Effectiveness of Technology-Based Interventions and Reading Skills of Grade 6 Pupils

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Abstract — This study aimed to determine the effectiveness of Technology Based Intervention to the reading performance of the Grade 6 pupils. The findings of the study served as a basis of a proposed Intervention plan. This study used the quasi-experimental method of research to use the technology-based intervention in assessing the reading performance of the grade 6 pupils. The researcher utilized universal Sampling in selecting the respondents of the study. The Paired Samples T-Test On The Reading Performance of Grade 6 Students Before And After The Integration Of Technology-Based Intervention in the delivery of the most essential learning competencies in teaching Reading. Based on the findings found in table 3, , there was a strong positive impact brought about by the technology-based intervention in teaching reading the results of the t-test for paired samples indicate that the posttest mean of 30.6 is significantly higher compared to the pretest mean of 20.7 (t= -16.035, df = 30, p-value <.001). Therefore the null hypothesis which states that there is no significant difference between mean pretest and mean posttest scores in Reading of the Grade 6 students exposed to technology-based intervention in teaching reading is rejected. The result of this study indicates that integrating technology-based intervention in in teaching reading could potentially enhance the reading skills of the Grade 6 pupils, considering to the fact that there was a big leap of the test scores in the pretest to the posttest scores thus, it really helps the students' increase their reading performances.

Keywords — Effectiveness; technology-based Intervention; reading Skills; Grade 6 Pupils

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.

Making a child read is a legacy of every teacher worked hard. Reading is a key area for development of the child's communication and language skills. It also helps in developing a

broader vocabulary, increase general knowledge and better understanding. But the purpose of reading is defeated if a child cannot read or struggling to read.

Reading is an essential skill that a child must have. It is a skill that is important to their success in school as they will allow them to access the breadth of the curriculum and improve their communication. Children who have developed strong reading skills perform better in schools, they become life-long learners and most likely achieved academic success.

Children with reading difficulties throughout school and into adulthood, said how embarrassing and devastating it was to read with difficulty in front of peers and teachers, and to demonstrate this weakness daily. This type of failure affects children negatively earlier than we thought. By the end of first grade, children having difficulty learning to read begin to feel less positive about their abilities than when they started school (Reid Lyon, 2003). Children who struggle to read is one of the reasons why there is absenteeism and drop-outs of school.

One of the best gifts that a teacher can give is to teach children on how to read and comprehend things. This is an open door for them to learn across different learning areas and that is why reading performance should be improved.

Reading can make learning possible. A child's success in school and throughout life largely depends on his ability to read. Learning to read and write starts at an early age. Some children begin to recognize words as early as four to five years of age and the growth of this skill continues through life. The decline of the learners' reading ability can be attributed to lack of interest or the reluctance to read, their reading experience, and psychological and social factors. Thus, the association between reading opportunities and reading performance of the Grade 6 pupils should be studied.

Technology based interventions have been used to improve reading skills for students with reading difficulties, thus many literature reviews have investigated the effectiveness of this type of intervention: however, constant changes in the technology field make it important to review the most recent studies and how these studies were implemented to improve reading skills for students who performed below their peers.

Technology-Based Learning is using the widely accepted definition of technology-based learning as the learning of content via all electronic technology, including the Internet, intranets, satellite broadcasts, audio and video tape, video and audio conferencing, Internet conferencing, chat rooms, e-bulletin boards, webcasts, computer-based instruction, and CD-ROM.

Technology Based Learning also encompasses related terms, such as online learning and web-based learning that only include learning that occurs via the Internet, and computer-based learning that is restricted to learning using computers.

Therefore, this research study uses terms interchangeably. Technology Based Learning is distinguished from distance learning or technology-delivered learning in that Technology Based Learning includes methodologies where teachers and learners are in the same room or instruction is computer-based and there is no 'distance' involved. On the other hand, Technology Based Learning is more narrowly defined in that it does not include text-based learning and courses conducted via written correspondence that would be covered by either distance learning or technology-delivered learning. Furthermore, technology-enhanced learning describes a methodology in which technology plays a subordinate role and serves to enrich a traditional face-to-face classroom.

Reading is a vital component in the success of Pupil's Academic Performance. The records of the performance of Grade 6 pupils in Reading in Quezon Jr Elementary School, shows that the achievement level of the Grade 6 pupils in PHIL/IRI. is low in which there were learners who belong to the por level of reading performance. This low performance could be attributed to lack of interest in studies, poor reading comprehension and low compliance of classroom tasks due to the different factors that they have experienced from the time when the Department of education is implementing the Modular Distance learning Modality . Hence, the focus of this study is to assess the reading performance of the Grade 6 pupils.

Furthermore, the researcher would like to find out whether the integration of technology based reading intervention will improve the reading performance of the Grade 6 pupils. The researcher, as an adviser for few years already wants to ensure that all learners develop responses both with reading opportunities and reading skills not only in their elementary years but even as they continue to Secondary level. The researcher, being an adviser believes that the conduct of the study could greatly help in improving the reading performance of the Grade 6 pupils.

