

EFFECTS OF DIGITIZED INSTRUCTIONAL MATERIALS IN THE PERFORMANCE OF GRADE 3 LEARNERS IN ENGLISH

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Abstract. This study aimed to determine the effects of digitized instructional materials in the performance of Grade 3 learners in English at Colegio Anunciata, San Carlos City, Pangasinan during the School Year 201-2019. During tests, the experimental group significantly performed higher than the control group. The computed t-value is 6.14 which is higher than the critical value of 2.045 at 0.05 level of significance with 29 degrees of freedom. The null hypothesis which states that there is no significant difference in the performance of the groups of Grade 3 learners in the post-test is rejected. There is also a significant difference in the performance of the control group in the pre-test and post-test. The computed t-value of 14.469 which is greater than the critical value of 2.145 at 0.05 level of significance with degree of freedom of 14. There is also a significant difference in the performance of the experimental group in the pre-test and post-test. The computed t-value of 18.812 which is greater than the critical value of 2.131 at 0.05 level of significance with degree of freedom of 15.

Keywords. digitized instruction materials, effects, performance, grade 3 learners, English

1 Introduction

Technological advancement has been unavoidable in all walks of life. Education is not an exemption. As we are gearing toward advanced teaching and learning process, we seek to cope up with the needs and demands of 21st Century Learning brought about by the so called “21st Century Learners” and so we have to adapt ourselves and should also become “21st Century Teachers”.

English language education in our country has evolved multiple times to continually address the issues in developing the language competencies and academic achievement of the Filipinos. (Alipasa, 2016)

The first step to enhancing the quality of Education is by closing the technological gaps in Information and Communication Technology (ICT) in the Philippines, as stated by the Department of Education’s Bureau of Curriculum Development Director Jocelyn Andaya. (Education Summit, 2017) As stipulated in DepEd Memo No. 20, s. 2013, teachers should maximize the utilization of various packages of Instructional Materials to ensure, “creative, interactive, interesting, meaningful and enjoyable learning activities in the day-today life of the students”.

The world is now in the “knowledge age” where the challenge of education is to prepare learners to deal with the challenges of the changing world. Students in this age must be prepared to compete in a global economy, understand and operate complex communication and information systems, and apply higher level thinking skills to make decisions and solve problems (K to 12 English Curriculum Guide, May 2016).

Every teacher needs supplies and resources in order to have a successful classroom. Writing utensils, paper, and inspirational wall signs are all useful objects in a classroom, but they are not instructional materials. Instructional materials are the tools used in educational lessons, which includes active learning and assessment. Basically, any resource a teacher uses to help him teach his students is an instructional material. Language arts classrooms almost always have literature textbooks, writing textbooks, and even vocabulary and spelling workbooks. In addition to these, traditional resources also include any supplemental reading material, like

novels or poems outside of the textbook. However, students today are undeniably exposed to technology. Majority of the kids know and are well-adapted to gadgets and online games. This fact poses a challenge to teachers to learn to adapt to the culture and environment of their learners who are also called as digital natives.

Department of Education Secretary Leonor M. Briones pointed out in the National Department of Education Information and Communication (DepEd ICT) Summit that Teachers are urged to devise various teaching methods that instill creativity and critical thinking among learners through Information and Communication Technology (ICT). The challenge to devise materials that can help to enhance and assist learners' performances is gravely depended on teachers.

Educators are urged to foster creativity in coming up with various materials that are Information and Communication Technology (ICT) based. (Montemayor, March 9, 2018).

The quality of education is greatly affected by the use of technology, specifically using digitized instructional materials. They should be able to address problems related to the performance of students in their learning.

2 Review of Related Literature

Generally speaking, the various related studies all corroborate and have direct bearing to the present study. The primary purpose of this study is to test the Effects of the Use of Digitized Instructional Materials in the Performance of Grade 3 Learners in English is an effective intervention tool. In addition, the abovementioned studies have given more impetus to using the effects of digitized instructional materials as an intervention tool that would make its use a beneficial option for teachers who have learners who have difficulty in studying when using traditional materials.

Parallel to the propositions underpinned in the foregoing studies, the present study corroborates with the researchers' findings and recommendations, particularly in encouraging the use of support interactive instructional materials as teachers' new instructional device, such as the effects of the use of digitized instructional materials in the performance of Grade 3 pupils in English, deemed very useful to them. It will not just equip them on its use, but will also serve as an indication that they know how to go along with the change. It will also serve as a sign of being innovative. It can even improve their knowledge and skills as they use the digitized instructional materials; likewise, challenge other teachers to produce other relevant materials that may be more applicable and effective to respond to and suit their pupils' needs.

The studies of Ogaba (2013), Resngit (2018) and Basilan (2018) emphasized the importance of teachers in developing and preparing proper and efficient instructional materials in the delivery of instruction. These studies are very related to the present study because the researcher carefully selected and prepared digitized instructional materials in delivery of instruction.

