

Relative Effectiveness of E-Reading Materials for Grade III Pupils

MARILYN N. SUMANGIL

Teacher III

Urdaneta City University

Master of Arts in Education

Major in Educational Management

necesitosumangil@gmail.com

Abstract — This study determined the relative effectiveness of e-reading materials for Grade III pupils in Don Montano Central Elementary School, Umingan District II, Pangasinan Division II, DepEd Region I. This study sought to answer the following problems: What is the profile of the subject Grade III pupils in terms of sex, grade point average (GPA) in previous grade level, monthly family income, and highest educational attainment of parents?; What is the level of reading performance of the Grade III pupils in the pretest (diagnostic) reading test?; Are there significant mean differences in the levels of reading performance in the diagnostic test of the Grade III pupils and their reading performance in the summative test, after intervention using e-reading materials?; Are there significant mean differences in levels of reading performance of the Grade III pupils in the summative test across the profile variables?; and Are there significant relationships between the levels of reading performance of the Grade III pupils in the summative test and their profile variables?. The non-randomized pretest- posttest research design was used in this study. Intact classes using e-reading materials are involved. The researcher used all the reading subject in all Grade III classes. It is quasi-experimental design where the groupings are non-randomized and every pupil in all Grade III classes are taken intact. In this study, the focus is on whether or not there are significant differences between the levels of reading performance of the Grade III pupils in the diagnostic reading test and their reading performance in the summative reading test. The following conclusions were formulated: male respondents perform better than female respondents and have parents who have at least studied high school level; the respondents have a good reading performance in the pretest; the e—reading materials helped in improving the reading performance of the grade III pupils; The specified profile variables have an effect to the reading performance of the respondents; and likewise, the respondents profile variables have an effect to their reading performance. As recommended, demographic factors such as gender and family background which have an effect to pupils' performance should be considered in developing instructional materials or in adapting instructional materials to better fit to the needs of the pupils; and demographic factors such as gender and family background which have an effect to pupils' performance should be considered in developing instructional materials or in adapting instructional materials to better fit to the needs of the pupils.

Keywords — *E-reading materials, reading performance, pupils, pre-test, post-test*

I. Introduction

All sorts of basic knowledge and information are learned from books. Books contain information recorded from the early history of humankind up to the present time. The pages of books contain information on discoveries and learnings about the environment, tools and processes of survival, travels beyond the known world of reality, stories, recipes, and other imaginable under the sun. Readers acquire knowledge, develop attitudes and skills from books for their personal development.

Indeed, reading is the foundation of all formal and informal learning. The future success of the learner is dependent on their reading ability. It is an essential skill that learners need to possess. Thus, Wigfield et al. (2008) assert that the number of time students spends reading indicates successful academic life in the future.

Further, there is reading and writing are inextricably linked. Good readers make excellent writers, and vice versa (Parrish & McGlenn, 2002).

Various reading methods and techniques are adopted according to the mental level of the students. These methods and techniques are, namely: loud reading, silent reading, controlled reading, guided reading, free reading, feedback reading, and other reading abilities such as extensive and intensive reading, as well as skimming and scanning are all examples of reading techniques.

Pupils learn reading formally at the primary level in different stages, which enable them to read fluently and accurately. Their training progresses from reading readiness, interest in looking at pictures on the pages of a book or other reading materials to Phonemic awareness, alphabet principles, and word sound identification to help students improve their ability to convert words into precise sounds (pronunciation).

Loud reading is preferred at the primary level to identify and correct students' mistakes in reading. However, when they become skilled readers, they are advised to read silently for comprehension and enjoyment of the text (Chiong et al., 2012). The emergence and advent of electronic media have revolutionized the publication of books and other reading materials. Printed reading materials are transformed into electronic text. This transformation of printed materials into digital text is perceived to have considerably lessened the cost of printing books and other reading materials. Wastage of materials, money, and human energy is minimized, if not avoided entirely. Consequently, the purchase of reading materials has also changed. In the US, the purchase of e-books has surpassed the printed books and magazines today (Jones & Brown, 2011).

