# Effectiveness Of Technology-Based Reading Materials To The Reading Performance Of Grade 4 Pupils In English

**ANALYN L. PELAYO**
Teacher III
Western Leyte College
Master of Arts in Education
Major in School Administration and Supervision
analyn.pelayo001@deped.gov.ph

*Abstract* — This study was conducted in order to evaluate the Effectiveness of Technology-based reading Materials to the reading Performance of the Grade 4 learners in English. The findings of the study were the bases for a proposed enhancement Plan. This research is a quasi-experimental study. The researcher utilized universal Sampling in selecting the respondents of the study. The test of difference between the pretest and posttest scores performances of the grade 4 learners in before and after the integration of Technology-based reading materials To The Performance Of The Grade 4 Learners In reading. The pre-test performance of the Grade 4 learners in the different literacy skills or reading skills that needs to be learned by the learners specifically in English before the learners who are the Grade 4 will be experiencing or exposing the different materials which integrated by technology to be used as intervention which is resulted to the pretest scores and considered to be lowered than the posttest scores. The test scores in the pretest and posttest performances resulted to the computed t value which is greater than the critical t value. So the hypothesis which states that there was no significant difference between the pretest and posttest performance before and after the integration of the technology-based reading materials is rejected.

Based from the results in table 3, it implied that before the integration of the intervention, the grade 4 learners really need to be thought on how to become independent readers considering that the performance that they have shown during the pretest validation is very low and it needs to be done as early as possible to address whatever learning gaps they have experience from the past grading or grade level. One of the reasons of having this type of results is that maybe they are not really motivated to learn how to read and comprehend to the different text that the teachers have shown to them thus, they gained very low rating or scores. But after they all experience the intervention, they found out that the intervention is really effective and help them to become independent reader. They also experience fun in learning considering that the learners who were belong in the fair level of performance were improved to the good and very good level of performance which means that the intervention applied by the teacher is really effective and it addresses the learning gap of the learners when it comes to reading.

## I.  Introduction

Republic Act 10533 also known as "Enhanced Basic Education Act of 2013" is the basis for the continuing educational reform which articulates the main target of the curriculum to equip learners in K to 12 with fundamental literacy and numeracy skills needed for the academic success in the later stage.

The researcher chooses this study because of the following reasons: (1) as a parent, She has observed that children now adays give ample time in using their gadgets at home. Their attention and focus are easily captured by it. They are more interested in using technology. And so, she feels that using technology-based reading materials would be a better help in developing their reading performance as supplement in traditional textbooks and other printed materials.

As a teacher, she felt sad because she encountered learners (almost half of the enrolment) in grade 4 who have poor reading level particularly in English. She have tried reading interventions which she knew it would enhance their reading ability. But still, she opted to a more effective reading strategy that would help them the most with the help of technology. And she thinks using technology-based reading materials would be as effective.

The Researcher will be focusing this study because of the low reading performance of the grade 4 learners in English. These are the common problems in reading: poor reading comprehension, lack of interest in reading, lack of focus and difficulty in decoding words.

Furthermore, the researcher would like to find out whether the integration of technology-based reading materials will improve the reading performance of the Grade 4 pupils in English. The researcher, as an adviser for few years already wants to ensure that all learners develop responses both with reading opportunities and improve reading skills as they started their learning journey.

This study evaluated the Effectiveness of  Technology-Based Reading Materials to the Reading performance of the Grade 4 Pupils in English. The findings of the study were the basis or a proposed intervention plan.

Specifically, the study sought to answer the following questions:

1. What is the Reading performance of the grade 4 pupils in English before the integration of the technology-based reading materials?
2. What is the Reading  performance of the grade 4 pupils in English after the integration of the technology-based reading materials?

3. Is there a significant difference in the Reading performances of the Grade 4 pupils before and after the integration of technology-based reading materials?
4. What proposed improvement plan can be proposed based on the findings?

NULL HYPOTHESIS

There is no significant difference in the reading performance of the Grade 4 pupils before and after the integration of technology-based reading materials.

