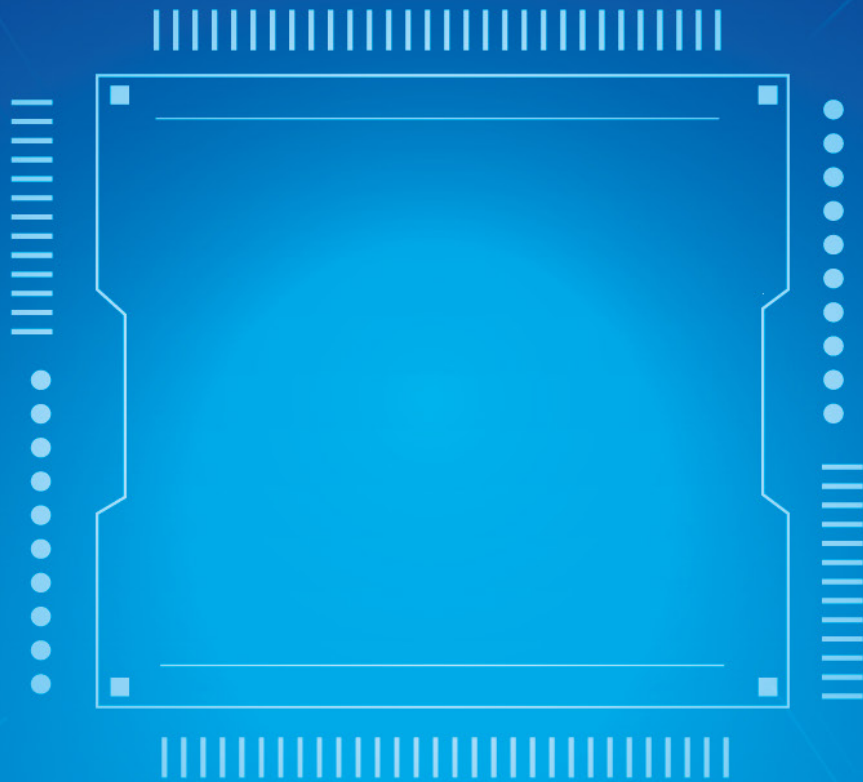




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## Effect of Activity-Based Teaching Approach in Enhancing Performance of Senior High School Learners in Writing Proper Research Citations

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### ABSTRACT

The goals of the study was: 1) to describe the level of learners' aptitudes in learning the APA style of research citations; and 2) to compare the learning achievement between two groups, (experimental and control) which disclosed the difference of two teaching approaches the activity-based teaching approach (ABTA) and the traditional method. The True Experimental Research Design were used in this study with a total sample of 60 Grade 11 learners in Techno-vocational Track and they are divided 30 from experimental group and another 30 from control group. The researcher utilized the Researcher-Made Questionnaire of Achievement Test particularly the Pre-test and Post-test which consist of 15-item-questions for each set of test. The data gathered from the learners' pre-test and post-test scores were analysed through weighted mean, standard deviation, and Independent sample t – test. It was concluded that the Activity-based Teaching Approach for research citations of selected Grade 11 learners is effective. It is proven based on the statistical result that the critical value 2.0 is higher than the computed p – value 1.47 in level of significance .05 alpha means “significant” rejecting the null hypothesis and accepting the alternative hypothesis. It suggest there is significant difference between the two groups. The experimental group (received ABTA treatment) performed better than the control group (received no treatment). The findings revealed that the students learn faster in following the proper format of research citations when they are given series of activities or exercises that provided them opportunity to practice and acquire mastery. The Activity-based Teaching Approach (ABTA) is highly recommended among teachers in teaching research citations.

### INTRODUCTION

Writing a research paper is a difficult task of the majority. However, when the individual learned the fundamental techniques, it becomes easy and enjoyable. According to Woody (cited by Chaouki, 2016), research is a careful inquiry or examination in seeking facts or principles, a diligent investigation to ascertain something. Likewise, Mouly (cited by Shuva, 2014) research is defined as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data.