The convergence of printed materials into electronic format has increased readers' access opportunities worldwide and reduced expenses. Strong evidence regarding access, quality, beauty, effectiveness, and learning for students and general people gives credence and support for e-reading materials (Korat & Shamir, 2008). Oye et al. (19) asserted that e-reading materials impact learners' interest to read more. Hence, e-learning improves student academic performance.

Literature Review

Reading skills, comprehension, and retention power is known to be strongly affected by the nature of the reading materials. Types of reading materials, such as essays, poetry, novel, report or news, and striking word usage or writing styles certainly affect the development of reading skills. Printed and non-printed (electronic style) reading materials also significantly affect readers' comprehension and retention capacity (Collins, Smith, & Beranek, 2007). However, the printed materials were expensive and negatively affected the environment, leading to environmental pollution (Korat & Shamir, 2008). The process of converting printed publications (books, reports, scripts, and other educational and informational magazines) into electronic and scanned documents makes these resource materials available to students and the general populace.

In the study of Jones & Brown (2011), elementary school grade two students were engaged in the reading of e-reading materials and printed reading materials. The results showed that students took more interest in e-reading materials as compared to printed document reading.

Edward Thorndike's three basic laws of learning, the law of readiness (interest), exercise, and effect, could be generalized and applied to learners' readings. The type of reading materials in which learners take interest would lead to a more robust impact since a long practice time could make a difference.

The 21st-century readers are exposed to electronic and printed script reading materials with their own merits and demerits. In addition, these have different effects on learners, as well. Consequently, the reading skills of those used to printed reading materials could be further from those using e-reading materials.

This study determined the relative effectiveness of e-reading materials for Grade III pupils in Don Montano Central Elementary School, Umingan District II, Pangasinan Division II, DepEd Region I.

Specifically, it sought to answer the following problems:

1. What is the profile of the subject Grade III pupils in terms of:
 - a. sex
 - b. Grade point average (GPA) in previous grade level
 - c. Monthly family income
 - d. Highest educational attainment of parents?
2. What is the level of reading performance of the Grade III pupils in the pre-test (diagnostic) and post-test reading test?
3. Are there significant mean differences in the levels of reading performance in the diagnostic test of the Grade III pupils and their reading performance in the summative test after intervention using e-reading materials?

4. Are there significant mean differences in levels of reading performance of the Grade III pupils in the summative test across the profile variables?
5. Are there significant relationships between the levels of reading performance of the Grade III pupils in the summative test and their profile variables? .

II. Methodology

Research Design and Strategy

The non-randomized pre-test- post-test research design was used in this study. Intact classes using e-reading materials were involved.

The researcher taught all the reading subjects in all Grade III classes. It was a quasi-experimental design where the groupings were non-randomized and took every pupil in Grade III classes. The study focused on determining whether there were significant differences between the Grade III pupils' reading performance in the diagnostic reading test and their reading performance in the summative reading test.

Population and Locale of the Study

The 27 Grade III pupils of Don Montano Central Elementary School were the target subjects of this study. They used e-readings materials selected for this study to teach reading in all Grade III classes.

Data Gathering Tools

The main data-gathering instrument was the pre-test reading test, post-test reading test, the same test used in the summative reading test, except that the items were rearranged.

III. Results and Discussion

Results and Discussion

Table 1. Profile of the Grade III Pupils (N=27)

Profile	Frequency (f)	Percentage (%)
Sex		
Male	18	66.7
Female	9	33.3
Grade Point Average		
81-85	18	66.7
75-80	9	33.3
Monthly Family Income		
Php 16001-18000	1	3.7
Php 14001-16000	1	3.7
Php 10001-12000	1	3.7
Php 8001-10000	10	37.0
Php 6001-8000	9	33.3
Php 4000-6000	5	18.5
Mother's Highest Educational Attainment		
B.S.	1	3.7
High School	20	74.1
Elementary	6	22.2
Father's Highest Educational Attainment		
B.S.	2	7.4
High School	15	55.6
Elementary	10	37.0

Table 1 shows the profile of the Grade III pupils using frequency and percentage for each of the variables indicated.

