

Effectiveness of multi-level materials in overcoming reading difficulties among grade IV pupils

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ABSTRACT

Learning to read is critical to a child's success in school in that it increases the literacy rate of the society. But, not all children experience the rewards and joys of literacy, hence the need to customize the instruction to suit students' strengths and weaknesses. Purposely, this study sought to determine the effectiveness of multi-level materials in overcoming reading difficulties among Grade IV pupils of La Granja Elementary School, Division of La Carlota City. True Experimental research design using the pre-test-post-test control group was conducted to 60 pupils randomly assigned to the experimental and control groups. Data were gathered through the use of Philippine -

Informal Reading Inventory (Phil-IRI) to assess the reading difficulties of the subjects.

The experimental group made use of multi-level materials, while the control group had purely lecture-discussion with the same number of minutes and subject matter or topics in experiment. The statistical tools used were the frequency distribution and percentage, mean and t-test. Significant difference was noted between the level of reading difficulties of pupils in experimental group, before and after the experiment. However, there was no significant difference between the level of reading difficulties of pupils in control group, before and after the experiment. The study yielded that the multi-level materials as an intervention in overcoming reading difficulties among Grade IV was very effective.

Multi-level materials used were recommended to all concerned in enhancing the mastery of reading skills.

In view of the above findings, the multi-level materials were recommended to all concerned in enhancing the mastery of reading skills.

Keywords

Multi-level Materials, Reading Difficulties, Experimental Research Design, Philippine- Informal Reading Inventory

Introduction

One of the determinants to survive in the society and the globalized world is for one to be able to know how to read. Educators, parents, physicians and psychologists, as well as society in general, share concern about individuals who do not learn to read, or who learn slower than others. Thus, the teaching profession has much to do since this concern on reading is its primary responsibility.

According to (Richek, 2002), the substantial portion of the school population has learning problems, most of which relate to

reading and that many students with reading problems receive no special programs. If help is given, students may be placed in self-contained, resource or regular classroom settings.

Indeed, teachers bear the primary responsibility for instructing students who have reading problems. Reading problems are associated with difficulties in life, including poverty, unemployment, and problems with the law. Because they lack skills, individuals with reading problems are often unable to train for jobs in an increasingly technological society.

In learning to read, children do not progress at the same rate. Sometimes, children of average or superior intelligence meet problems that delay or block their learning or they lack several factors that influence acquisition of reading ability.

Alcantara (1996) mentioned that several educational innovations had been tried in Philippine Schools for the maximum development of every child according to his unique nature, interest, abilities and needs. In such schemes, as Mastery Learning, Individualized Instructions, Continuous Progression, the Non-graded School and the Open Classroom, the desired goal is to help the child progress smoothly from one level to another. However, despite all efforts to get children to achieve "at the norm", wide variations in achievement are found in every grade level. This is due to the tremendous differences that exist among individuals in their physical, mental, social, emotional and cultural background. Individual differences coupled with several factors such as the ineffective and untrained teacher, the lack of instructional materials, poor classroom environment and the lack of coordination with the home and community agency have resulted in various types of reading disabilities.

As a reading teacher, the researcher has observed that many of the pupils in La Granja Elementary School are problem readers due to inadequate vocabulary and poor reading ability. This has also been manifested by the complaints of some teachers from other grade levels. Thus, appropriate intervention is needed to help those children, move from one stage to another in a timely fashion. According to *Quinto* (1997), one of the principles of teaching students with reading problem is choosing materials at the student's instructional level for teaching lessons. Materials above this level will frustrate students; materials that are too easy will not provide sufficient challenge either. So, multi-level materials (MLM's) were used as an intervention in overcoming reading difficulties. The Multi-level materials (MLM's) are modules that are part of the Multi-grade Instructional Support Materials. These materials have been purposely prepared to

supplement and complement learning made through the basic texts issued by the Instructional Materials Corporation (IMC). Each module constitutes the total learning process and may, therefore, be used not only to reinforce or enrich learning but also to develop a new lesson.

It is in the above context that the researcher finds it imperative to delve into the effectiveness of multi-level materials (MLM's) as an intervention in overcoming reading difficulties, more pointedly, because she believes problems in reading can affect performance across several academic content areas, occupational endeavours, and other functional skills that are used in everyday life activities.

Objectives of the Study

Purposely, this study tried to determine the effectiveness of multi-level materials in overcoming reading difficulties among Grade IV pupils of La Granja Elementary School, Division of La Carlota City, during the School Year 2007-2008.