This study evaluated the Effectiveness of Technology Based Interventions to the Reading Skills of the Grade 6 Pupils in Quezon Jr. Elementary School Enrolled in SY 2021-2022. The findings of the study were the basis or a proposed improvement plan.

Specifically, the study sought to answer the following questions:

1. What is the pretest reading skills of the grade 6 pupils before the integration of technology-based interventions?
2. What is the post-test reading skills of the Grade 6 pupils based after the technology-based intervention?
3. Is there a significant difference in the pre-test and post-test reading skills of the Grade 6 pupils.
4. What improvement plan can be proposed based on the findings?

NULL HYPOTHESIS

There is no significant difference in the pre-test and post readings skills of the Grade 6 pupils before and after the use of technology-based interventions.

II. Methodology

Design. This study utilized the Quasi- Experimental type of research in gathering the responses employing the quantitative and qualitative approaches. Quezon Jr. Elementary School in the Ormoc City District 2 in the Division of Ormoc City is the main locale of the study. The Grade 6 pupils are the main respondents of the study and the data The research instruments used in this study were the PHIL-IRI (Philippine Informal Reading Inventory), Summative Test Questionnaire in English, and Online/offline Platforms that could assist the learners in their reading activities. The researcher asked permission from the principal to use the PHIL-IRI (Philippine Informal Reading Inventory) as instrument of the study. The Pre -PHIL-IRI will be administered by the researcher to identify the reading level of the Grade 6 pupils based on the word recognition and comprehension which is also relative to their knowledge of the lessons. In the same manner, during the Post post-PHIL-IRI (Philippine Informal Reading Inventory) material will be used to identify whether the respondents increase their reading level. Another tool in the study is the pupils' academic performance in English through their periodic rating.; Proposed Action Plan based on the findings of the study.

Sampling. There are 30 Grade 6 pupils who are included in the study and the primary means of reach is through Facebook account such as messenger, the researcher also calling the attention of parents and guardian through their cell numbers. If in case they did not reach, the researcher conducts home visitation.

Research Procedure. The researcher prepared the research design and tools to be utilized in the study. Approval and recommendation from the principal was sought. The researcher distributed the questionnaires to the pupils for them to answer. The researcher will then utilize or integrate the intervention for one month. After which, she will give the questionnaires for the posttest then retrieve in order for the data to be consolidated and subjected to statistical treatment using simple percentage, weighted mean and T-Test for Mean Difference. The academic performance of the Grade 6 pupils was taken based on their reading skills. Tallying of results and treatment of data. Analysis and Interpretation of Data. Making of Proposed Improvements

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 was done separately. In the orientation, the issue on, an Informed Consent Form.

Treatment of Data the Effectiveness of Technology Based Interventions to the Reading Skills of the Grade 6 Pupils in Quezon on the area focused was treated through a weighted mean and descriptions (refer to appendices for the scoring and description. The T-Test For Mean Difference- was used to calculate the test of Difference in the reading skills of the Pupils before and after the implementation of technology based reading intervention in relevance to the improvement of Pupils reading performance.

III. Results and Discussion

Table 1
SAMPLES STATISTICS OF THE READING PERFORMANCE OF GRADE 6 STUDENTS BEFORE EXPOSED TO TECHNOLOGY-BASED INTERVENTION

	Mean	MPS	N	S.D
Pretest	**20.7**	**51.75**	**31**	**4.31**

The table 1 above shows the Samples Statistics of the Reading Performance of Grade 6 pupils who were not yet Exposed to Technology-based Intervention in the delivery of the most essential learning competencies. Before the given of the pretest questionnaires to the identified respondents of the research, the teacher who has handling the reading skills of the aforementioned grade level only experiencing the modular distance learning modality delivery particularly on the Printed Learning materials utilization in which hard copies were given to the parents or guardian for a specific period of time (weekly) vis a vis to the learning competencies intended for the week. All the printed modules and or Learners Activity Sheets were coming from the central office, regional office and also others are coming from the Division Office initiatives which were also validated according to the level where they belong. Based from the results in table 1, it shows that among thirty one (31) total respondents who took the pretest examination for reading, it was found out that majority of the respondents were gaining more or less 50 percent in their score out from the 40 total number of items given to them for pretest which resulted to a Mean of 20.7. Based from the total number of scores of the Grade 6 pupils (31 respondents) which majority of them gained only 22 and below it was resulted to a Mean Percentage Score of 51.75 and created a product in the standard deviation of 44.31 respectively.

Based on the result in table 1 which fucoses on the pretest reading performance of the Grade 6 pupils before the integration of the Technology Based Interventions in order to identify the reading capacity of the learners. The result implied that since the most of the Grade 6 pupils who took the pre- reading test are belong in the poor and fair level of performances which resulted to the Mean quotient is equivalent to 20.7 and interpreted as fair reading performance level which means that the respondents have experiencing difficulties in developing the reading skills because there was no limited face to face set by both of the teachers and pupils with the guidance of the parents or guardian. In this case, the learners cannot really improved their reading skills because no one will guide them on the proper process in acquiring knowledge to become an independent reader. Since the learners are just utilizing the printed modules in learning the learning competencies, there were tendencies that the pupils are not motivated to learn and it could be resulted to gain low performance.