Across the globe, educational institutions require every student to produce at least one research project either individually or group. In the recent educational system in the Philippines, research writing is being introduced during the second-year level of students in tertiary education.

The K to 12 program is now on its fourth year of implementation where there is a great reform of curriculum. One of the goals of new educational system in the Philippines is to develop critical thinking and problem-solving skills of learners. Practical Research 1, a qualitative approach to research, and Practical Research 2, a quantitative approach to research is being offered as applied track subjects in Senior High School program. Both two subjects are pre-requisites for the actual research writing. Hence, the learners are required to produce a complete research output prior to their graduation. In writing a research, acknowledgement of intellectual

property of others is very important and the researcher needs to have a skill in applying the proper format of research citations in his/her output. In the Senior High School of one of public school in Guyong, Santa Maria, Bulacan, learners found having difficulty in performing this skill in their research writing. This phenomenon is being observed by the majority of their respective research subject teachers. These teachers have certain degree of knowledge in research which is viewed among them to carry sufficient skills to teach the subject. It is based on their educational background that most of the teachers who are teaching research subject have their master's degree or have at least on the process of writing their master's thesis. Moreover, teachers show their skills when they collaborate on the improvement of their learners' research output. Apparently, concerns among them are the challenge on how to transfer their knowledge to the learners especially in teaching necessary skills in doing citations. It is observed that most of the learners have difficulty in performing proper format of citations such as In-text or Parenthetical Citations located within the paper and Work Cited located at the end of the paper commonly known as references. Based on the teachers' account on the research output of their learners, the problem was first observed during the early execution of practical research subject among the Grade 11 learners in the second semester of S.Y. 2016 – 2017 where 40% are not able to execute the proper format of research

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citation. This observation became frequent on the succeeding year up to the present. In the first semester of S.Y. 2017 – 2018 the number of learners who failed to follow the proper format of citations increased to 47%.

Lastly, during the S.Y. 2018 – 2019 it slightly decreased to 121 or 44% of learners were not able to follow the proper format of research citations. Within this context, the baseline of the study is presented in table 1.

**Table 1:** Distribution of Learners with Difficulty in Research Citations

Time Frame	Frequency (f)	Percentage (%)
S.Y. 2016 – 2017	135	40%
S.Y. 2017 – 2018	127	47%
S. Y. 2018 – 2019	121	44%

It can be noted in the Curriculum Guide (CG) of Practical Research 1 and 2 released by the Department of Education (DepEd) that the allotted time in teaching citations to the learners is very limited. Along with the instructions of the principle of writing citations to the learners, they need to present written review of related literature within one week which apprehended based on codes presented in the Curriculum Guide. Related literature of research is where citations are mostly applied. In other words, instructions among teachers for learners to acquire knowledge along with application of skills in research citations may have to be done within five days of classes. Although the CG cannot be adjusted to afford sufficient time in teaching and learning, teachers need to adapt effective materials and teaching strategies to address this problem. It is in this regard that this action research is interested in exploring the effect of activity-based teaching approach in enhancing the performance of senior high school learners in proper research citations.

**Objectives of the Study**

This study was directed towards achieving the following objectives: 1) To describe the level of learners’ aptitudes in learning the APA style of research citations; and 2) To compare the learning achievement between two groups, experimental and control group that disclosed the difference of the two teaching approaches.

**Hypotheses**

This study guided by the following hypotheses:  
 The researcher in this study was guided by the following hypotheses:  
 Ho: There is no significant difference between the performance of experimental group and control group.  
 Ha: There is significant difference between the performance of experimental group and control group.