Specifically, the research sheds light into the following questions:

1. What are the levels of reading difficulties encountered by the experimental group and control group of pupils in these areas before the start of the experiment;
 - a. Word recognition skills and
 - b. Comprehension skill
2. What is the level of reading difficulties of the experimental and the control groups before and after the experiment?
3. Is there a significant difference between the levels of reading difficulties of pupils in the control and in the experimental group before and after the experiment?
4. What is the level of effectiveness of multi-level materials in overcoming reading difficulties?

Hypothesis of the Study

The hypothesis is drawn based on the specific objectives of the study.

1. There is no significant difference between the levels of reading difficulties of the experimental group and the control group before and after the experiment.

Theoretical Framework

Theoretically, this study is based on the research program of NICHD - National Institute of Child Health and Human Development (*Grossen, 1997*). National Institute of Child Health and Human Development research on children with learning disabilities has shown that deficiencies in processing letter-sounds are the heart of most reading problems. Most children will learn to read, no matter what method is used to teach them, but unless they receive special help, at least 20 percent of them cannot master this simple task.

Smith (n.d) cited that there is growing evidence that it might be more appropriate to refer to the amount of time a learner takes to complete a reading task rather using qualitative labels, such as good, best, or poor reader. Slow reader could read shorter passages. One of the reasons that these learners read more slowly is that they seem less able to identify the organization of a passage of text. Since efficient comprehension relies on the reader's ability to see the pattern or the direction that the writer is taking, parents and teachers can help this reader's selection, both in the general sense of concept building and in the specific sense of creating a mental scheme for the text organization.

Likewise, *Allyn and Bacon* (1994) considered a variety of factors involving students with mild disability. These students, classified as having learning disabilities, communication disorders, mental retardation, and/or behavior disorders, are seen in a variety of academic setting. They may receive their instruction in a general education classroom, a resource room or a self-contained setting. Regardless of the labels

placed on these students, there are certain considerations necessary to meet their academic needs. Reading, decoding, and comprehension are clearly critical skills to academic development. Students with mild disabilities can and do learn to read if the professionals involved consider the individual needs of students and match these needs to appropriate instructional techniques.

On these contexts this study is anchored. The researcher, being a faculty member and reading teacher, is interested in finding out the effectiveness of multi-level materials in overcoming the reading difficulties.

Conceptual Framework

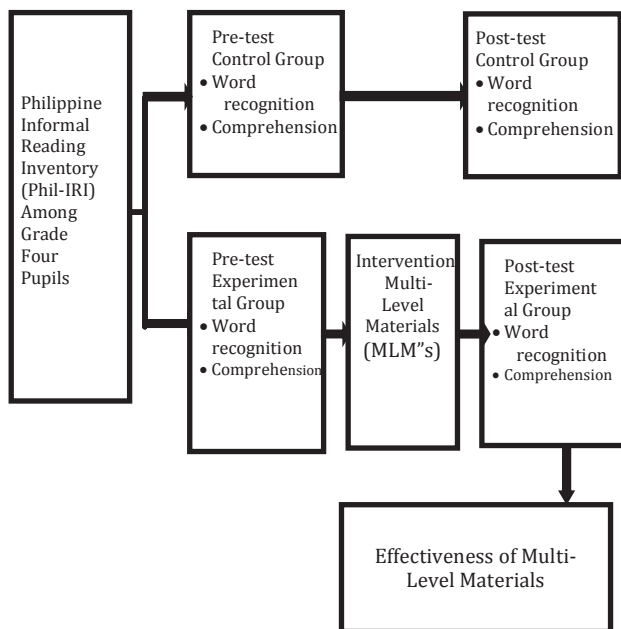
This study is based on the result of Philippine Informal Reading Inventory (Phil-IRI) which the researcher recently conducted among Grade IV pupils. The IRI is an assessment tool that evaluates the reading proficiency level of elementary school pupils. It is the first validated instrument that presents the overall reading profile of public elementary schools nationwide. The pupil's word recognition ability and comprehension skills are informally measured quantitatively through oral reading of stories, passages and poems. Informal measures are flexible. Because informal measures have not been standardized, teachers are free to make modifications in test procedures suited to the need students' students and tailor testing to account for their different backgrounds, interests and attitudes of students. The emphasis of the Phil-IRI is on learning the skills, abilities and needs of pupils to plan reading instructions. Thus, the Phil-IRI can provide educators, policy makers and teachers not only with information about the pupil's reading capabilities but also with interventions appropriate for each reading level (Olores, 2005).