Wang (2016), Asis (2013), Aguko (2014), Aquino (2013), Carrera (2014) and Keyes (2015) all pointed out the importance of good instructional materials in helping learners improve their learning ability. The present study corroborates to all the ideas of the aforementioned researchers for it also emphasized importance of digitized instructional materials in measuring the performance of the learners.

The study conducted by Resngit entitled "Multimedia instructional Material in Teaching Applied Chemistry for STE Grade 9 Students" and Mendiguarin entitled "Proposed Digitized Instructional Materials Involving Addition and Subtraction of Fractions in Mathematics 4" are closely significant to the present researcher's study for they are both dealing with the use of Digitized Instructional Materials in teaching. Though the aforementioned studies made their proposed materials, the present researcher aims to test the effectiveness of a pre-existing material. The researcher used the same statistical treatment of data that the above-mentioned researchers used.

The study of Suratos entitled “Enhanced Course Book in General Botany” made use of descriptive developmental research design while the present study employed True Experimental Research. The present study is quite similar to the study of Suratos for it tested the effectiveness of Digitized Instructional Materials in the Performance of Learners. The past study also tested effectiveness of an enhanced instructional material in the performance of the students. Also, in the study of Wang, the researcher made use of PowerPoint presentation as the main tool/software application to present the Digitized Instructional Materials.

All of the other related studies play great role in the conduct of this study for they all emphasized on the importance of proper selection and testing the effectiveness of instructional materials that suit the needs and interest of the learners as well as coping up to the demands of 21st Century Learning. The present study also gives great importance to the deployment and testing of instructional materials that will best cater to the needs of the learners.

3 Research Methodology

3.1 Research Design

This study made use of two group pre-test/post-test quasi-experimental method under descriptive research design. Experimental research as defined by Bhat (2018) is any research conducted with a scientific approach where a set of variables are kept constant while the other set of variables are being measured as the subject of the experiment.

The experimental method involves manipulating one variable to determine if changes in one variable cause changes in another variable. This method relies on controlled methods, random assignment and the manipulation of variables to test a hypothesis (Kendra, C. 2019)

3.2 Respondents

The subjects of the study are the Grade 3 learners handled by the researcher in English at Colegio Anunciata during the school year 2018-2019. The researcher handled two sections in Grade 3 – Jericho and Grade 3 – Jerusalem which are grouped heterogeneously. The researcher employed toss coin method and determined Grade 3 – Jericho as the Control Group and Grade 3 – Jerusalem as the Experimental Group.

3.3 Experimental Procedure

The pre-test was administered to both groups on January 16, 2019. The scores of the respondents in the pre-test were gathered and computed using mean and mean percentage scores. The investigation started after the administration of pre-test where the use of traditional instructional materials and use of digitized instructional materials in teaching were employed to test the effectiveness. The experiment was conducted at 11:15am to 12:05pm (3 – Jericho, Control Group) and at 12:45pm to 1:35pm (3 – Jerusalem, Experimental Group) from January 16, 2019–March 22, 2019. After the conduct of the experiment, the researcher administered the post-test to both groups at the end of the quarter using the same test items given in the pre-test. The post-test results were tabulated and computed for the mean and mean percentage scores.

3.4 Statistical Treatment of Data

To obtain valid and accurate results from the data that were gathered, appropriate statistical tools were employed by the researcher. To answer sub-problems 1 and 3, mean scores and mean percentage scores (MPS) were used to determine the learners’ performance in the tests. To answer sub-problem 2, t-test for independent samples was employed. To answer sub-problems 4 and 5, t-test for dependent samples was employed.

The researcher employed the Statistical Procedure for Social Sciences (SPSS) Program which is a systematic way of interpreting and analyzing the gathered data throughout the study.

4 Presentation, Analysis and Interpretation of Data

4.1 Performance of the Grade 3 learners in English in the Pre-test

Table 1 shows that the control group obtained a mean score of 17.60 with a mean percentage score of 58.66. However, the experimental group obtained a mean score of 17.18 with a mean percentage score of 57.26. It could be deduced from the data presented that the control group performed better than the experimental group in the pre-test. However, both the control and experimental groups' mean percentage scores are way below the prescribed 75% mastery level by the Department of Education. This further depicts that there is a need to improve the level of performance of grade 3 learners in English.

Table 1. Pre-test Result of the Control and Experimental Group

Group	Mean	Mean Percentage Score (MPS)
Control Group	17.60	58.66
Experimental Group	17.18	57.26

It could be gleaned from Table 2 that the respondents' mean difference is 0.042. This would mean that there is fair distribution of heterogeneous groupings of Grade 3 learners at Colegio Anunciata, Talang, San Carlos City, Pangasinan as evident on the mean scores. It could be seen from the same table that the control group obtained a mean score of 17.60 demonstrates a higher mean than that of experimental group with a mean score of 17.18. The computed t-value of 0.422 is lower than the critical value of 2.045.