The result presents that majority of the respondents are males ($f=18$, 66.7%). Notably, most of the pupils have a Grade Point Average (GPA) that ranges from 81 to 85 ($f=18$, 66.7%), while the rest have GPA ranging from 75 to 80 ($f=9$, 33.3%). In terms of Monthly Family Income (FMI), ten (10) of them have a monthly income of Php8,001 to Php10,000, while nine (9) of them earn Php 6,001 to 8,000. Also, five (5) have Php 4,000 to Php 6,000, and three (3) of the pupils' families have a monthly income that ranges from Php 10,001 to Php 18,000. In terms of Highest Educational Attainment, the majority of the pupils' parents are high school graduates ($Mo=20$, $Fa=15$). At the same time, the rests are elementary graduates and college graduates ($Mo=6$, $Fa=10$ & $Mo=1$, $Fa=2$). Sackey (2007) concluded that mothers' and fathers' education and household resources significantly impact children's educational outcomes.

Table 2. Levels of reading performance of the Grade III pupils in the pre-test (diagnostic) reading test (N=27)

Pre-test Scores	f	%	DE	Post-test Scores	f	%	DE
45	2	7.4	S	45	0	0	NS
46	5	18.5	VS	46	0	0	NS
47	7	25.9	VS	47	3	11.1	VS
48	5	18.5	VS	48	4	14.8	VS
49	5	18.5	O	49	9	33.3	O
50	3	11.1	O	50	11	40.8	O

Legend:

Range	Descriptive Equivalent (DE)
49 - 50	Outstanding (O)
46 - 48	Very Satisfactory (VS)
41 - 45	Satisfactory (S)
35 - 40	Fairly Satisfactory (FS)
Below 34	Not Satisfactory (NS)

The pretest scores showed the range scores of the respondents. Most of the respondents got a very satisfactory descriptive equivalent. However, it is noted that majority of the respondents got 47 (25.9%) out of 50 in the reading test. Only 3 from the 27 respondents got a perfect score (outstanding) and the rest are distributed to different scores. While 2 of them got 45 which is described as satisfactory. In the other hand, the posttest scores of the respondents were very overwhelming. It is shown that most of the respondents (11 respondents) got the perfect score of 50 after the used of e-reading materials. Also, some respondents were also described as outstanding from their scores. Noting that the e-reading the materials elevated their comprehension in the reading text. Moreover, this means that these pupils are good in comprehension yet must still be developed through e-reading materials, especially in this new normal.

Table 3. Levels of Reading Performance of Grade III Pupils after using e-Reading Materials

	Mean	Mean Difference	SD	t	df	Sig (2-tailed)
Pre-test	92.56	-3.593	1.476	-13.956	26	.000
Posttest	96.15		2.537			

Table 3 presents the levels of reading performance of the Grade III pupils after using e-reading materials of Don Montano Central Elementary School, Umingan, Pangasinan.

A paired t-test was conducted to determine the levels of reading performance of grade III pupils after using the e-reading materials. Table 3 shows that there was a statistically significant

difference from the pretest ($M=92.56$, $SD=1.48$) to post-test ($M=96.15$, $SD=2.54$), $t(26) = -13.96$, $p= .000$. This result implies that there has been an increase in the reading performance of the Grade III pupils getting exposed to the e-reading materials. Ernst and Stanek (2006) used standardized assessment tests to compare students' learning achievements. They found out that 98% of the respondents obtained higher scores after being exposed to the intervention material developed by the authors. In addition, the study of Simskin et al. (2000) found a positive correlation ($r= 0.42$) between the pre-test and final scores of students. This suggests that pre-test scores of the pupils help predict their performance on the post-test and that pre-test scores are a useful indicator for pupils' higher performance.