## II.    Methodology

*Design.* The study utilized the True Experimental Type of research to assess the effectiveness of technology-based reading materials to the performance of the Grade 4 pupils in English. The findings of the study were the basis for an intervention Plan. The study assessed the reading performance and academic performance of the grade 4 pupils based on the results of PHIL-IRI and Academic performance in MTB-MLE. Legend Frustration Level it is a level of ability in which the child answers 0-19 percent out of the questions asked or the zero to two questions out of the six questions based on the passage of the selection. Instructional Level it is a level of ability in which the child answer 50-82 percent of the questions asked of three to four questions out of the six questions based on the passage or selection. Independent Level it is a level of ability in which child answer 83-100 percent of the questions asked or five (5) to (6) questions out of the six questions based on the passage or selection.  The researcher utilized Universal Sampling in identifying the respondents of the study. Quantitative analysis was used to determine the significant difference between the pre-test and post-test mean scores  in Tabunoc  Elementary School  in the Division of Baybay City  based from the different  most essential learning competencies in first  grading period  delivered in English subject which purely focused on the different competencies.  The main local of the study is in Tabunoc  Elementary School which is located under the in the  Division of Baybay City.  Based from the aforementioned locale, the main respondents that were chosen by the teacher-researcher was the Grade 4  learners which was identified based on their test  performances  prior to the integration of Technology-based Reading Materials  in the delivery of the different learning competencies. The assessment given to the respondents was carefully validated by the teacher-researcher himself which are the pretest and posttest test  performances of the Grade  4 learners, the different steps in conducting the identified approach were undertaken in order to validate their performances before and after the implementation of Technology-based Reading Materials  to the respondents.  This study is mainly focus on the results of the different test validation  to gather data: The pretest scores performance of the Grade 4  learners  before the implementation of the explicit Learning Approaches    in identifying the performance of the respondents, The Posttest scores  performance of the Grade  4 learners after the implementation of the Technology-based Reading Materials  as well as the significant difference of the pretest and posttest  performances before and after the implementation of the explicit Learning Approaches  in the delivery of the most essential learning competencies

in teaching English for the  first grading Period. In the Quasi- experimental research design, the researcher  prepared  the different materials which integrating Technology-based Reading Materials . The focus of this study was the Grade 4  learners and those readers who are in the fair and good level of performance in order to improve their performance those on the average level of performance as well as those learners who were independent learners  as well as facilitating in the giving of pretest and posttest to the identified respondents in order to gather necessary data that will be significant in the study; The proposed Intervention Plan was taken based on the findings of the study.

*Sampling*. The research respondents of the study were the Grade 4 pupils in Tabunoc Elementary School and determined through random sampling.  Based on the records, there were 22 total number of respondents in which 12 of them are males while the 10 are females while the other section has 12 males and 9 females with a total of 21 total number of respondents. The respondents or the grade 4  learners were being identified  based on the performance of learners, and the primary means of reach is during the actual conduct  of the study as well as during the gathering of data in the school where the study was conducted.. Another way of contacting them are through cell phones of their respective parents.

*Research Procedure*. The researcher prepared the research design which is the quasi-experimental research design  and tools  which are the different learning materials embedding the Technology-based Learning Materials  based from the numeracy test given to the respondents . The researcher formulated the following steps or procedures to be guided during the gathering of data. The steps are the following:

The researcher sent a letter to the Schools Division Superintendent of Leyte Division for approval in conducting the study to the said school, After which, the approved letter coming from the Schools Division Office was given to the Public School District Supervisor (PSDS) for his awareness.

The researcher   conducted  the pretest  before  the integration  of explicit Learning Approaches  in teaching Mathematics After conducting the pretest, the researcher now integrating the Technology-based Learning Materials to the different most essential learning competencies (MELCs) in English  for 4 weeks. After 4 weeks of integrating the Technology-based Learning Materials to the lesson, the posttest was conducted to validate the learning of the Grade 4  learners..