Table 2. Test of Significance of the Difference in the Performance of the Control and Experimental Group in the Pre-Test, N=31

Group	Mean	Mean Difference	Computed t-value	Significance	Decision
Control Group	17.60	0.042	0.422	Not Significant	Ho is Accepted
Experimental Group	17.18				

4.2 Performance of Grade 3 Learners in English in the Post- Test

Table 3 discloses that the learners in the control group obtained a mean score of 23.73 in the post test. The mean percentage score (MPS) of this group exposed to traditional instruction is 79.10. The learners in the experimental group obtained a mean score of 28.56 in the post test in English Grade 3 and the computed mean percentage score is 95.20 percent. It can be deduced that both group's mean percentage scores have met and even exceeded the prescribed 75% mastery level by the Department of Education. It is worthy to note that the performance of the experimental group has achieved a higher level of mastery in English 3 using digitized instructional materials than those in the control group who were exposed to teaching using traditional instructional materials.

Table 3. Post-test Results of the Control and Experimental Group

Group	Mean	Mean Percentage Score (MPS)
Control Group	23.73	79.10
Experimental Group	28.56	95.20

Table 4 shows the significant difference in the performance of the control and experimental group in English as could be gleaned from the table that the control group obtained a mean score of 23.73. On the other hand, the experimental group obtained a mean of 28.56. The mean difference of the two groups is 4.83. It is notable that both groups have improved after teaching but the improvement is significantly greater in the experimental group. The computed t-value of is 6.140 which is higher than the critical value of 2.045 at 0.05 level of significance with 29 degrees of freedom.

Table 4. Test of Significance of the Difference in the Performance of the Control and Experimental Group in the Post-Test, N=31

Group	Mean	Mean Difference	Computed t-value	Significance	Decision
Control Group	17.60	4.83	6.140	Significant	Ho is rejected
Experimental Group	28.56				

Since the computed value is higher than the critical value, the null hypothesis which states that there is no significant difference in the performance of the two groups in the post test is hereby rejected. Findings of this study depicts that the performance of learners in the experimental group have improved significantly in English 3 after being exposed to digitized instructional materials.

Table 5 reveals that the pre-test and post-test of the control group indicates an improvement in their level of performance in English 3. It can be observed that there is an increase in the mean score of the control group with a mean difference of 6.13. Hence, it may be inferred that there is a significant difference in the performance between the pre-test and post-test.

The computed t-value is 14.649 which is greater than the critical value of 2.145 at .05 level of significance with degree of freedom of 14. Thus, the null hypothesis which states that there is no significant difference in the performance of the control group in the pre-test and post-test is rejected.

Table 5. Test of Significance of the Difference in the Performance of the Control Group in the Pre-test and Post-test, N=15

Group	Mean	Mean Difference	Computed t-value	Significance	Decision
Control Group	17.60	6.13	14.469	Significant	Ho is rejected
Experimental Group	23.73				

Table 6 reveals the data on the pre-test and post-test of the experimental group exposed to digitized instructional materials. The table clearly shows that the mean scores of the experimental group increased dramatically from 17.18 in the pre-test to 28.56 in the post-test having a mean difference of 11.38 and computed t-value of 18.812 which is higher than the critical value of 2.131 at .05 level of significance with degrees of freedom of 15.

Table 6. Test of Significance of the Difference in the Performance of the Experimental Group in the Pretest and Post test, N=16

Group	Mean	Mean Difference	Computed t-value	Significance	Decision
Control Group	17.18	11.38	18.812	Significant	Ho is rejected
Experimental Group	28.56				

It can be deduced that the null hypothesis which states that there is no significant difference in the performance of the grade 3 learners in the pre-test and post-test is hereby rejected. The rejection of the null hypothesis is based on the difference of the computed value from the critical value. Thus, there is significant improvement in the performance of the experimental group who were exposed to digitized instructional materials.

5 Conclusion and Recommendation

The performances of the control and experimental groups in the pre-test are relatively low. There is no significant difference in the performance of the control group and the experimental group in the pre-test. The level of performance of the experimental group is higher than the control group based on the post test results. There is a significant difference in the performance of the control and experimental group in the post-test and the experimental group performed higher than the control group after using the digitized instructional materials. There is a significant difference in the performance of each of the two groups in the pre-test and post-test.

English 3 Teachers should utilize appropriate instructional materials in teaching. Elementary teachers should be encouraged to utilize digitized instructional materials in teaching to help increase the level of performance of learners. Digitized Instructional Materials should be used not only in English but in all subject areas as well by all teachers. Teachers can use these digitized instructional materials to improve the level of performance of their learners. Similar studies should be conducted using other learning areas.

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