The Phil-IRI is an initiative of the Bureau of Elementary Education-Department of Education that directly addresses its goal to make every child a reader. It is anchored on the flagship program of the Department "Every Child A Reader Program", the goal of which is to enable every Filipino to

communicate both in English and Filipino through effective reading instruction. The result of Phil-IRI pointed out that many individuals find difficulties in reading.

In this study, certain variables were considered to measure the reading levels of the Grade IV pupils. The experimental and control group reading proficiency were evaluated through the use of Phil-IRI. Multi-level Materials were given as an intervention to the experimental group, while the control group used reference materials like manuals and textbooks. After the experimentation period, both groups were post-test to the measure if there is a significant difference on their reading level.

Framework of the Study



Method

The true experimental design utilizing the pre-test-post-test control group was applied in this research. According to Ardales (2002), this is one of the true experimental designs which involve the random assignment of subjects from single population to the experimental and the control groups. These two groups receive initial observations or pre-test (O₁ and O₃), so as to determine the differences between two

groups at the beginning of the experiment and to serve as basis in determining the gains of both groups at the later part of the experimental group. The control group did not receive the treatment but left the way it was before getting involved in the experiment. After giving the treatment time to work, a second round of observations or post-test was made (O₂ and O₄). Expectedly, since the experimental group received the treatment, significant change should manifest in this group, not in the control group.

Locale of the Study/ Subjects Respondents

The study was conducted at La Granja Elementary School, District III- Division of La Carlota City, Negros Occidental among Grade IV pupils. Out of one hundred pupils, the researcher randomly selected sixty (60) of them, thirty pupils were randomly assigned to the experimental and the control groups. Fishbowls technique was used to determine who among the pupils would be taken as subjects.

Research Instrument Used

To gather the required data for this investigation, the Philippine informal Reading Inventory (Phil-IRI) was used. The Phil-IRI is an assessment tool that evaluates the reading ability of pupil. It is an informal measure that can assess the pupil’s comprehension, vocabulary and word identification skills. It determines pupil’s thinking process as well as the reading performance.

Data-gathering Procedure

The data needed for this study were gathered using the Phil-IRI. Informal tests allow teachers to personalize assessment to the needs of pupils and tailor testing to account for the students’ different backgrounds, interests, and attitudes. The level of reading difficulties of Grade IV pupils was measured through the responses in the pre-test and post-test using the Phil-IRI. Before administering the experimental treatment, both the control and experimental groups

were subjected to a pre-test. The researcher identified the reading difficulties of all pupils, in testing the pupils, she needed a desk or a table and two chairs located in an area reasonably free from excessive noise and distraction. While the pupils read, the researcher recorded the pupil's performance on the graded word list and the graded passage in the performance booklet. On word recognition in context (passages), as the students read the passage, she recorded miscues such as omission, repetition, substitution, insertion reverse word order and nonsense words on the corresponding copy found in the performance booklet. On comprehension skills, the researcher recorded the number of wrong responses on comprehension questions which were categorized as literal, inferential, interpretive, critical, creative/integrative, valuing and vocabulary. The open ended questions are of higher order and critical thinking to get more complete picture of each pupil's comprehension skills.

To determine the level of reading difficulties from passages read the following criteria were shown on the table.

Table 1
The Level of Reading Difficulties

Level	Word Recognition (WR)	Comprehension
Frustration	97-100%	80-100%
Instructional	90-96%	59-79%
Independent	89% below	58% below

The two groups were given pre-test measurements to determine at the start of the differences in their level of reading difficulties at the beginning of the experiment, and to serve as a basis in determining the effect of the intervention at the end of the experiment in the form of module. After four months, the two groups were given post-test measurements. It was expected that independent level would manifest a change in the experiment group, not in the control group. The post-test measurements helped determine the effect of the treatment on the two groups. The pre-test measurement for the level of reading difficulties of the

experimental group was compared to that of the control group. The post-test measurements for level of reading difficulties also compared the difference between the two groups at the end of the experiment.

Results and Discussion

The findings of the study are as follows:

1. Table 2 reveals that in area of word recognition, the experimental group mean error score is 33.83 with the level of reading difficulties of independent level, while the control group mean error score is 33.73 with the level of reading difficulties of independent level. Understandably, the subjects' level of reading difficulties in the said area is very low. The majority of the pupils read orally well due possibly to the fact that they were already in Grade IV and the passages presented to them suited their level. In the area of comprehension skills, the experimental group means error score is 77.7 with the level of reading difficulties of instructional level, while the control groups mean error score is 74.63 with the level of reading difficulties of instructional also. This finding implies that the pupils' comprehension skill is poor so that they need more drills and exercises to enhance their ability to draw inference, give meaning to vocabulary words and make generalization of a particular situation. Just as evaluation test presents the merits or demerits of a case.