The results were analyzed and interpreted in order to find out if there were increased on the performance level from the pretest to the posttest. Then after the posttest and pretest  were analyzed, the posttest result was treated statistically using the test for mean difference. The Approval and recommendation from the Office of the Schools Division Superintendent, as well as to the Assistant Schools Division Superintendent being the Chairman of the Schools Division Research Committee through the Senior Education Program Specialist in Planning and Research. After the Approval of the Schools Division Research Committee, the Approved or endorsement

letter from the body together with the approved letter of intent were forwarded to the Office of the Public School District Supervisor as well as to the office of the School principal in order to get full support on the conduct of the study as well as to get also approval from their end. The proposed title and design was submitted to the School Division Office for approval. Upon approval, the Division released endorsement to the District Office where the school is located. When the research was approved by the Schools Division Office and District Office, the researcher began the process of data gathering. Validation of the instruments through Experts such as the Master Teacher and in coordination with the school head and lastly to the Education Program Supervisor in Learning Resource was sought. Orientation of the participants was done. Answering and retrieval of the research tool followed. Tallying of results and treatment of data. Analysis and Interpretation of Data. Making of Proposed Enhancement Plan.

*Ethical Issues*. The right to conduct the study was strictly adhered through the approval of the principal, approval of the Superintendent of the Division. Orientation of the respondents both the learners and the teachers including the School Principal was done.

*Treatment of Data*. The following statistical formulas were used in this study:

The quantitative responses will be tallied and tabulated. The data was treated statistically using the following statistical tool.

Weighted Mean. This was utilized to assess the Reading performance of the Grade 4 pupils.

T-Test For Mean Difference- This tool was used to calculate the significant difference of the reading skills performance of the Grade 4 pupils.

## III. Results and Discussion

**Table 1**
**PRE-TEST PERFORMANCE OF THE GRADE 4 LEARNERS IN READING**

| Score Range | Description | PRETEST | |
| --- | --- | --- | --- |
| | | Frequency | % |
| 33-40 | Excellent | 0 | 0 |
| 25-32 | Very Good | 0 | 0 |
| 17-24 | Good | 0 | 0 |
| 9-16 | Fair | 9 | 36 |
| 1-8 | Poor | 16 | 64 |
| Total | | 25 | 100 |
| **Weighted Mean** | | **7.2** | **Poor** |

Table 1 shows the pre-test performance of the Grade 4 learners in the different literacy skills or reading skills that needs to be learned by the learners specifically in English before the learners who are the Grade 4 will be experiencing or exposing the different materials which integrated by technology to be used as intervention with the use of different materials or learning materials integrating technology to be more functional as the learners learned new things on their own or from the teachers shared skills and learnings during the delivery of the different learning competencies which covers in the first grading period that will last for 4 weeks or 1 month of the implementation of the integration.

With the capacity to own their various technologies that will be used in implementing the aforementioned intervention in the delivery of the various learning competencies, the integration of technology -based reading materials during the teaching and learning process between the teacher and leaners is significantly important considering that majority of the school now a days are utilizing technology majority of the lessons delivered by the teachers. Given that the school where the study will be conducted is not really rich in the various gadgets or technology to be used in the implementation of the intervention, the teacher-researcher is challenge to create an avenue to make the learners also learn new things in the advent of the technology to be integrated in the reading materials.

Based on the results in table 1, it shows that the score ranging from 33-40 which is the highest class interval among the 5 class intervals presented and considered to be an Excellent level of performance, it shows that in this level of performance there are none of the respondents belong to this level, meaning it has zero percent out of the 25 total number of respondents who are identified to be given the intervention for less than 2 months or 1 month to be exact or 4 weeks. The same results that was happened on the very good level of performance which considered to be the second highest reading level of performance having the scores ranging from 25-32 and same with the excellent level of performance, it was found out that it has zero percent of respondents in this performance level. In the good level of performance which is said to be found at the middle of the reading level of performance with the scores ranging from 17-24, it can be gleaned that this is the most numbered of respondents considering that there were 9 total of respondents or it has an equivalent percentage of 36 percent out of the 25 total of respondents who took the pre-assessment in reading. In the fair Level of Performance, there are 16 total number of respondents belong in this level of performance having the scores of ranging from 9-16 with an equivalent percentage of 64 percent and this percentage of respondents are considered to be the 2nd of the dominant in terms of numbers of respondents in each level of reading performance out of the 25 total respondents who took the assessment conducted by the teacher. Lastly, in the poor level of performance, this is the most numbered that the level of performance present which means that from the scores ranging from 1-8, there were 16 total number of respondents and dominated to the total number of respondents in other level of performance in reading.