Table 4 presents the differences in the reading performance levels of the Grade III pupils in the summative test across the profile variables.

Table 4. Differences in the levels of performance of the Grade III pupils in the summative test across the profile variables

	Mean	SD	t	df	Sig (2-tailed)
Sex	94.82	2.418	203.71	26	.000
Grade Point Average	94.48	2.276	215.66	26	.000
Monthly Family Income	93.56	2.136	227.55	26	.000
Mother's HEA	94.33	2.304	212.76	26	.000
Father's HEA	94.44	2.326	210.98	26	.000

Table 4 presents the post-test result across the profile variables tested to determine significant differences using paired t-test. As shown on the table, sex ($M=94.82$; $SD=2.42$), grade point average ($M=94.48$; $SD=2.28$), monthly family income ($M=93.56$; $SD=2.14$), mother's ($M=94.33$; $SD=2.30$) and father's ($M=94.44$; $SD=2.33$) highest educational attainment yielded very significant results as indicated by the p-value of 0.000 in all of the variables. The result suggests that the profile variable data obtained from the respondents have direct and indirect effects on their reading performances. According to the study of Gooding (2001), children whose parents have higher educational attainment perform better on assessments. Moreover, parents' highest educational attainment is often attributed to their family income, thus affecting the children's overall performance.

Ede (2004) and Voyles (2011) noted in their studies that sex needs to be considered as it plays a role in pupils' performance. It has been found out that gender was a factor in the students' overall academic success, particularly in reading.

Table 5. Relationship on the levels of reading performance of the Grade III pupils in the summative test across the profile variables

	Pearson Correlation (<i>r</i>)	Sig (2-tailed)
Sex	.337	.086
Grade Point Average	.610	.001
Monthly Family Income	.540	.004
Mother's HEA	.556	.003
Father's HEA	.453	.018

Test across the Profile Variables

Table 5 presents the relationship on the levels of reading performance of the Grade III pupils in the summative test across the profile variables. The relationships of the post-test across the profile variables of the Grade III pupils were investigated using Pearson product-moment correlation. As gleaned from the above table, all of the profile variables are positively correlated to the post-test. Using Lachenbruch & Cohen's (1988) suggested guidelines in interpreting the strength of correlation among variables, grade point average ($r = .610$; $p = .001$), mother's highest educational attainment ($r = .556$; $p = .003$), and Monthly Family Income ($r = .540$; $p = .004$) showed a strong positive correlation.

On the other hand, sex ($r = .337$; $p = .337$) and father's highest educational attainment ($r = .453$; $p = .018$) showed a moderate positive correlation. Pan et al.'s (2016) research study suggested that parents' family income and educational background are useful factors that predict children's reading achievement.

IV. Conclusion

Based on the findings of this study, the following conclusions were formulated:

1. Male respondents perform better than female respondents and have parents who have at least studied high school level.
2. The respondents have a good reading performance in the pre-test.
3. The e-reading materials helped in improving the reading performance of the Grade III pupils.
4. The specified profile variables affect the reading performance of the respondents.

5. Likewise, the respondents' profile variables affect their reading performance.

V. Recommendations

From the salient results and conclusions formulated, the researcher recommends the following:

1. Other variables should also be studied apart from those utilized by the researcher to expound more knowledge on the reading performance of pupils.
2. Development, use, and adapting supplementary materials for class use are suggested to improve the reading performance of the pupils.
3. Teachers are recommended to develop their instructional materials or adapt instructional materials that target the specific needs of the pupils to improve their performance.
4. Demographic factors like gender and family background affect pupils' performance. Hence, they should be considered in developing instructional materials or adapting them to fit the pupils' needs better.
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REFERENCES

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