**LITERATURE REVIEW**

A literature review has been carried out served as basis on the problem under investigation. A study conducted among students in higher education, most of the students showed low consciousness to cite properly. Citing sources were commonly done at the last stage in the process of writing and practice in dealing with citations is not well organized (Patak, & Naim, 2012). Similar study conducted by Kargbo (2010) undergraduate students faced difficulties in citing references in their academic

work and that they are inconsistent in the way they cite. Gorman (2017), discusses the difficulty in citing sources in APA style where different sources such as Internet websites or books have each different formats which lead to some confusion. APA style makes it difficult to cite sources since it switches its format based on the length of the title and the size of the work. The study conducted by the Journal of European Psychology Students (JEPS) in common mistakes of students in using the APA style of citation, 84% of papers submitted in the year 2012 had problem in in-text citations where there is an incorrect use of ‘*et al.*’, spelling inconsistencies, incorrect commas, as well as wrong order of multiple citations in a single parenthesis. Moreover, 90.9% made three or more mistakes when formatting their references such as incorrect use of commas, full stops, ampersands, italics, or overall incorrect formatting of the different types of references (Vasilev, 2013).

As mentioned in the earlier discussion, time is one factor that affects the teaching and learning process in writing research citations. It may be concluded that time is an important factor to consider in achieving successful learning. The study on High School Students’ Time Management Skills in Relation to Research Anxiety conducted in seven state high schools in the province of Ardahan Turkey with subjects comprising of 270 males and females grade-12 students, it was concluded as students’ time management skills improved, their research anxiety level decreases (Akcoltekin, 2015).

Research literature of this study presents comprehensive and evidenced-based support to the current conditions of students in dealing with their research citations. It can be concluded that writing research citations is very challenging that needs to be addressed among teachers by adapting a proven instructional approach. This study utilizes the Activity-Based Teaching Approach (ABTA) to improve skills of senior high school students in applying the proper format of research citations.

**MATERIALS AND METHODS**

This study employed the descriptive research design. This type of research seeks to tell “what exist” or “what is” about a certain educational phenomenon and provides a basis for decision making. According to Kowalczyk (2018), descriptive research is a study designed to depict the participants in an accurate way. It is all about describing people who take part in the study. Descriptive

research can either be qualitative or quantitative. This study is most appropriate to use the quantitative research since the central procedures involves the collection of quantitative data. The data gathered were tabulated along with a continuum of numerical form based on the pre-test and post-test scores of learners and interpreted through statistical tools. More specifically, the researcher used the True Experimental Research Design in which two groups of Grade 11 learners in Techno-Vocational Track (TVL) the control group and experimental group are the subjects of the study. The two groups of Grade 11 learners are pre-tested given the same set of questionnaires two determine if there is equality of their aptitudes. Then the treatment of ABTA was carried out to the experimental group while the control group were just given the usual instruction or received no ABTA treatment. If the post-

test differs significantly between the experimental group and control group, then the difference may be attributed to rejecting the Null Hypothesis and accepting the Alternative Hypothesis.

The participants of the study are the two classes of Grade 11 learners under Techno-Vocational Track (TVL). They are officially enrolled during the Third Quarter to Fourth Quarter Periods of S.Y. 2019 – 2020 in one public secondary school in Guyong, Santa Maria, Bulacan.

The Total Population Sampling were utilized as the sampling method since the over-all population of the study is small. Total population sampling is a type of purposive sampling that involves examining the entire population that have a particular set of characteristics (Laerd dissertation, 2012). The distribution of the participants of the study is presented in table 2.

**Table 2:** Distribution of Participants of the Study

Section	Male	Female	Total
Class A	17	13	30
Class B	25	5	30
Total	42	18	60

Table 2 presents the distribution of participants involved in this study. A total of 60 learners participated in this study where 42 are male and 18 are female. This suggest that male population is more dominant than female population. Since the focus of this study was to determine the effect of ABTA in enhancing the performance of senior high school learners in writing proper research citations, the “Differentiated Exercises” were the proposed innovation/intervention/strategy. The researcher developed a series of exercises which concentrated on the enhancement of skills of learners in writing research citations. These exercises as intervention strategy were organized from simple to the complicated proper format of APA style 6th edition of research citations.