The results in table 1 which primarily focused on the pretest performance of the Grade 4 learners before integrating the technology based reading materials to the different lessons in reading to be thought in 4 week's time implied that the grade 4 learners really need to be thought on how to become independent readers considering that the performance that they have shown during the pretest validation is very low and it needs to be done as early as possible to address whatever learning gaps they have experience from the past grading or grade level. One of the reasons of having this type of results is that maybe they are not really motivated to learn how to read and comprehend to the different text that the teachers have shown to them thus, they gained very low rating or scores. Furthermore, there should be another approach that the learners must experience so that they have the eagerness to learn the subject because they will be come independent readers. Becoming independent readers means know how to deal with different lessons in other subject.

**Table 2**
**POST TESTPERFORMANCE OF GRADE  4  LEARNERS   IN READING**

| Score Range | Description | POST TEST | |
|---|---|---|---|
| | | **Frequency** | **%** |
| 33-40 | Excellent | 0 | 0 |
| 25-32 | Very Good | 6 | 24 |
| 17-24 | Good | 17 | 68 |
| 9-16 | Fair | 2 | 8 |
| 1-8 | Poor | 0 | 0 |
| Total | | 31 | 100 |
| **Weighted Mean** | | **18.20** | **Good** |

Table 2 shows the posttest performance of the Grade 4 learners on the different learning competencies that they have learned from the past 4 weeks of the implementation of the intervention which is the technology-based reading materials which could validate the reading skills or reading performance of the grade 4 learners that needs to be learned by the learners specifically in English after  the learners were experiencing or exposing the different materials which integrated by technology used during the delivery of the intervention. These results given by the grade 4 learners are evidence on how the technology based reading materials is really effective in improving the reading performance of the grade 4 pupils that makes them more comfortable in learning the different subjects.

Based on the results in table 2, it shows that the score ranging from 33-40 which is the Excellent level of performance, it shows that in this level of performance there are none of the respondents belong to this level, meaning it has zero percent out of the 25 total number of respondents who are identified and given the intervention for less than 2 months or 1 month to be exact or 4 weeks. In the very good level of performance which considered to be the second highest reading level of performance having the scores ranging from 25-32, it was found out that it has 6 total number of respondents belong on this level of performance with an equivalent percentage of 24 percent. In the good level of performance which is said to be found at the middle of the reading level of performance with the scores ranging from 17-24, it can be gleaned that this is the most numbered of respondents considering that there were 17 total of respondents or it has an equivalent percentage of 68 percent out of the 25 total of respondents who took the post reading assessment. In the fair Level of Performance, there are 2 total number of respondents belong in this level of performance having the scores of ranging from 9-16 with an equivalent percentage of 8 percent. Lastly, in the poor level of performance having the scores ranging from 1-8, there were none of the respondents belong to this level.

The results in table 2 which primarily focused on the posttest performance of the Grade 4 learners after integrating the technology based reading materials to the different lessons in reading thought for 1 month implied that the grade 4 learners had so much fun in learning considering that the learners who were belong in the fair level of performance were improved to the good and very good level of performance which means that the intervention applied by the teacher is really effective and it addresses the learning gap of the learners when it comes to reading. Furthermore, Implementing the aforementioned intervention in the delivery of the various learning competencies, the integration of technology -based reading materials during the teaching and learning process between the teacher and leaners is significantly important considering that majority of the school now a days are utilizing technology majority of the lessons delivered by the teachers.

**TABLE 3**
**Test of Difference Between the Scores in the Pre-test and Post-test of Grade 4 Learner  in Reading**

| Aspects | Test Scores | | Computed T | Critical T | Decision | Interpretation |
|---|---|---|---|---|---|---|
| **GRADE 4 Learners** | Pre Post | 7.20 13.20 | 0.872 | 0.291 | Reject H$_o$ | Significant |

Table 3 shows the test of difference between the pretest and posttest scores performances of the grade 4 learners in before and after the integration of Technology-based reading materials To The Performance Of The Grade 4 Learners In reading.  The pre-test performance of the Grade 4 learners in the different literacy skills or reading skills that needs to be learned by the learners specifically in English before the learners who are the Grade 4 will be experiencing or exposing the different materials which integrated by technology to be used as intervention which is resulted to the pretest scores of 7.20 and considered to be lowered than the posttest scores which are equal to 18.20. The test scores in the pretest and posttest performances resulted to the computed t value of 0.872 which is   greater than the critical t value of 0.291. So the hypothesis which states that there was no significant difference between the pretest and posttest performance before and after the integration of the technology-based reading materials is rejected.