Table 2
SAMPLES STATISTICS OF THE READING PERFORMANCE OF GRADE 6 STUDENTS AFTER EXPOSED TO TECHNOLOGY-BASED INTERVENTION

	Mean	MPS	N	S.D
Pretest	**30.6**	**76.50**	**31**	**2.71**

The table 1 above shows the Samples Statistics of the Reading Performance of Grade 6 pupils who were already Exposed to Technology-based Intervention in the delivery of the most essential learning competencies in Reading. Before the given of the posttest questionnaires to the identified respondents of the research, the teacher-researcher gave to the Grade 6 pupils the crafted Technology Based Intervention based on the Pretest performance. The teacher identified the least learn competencies based from the result and focus her intervention to those identified learning competencies in order to the learners to be guided on what to do in order to cope with the lowest reading performance they gained. During the delivery of the learning competencies, the teacher utilized the off-line video lessons as well as the recorded ones in order for the learners to learn the identified difficult learning competencies the aforementioned strategies introduced by the researcher is just a supplemental materials to help the learners learn the skills. Based from the results in table 1, it shows that among thirty one (31) total respondents who took the posttest examination for reading, it was found out that majority of the respondents were gaining more 75 percent in their score out from the 40 total number of items given to them for posttest which resulted to a Mean of 30.6. Based from the total number of scores of the Grade 6 pupils (31 respondents) which majority of them gained only 30 and above it was resulted to a Mean Percentage Score of 76.50 and created a product in the standard deviation of 2.71 respectively.

Based on the result in table 2 which fucoses on the postest reading performance of the Grade 6 pupils after the integration of the Technology Based Interventions in order to identify the reading capacity of the learners. The result implied that since the most of the Grade 6 pupils who took the post- reading test are belong in the very good to excellent level of performances or other terms is they are now called Independent Readers which resulted to the Mean quotient is equivalent to 30.6 which means that the respondents have experiencing easy in developing the reading skills because even if there was no limited face to face set by both of the teachers and pupils with the guidance of the parents or guardian, the learners can still improve their reading skills because they will be guided on the Technology Based intervention such video lessons, Recorded audio or off-line learning which could help them on the proper process in acquiring knowledge to become an independent reader.

Table 3
PAIRED SAMPLES T-TEST ON THE READING PERFORMANCE OF GRADE 6 STUDENTS BEFORE AND AFTER THE INTEGRATION OF TECHNOLOGY-BASED INTERVENTION

	Paired Differences		t	df	p-value
	MEAN	S.D.			
PRE-POST	-9.90	3.44	-16.035	30	<.001**

**Highly Significant

The Table 3 Presents The Paired Samples T-Test On The Reading Performance of Grade 6 Students Before And After The Integration Of Technology-Based Intervention in the delivery of the most essential learning competencies in teaching Reading. Based on the findings found in table 3, , there was a strong positive impact brought about by the technology-based intervention in teaching reading the results of the t-test for paired samples indicate that the posttest mean of 30.6 is significantly higher compared to the pretest mean of 20.7 (t= -16.035, df = 30, p-value <.001).

Therefore the null hypothesis which states that there is no significant difference between mean pretest and mean posttest scores in Reading of the Grade 6 students exposed to technology-based intervention in teaching reading is rejected.

The result of this study indicates that integrating technology-based intervention in in teaching reading could potentially enhance the reading skills of the Grade 6 pupils, considering to the fact that there was a big leap of the test scores in the pretest to the posttest scores thus, it really helps the students' increase their reading performances.

IV. Conclusion

Based from the findings of the study, this study indicates that integrating technology-based intervention in in teaching reading could potentially enhance the reading skills of the students..

V. Recommendations

1. The proposed intervention plan should be utilized.

2. The teachers in reading should integrate and practice the Technology-based intervention to the identified least learned competencies in order to augment the weak points of the learners.

3. The school head should conduct INSET through WEBINAR which are related to the integration of Technology based intervention and related to the integration of video or radio based lesson to

help guide the learners what to do during the ME Session of the printed modules they have received every day.

4. The School Head should closely monitor the teacher's performance on the integration of technology based intervention in teaching and learning process to assess the reading performance of the pupils.

5. Teachers in the school should give activities to their pupils that could motivate them to learn by the learners.

6. The school head together with all the teachers, PTCA should ask any type of assistance to the National and Local Government, Non- Government Organization in acquiring additional gadgets to support the program being implemented.

In relation to the abovementioned, the researcher is giving the authority to those future researchers to conduct a true experimental design (where there is an experimental and control groups) be conducted to assess the effectiveness of the method over other methods of teaching Reading).

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