Specifically, the first procedure was the review of the Curriculum Guide (CG) in Practical Research 1 and 2, qualitative and quantitative research. This procedure is very important because it defines the expected learning competencies of the learners, allotted time for instructions and skills application, and basis of the researchers in framing adjustments. The second procedure focused on the preparation of teaching materials particularly a manuscript of the lessons. This manuscript served as the primary source of information of the teacher who facilitates instructions to the learners. Third is the construction of the pre-test and post-test which consists of 15-item-questions steered from the Bloom’s Taxonomy of Test Construction. Fourth were the administration of the pre-test to the learners to determine learning needs and the two sample classes based on the close similarity of their scores. Fifth was the re-evaluation of the lesson manuscript including activity sheets (differentiated exercises) that ensures the adequacy and relevance of the content. Sixth were the preparation of learning materials such as audio-visual aids, sets of samples on

In-text and Work cited citations distributed individually to the learners, and other learning materials. Seventh were the planning of remedial class schedule between the teachers involved in the study and the learners along with a short phase orientation. Eight were the remedial classes which took 40 minutes of 3 days a week and lasted one month with a total of 8 hours. Ninth were the administration of post-test that served as determinant of learners’ learning outcomes. Once the results of the pre-test and post-test was interpreted using statistical tool, the researcher continued to the final process which is the validation of the effect of Activity-Based Teaching Approach in enhancing the performance of senior high school students in writing proper research citations.

The researcher utilized the Researcher-Made Questionnaire of Achievement Test particularly the Pre-test and Post-test which consist of 15-item-questions for each set of tests. The two tests differ each question but it measures the same level of competencies. The creation of the tests was guided by the Bloom’s Taxonomy of Test Construction to attain accuracy of the learning assessment. It was validated by three experts, a Master Teacher, Assistant Principal, and Principal of the school. Lastly, the researcher conducted a dry run to a group of students who are not related to the study to secure that the test can be easily understood and free from error during the actual administration.

The data gathered from the learners’ pre-test and post-test scores were analyzed through weighted mean, standard deviation, and Independent sample t – test. The Independent sample t – test is an inferential statistical test that determines whether there is a statistically significant difference between the means in two unrelated groups (Laerd statistics, n.d.). The researcher was interested in determining if there a difference in the post-test scores of

learners following the Activity-Based Teaching Approach in writing the proper format of research citations. The researcher sought authorization to conduct a study by sending a research proposal to the Schools Division of Bulacan. Once the proposal was approved, the researcher conducted an orientation to the learners who were the participants of the study accompanied by their class teacher adviser. The orientation went along with the arrangement of schedules for the administration of pre-test, remedial classes, and finally the administration of post-test which all covered the data gathering procedures. To ensure high standards in ethical conduct of scientific inquiry, the researcher secured the following:

1. Permission to Conduct a Study. This component of ethical consideration in conducting the study is primarily sending an approval letter to the School Principal where the researcher is currently working and where the study was conducted prior to the sending of complete manuscript of research proposal to the Schools Division Superintendent.
2. Student Assent to Participants in the Study. The researcher disseminated a letter to the learners informing them about the study, its purpose, and procedures.
3. Informed Consent. Since majority of the participants of the study are below 18 years old regarded as minor, the parents of the learners were also given a letter and secured their signature signifies that they were informed and providing their consent allowing their child

to participate in the study.

4. Declaration of Anti-Plagiarism. This refer to a written oath signed by the researcher, an assurance that the entire research is original where the information and statements adapted from other researchers and authors were paraphrased and properly cited.

5. Declaration of Absence of Conflict Interest. This refer to another written oath signed by the researcher, expressing that the conduct of the study is morally directed to the goal of contributing body of knowledge in the field of teaching and learning.

### RESULTS AND DISCUSSION

There are types of True Experimental Study Design: a) post-test only design; b) pre-test-post-test design; and Solomon four groups design (Gautam, 2017). This study applied the pre-test-post-test true experiment study design since the participants are assigned to the experimental group and control group. Both groups are pre-tested, yet only the experimental group received the treatment while the control group received traditional approach in teaching research citations. After the treatment, the two groups went through the post-test to answer the hypothesis of the study which were discussed in the later part of this paper. The result of this study was arranged based on the research questions as follows:

How may the scores of the learners be described based on the results of pre-test and post-test?