Based from the results in table 3, it implied that before the integration of the intervention, the grade 4 learners really need to be thought on how to become independent readers considering that the performance that they have shown during the pretest validation is very low and it needs to be done as early as possible to address whatever learning gaps they have experience from the past grading or grade level. One of the reasons of having this type of results is that maybe they are not really motivated to learn how to read and comprehend to the different text that the teachers have shown to them thus, they gained very low rating or scores.  But after they all experience the intervention, they found out that the intervention is really effective and help them to become independent reader. They also experience fun in learning considering that the learners who were belong in the fair level of performance were improved to the good and very good level of performance which means that the intervention applied by the teacher is really effective and it addresses the learning gap of the learners when it comes to reading.

## IV. Conclusion

Based from the findings of the  study,  Considering that Grade 4 students now have access to a wide range of interactive and engaging educational reading materials, the study's findings show that technology-based reading materials are incredibly effective at enhancing learning outcomes in this age group. The effectiveness of this strategy is supported by the Grade 4 students'

observable improvements in reading comprehension, critical thinking, and overall academic performance. Additionally, the Grade 4 students' enthusiasm and motivation when using technology-based reading materials had a significant impact on the learning environment. By accommodating different learning preferences and styles, these resources have created a more inclusive educational experience, ensuring that every student, regardless of background or learning capacities, can succeed.

## V. Recommendations

1. The proposed Enhancement plan should be used specially in teaching English subject to promote teaching which involves technology in the delivery of the lessons.

2. Administrators or school head should include in their PPMP or APP the different technology equipment that will help the teachers in the preparations of their lessons specially to those items that are very important in the teaching and learning process.

3. School Heads should regularly updating the hardware and software tp maintain or adapt the new advancements brought to is by the technology.

4. School Head should allocate budget or financial assistance to each of the teacher in order for them to procure different digital materials and equipment.

5. Teachers should continue to facilitate collaborative learning among their peers to gain confidence in utilizing the equipment during the teaching and learning.

6. Master Teachers should monitor their peers and share bwst practices during the conduct of the LAC sessions in order for them to be more familiar on how implement the intervention.

7. Parents should encourage their children to use the gadgets properly to have healthy balance between educational and recreational use of the intervention.

8. In relation to the abovementioned, the researcher is giving the authority to the future researcher to conduct the same study to validate the significant findings of the study.

## REFERENCES

[1] Dep.Ed. Order No. 34 s. 2022 "School Calendar and Activities for the School year 2022-2023."
[2] Dep.Ed. Order no. 31 s. 20201"Interem Guidelines for Assessment and Grading in the light of the basic education Learning continuity Plan."
[3] DepEd Memorandum No. 24, s. 2013. "National Training of Trainers on the Early Grade Reading Assessment and Assessment Results Associated Teaching Activities (EGRA-ARATA)."
[4] DepEd Order No. 12 s. 2015. "Guidelines on the Early Language, Literacy and Numeracy Program: Professional Development ` Component."
[5] DepEd Order No. 18 s. 2017. "Guidelines on the Utilization of the 2017 Every Child a Reader Program funds for the Early Language, Literacy, and Numeracy Program: Professional Development Component"

**AUTHOR'S PROFILE**

**ANALYN L. PELAYO**

The author is born on November 26, 1985 at Cahigan,Villaba, Leyte, Philippines. She finished her Bachelor's degree in HOME TECHNOLOGY EDUCATION at PIT – Tabango Campus. She is currently finishing her Master's degree of Arts in Education major in Administration and Supervision at Western Leyte College of Ormoc City.

She is currently a Teacher III in the Department of Education and a Grade – IV adviser in Tabunoc Elementary School at Barangay Tabunok,Villaba, Leyte, Philippines.