**Table 3:** Pre-Assessment Results of the Experimental Group and Control Group

Group	Mean	Standard Deviation	Margin of Error
Experimental	4.03	1.65	
Control	4.16	1.74	.03

Table 3 shows the pre-assessment result of learners both experimental group and control group. It could be gleaned that the two groups suggest equal scores wherein the learners from the experimental group obtained mean score of 4.03 with the standard deviation 1.65 while the

control group obtained mean score of 4.16 with standard deviation 1.74 in a margin of error .03. The statistical results indicates that both groups suggest parallel results of evaluation on pre-assessment performances compared in terms of learners' aptitudes in learning the research citations.

**Table 4:** Post-Assessment Results of the Experimental Group and Control Group

Group	Mean	Standard Deviation	Margin of Error
Experimental	10.1	1.86	
Control	4.4	1.77	.03

Table 4 presents the post-assessment result of learners' academic achievement for both experimental and control groups. It could be gleaned that the experimental group obtained mean score 10.1 with the standard deviation 1.86 while the control group obtained mean score of 4.4 with the standard deviation 1.77 in a margin of error .03. These values

suggests that the experimental group performed better since it has a higher mean score compared to the control group.

2. Is there a difference in the port-test scores of the experimental group following the ABTA as compared to the control group?

**Table 5:** Test of Difference on the Post-Assessment of Experimental and Control Groups

Interpretation Experimental	Mean Score Control	Critical Value	Computed p – value	Level of Significance	Adjectival
			P(P< = t)	Alpha	
10.1	4.4	2	1.47	0.05	Significant

Table 5 presents the test of difference on the post-assessment of experimental and control groups. It could be gleaned that the critical value 2.0 is higher than the computed  $p$  – value 1.47 in level of significance .05 alpha which means “significant” rejecting the null hypothesis and accepting the alternative hypothesis. This statistical result suggests that there is significant difference between the performance of experimental group and control group. The experimental group performed better following the activity-based teaching approach than the control group who received no treatment of ABTA or just the usual instructions.

#### What pedagogical implications can be drawn based on the result of the data gathered?

The data gathered provides evidence that the Activity – Based Teaching Approach found to be effective as method in teaching research citations. The participants learn faster in following the proper format of research citations when they are given series exercises which provide them opportunity to practice and acquire mastery. These findings also supported by most of students in the experimental group where they expressed their feedback on the given series of activities. According to them the activities had helped them a lot to organize their ideas since it was presented from simple to complicated format of research citations. They also expressed that in learning the proper format of research citations, it is very important to have the opportunity to practice through series of activities to master the skills. These findings apply one on the theory of learning of Thorndike, the Law of Exercise. The law of exercise states that learning takes place by doing or by actively participating or by exercising any work. In actual practice a man learns when he does and one does not learn, if he does not do (Sheriv, n.d.).

#### CONCLUSION AND RECOMMENDATIONS

With the forgoing findings, it is concluded that the Activity-based Teaching Approach for selected Grade 11 learners in in one public secondary school in Guyong, Santa Maria, Bulacan found to be effective in enhancing their performance in writing proper research citations. It is proven based on the statistical result which suggest that there is significant difference between the two groups. The experimental group (received ABTA treatment) performed better than the control group (received no treatment).

Having these inferences at hand, the researcher recommends the following actions:

1. The Activity-based Teaching Approach (ABTA) is highly recommended among teachers in teaching research citations. Hence, the reproduction of materials used in this study may be utilized since the tools was scientifically tested and validated.

2. Enhancement of the PowerPoint Presentation of the lessons through additional audio-visual effects as well as the exercises tools by making it over into activity booklets is highly encouraged among teachers to facilitate more

effective teaching and learning engagement.

3. Replication of this study using the same tools with different research settings is suggested to further validate or strengthen the findings. As the researcher conducted this study in a public school and in rural area, other researchers may also conduct this study in private schools or educational institutions situated in the urban areas.

4. Finally, variable of sex maybe considered by the future researchers who will utilize these materials to determine the difference between male and female learners on the effect of Activity-Based Teaching Approach on learning the proper format of research citations.

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