The table also shows the level of reading difficulties of experimental group in the areas of word recognition is independent, while that of comprehension skills is instructional, which result to the instructional level as their level of reading difficulties in both areas. These findings imply that pupils were good in oral reading and in recognizing word, but found difficulty in comprehending the printed materials, a finding supported by Applegate et al, (2007) who cited that larger number of readers scored at proficient level, but still they need some instructional needs in comprehension. They further added that one third of their fluent and "strong" readers struggled mightily with comprehension at their current grade level. It is difficult to escape the conclusion that many of these

children had been judged strong readers on the basis of their pacing, accuracy, and prosody alone.

By contrast, level of reading difficulties of the control group is instructional level, since the level in word recognition is independent and that of comprehension skill is instructional. The result shows that most of the pupils in the control group read well, but remained poor in comprehension in that they could not answer the comprehension questions that required higher order thinking skills.

Table 2
Level of Reading Difficulties of Experimental and Control Groups in the Area of Word Recognition and Comprehension Skills before the experiment

Groups	Areas	%	Interpretation
Experimental Group	Word Recognition	33.83	Independent
	Comprehension Skill	77.07	Instructional
Level of reading Difficulties			Instructional Level
Control Group	Word of Recognition	33.73	Independent
	Comprehension Skill	74.63	Instructional
Level of Reading difficulties			Instructional Level

2. Table 3 presents the data on the level of the reading difficulties of both experimental and control groups before and after the experiment. The mean error scores reflected the level of the reading difficulties which were categorized as frustration, instructional and independent in the areas of word recognition and comprehension skills before and after the experiment. It appears that before the experiment began pupils of experimental group had instructional level of reading difficulties. They were not able to answer the comprehension question with higher order thinking skills. Thus, the mean error score of experimental group is 33.83 in word recognition and 77.07 in comprehension skills, clearly indicating that many pupils read well, but they lacked basic reading skills with consequent slowness and failed to get the meaning of a word and message of passage presented. This was a great leap in learning in both areas.

The findings imply that there was an improvement on the level of reading ability, since nobody committed errors in word recognition, and still few blundered in the comprehensions skills. It appears that the multi-level materials contributed much to the improvement. The pupils showed an enhanced mastery in reading skills which might have been brought about by self-discovery and individualized, more meaningful activities.

In the control group, there is a slightly higher improvement from 33.73 to 8.33 mean error in word recognition; and from 74.63 to 54.64 mean error in comprehension questions. Compared to the experimental group this was slightly lower, and could be accounted by the fact that they were exposed to the traditional method of teaching. However, the overall performance was good, because they improved their level of reading difficulties from instructional level to independent level.

Table 3
Level of Reading Difficulties of Experimental and Control Groups before and After the Experiment

		WR		CS		LRD	
		%	I	%	I		
Experimental Group	Pre test	33.83	Ind.	77.07	Inst.	Inst.	
	Post test	0	Ind.	35.71	Ind.	Ind.	
Control Group	Pre test	33.73	Ind.	74.63	Inst.	Inst.	
	Post test	8.3	Ind.	54.67	Ind.	Ind.	

Legend: CS- comprehension skills; WR- word recognition; I- interpretation; Ind.-independent; Inst.- instructional; LRD- level of reading difficulties

3. The statistical comparison in Table 4 proved that there was significant difference on pre-test and post-test mean result of the pupils in experimental group, as revealed in the computed t-value which is 2.65, or greater than that of the tabular value of 1.703 at 0.05 level of significance with the degree of freedom (df) 27. The t-value indicates the rejection of null hypothesis that there was no significant difference between the levels of reading difficulties of the experimental group before and after the experiment. The result implies that after the intervention in the experimental group, the pupils improved their reading level.

Table 4
Significant Difference in the Levels of Reading Difficulties of the experimental Group before and after the Experiment

Areas	Before	After	df	t-value	c-value	Interpretation
Word recognition Skills	33.83	0	27	1.70	2.65	Significant at 0.05 α
Comprehension Skills	77.07	35.71				

4. Table 5 presents the data on the difference in the levels of reading difficulties of pupils in the control group before and after the experiment. It appears that no significant difference exists between the pre-test and the post-test mean result of the pupils in control group. The computed t-value set at 0.2596 is lesser than that of the tabular value of 1.699 at 0.05 level of significance of df 27. The t-test indicates the acceptance of the null hypothesis that there was no significant difference between the levels of reading difficulties of the control group before and after the experiment.

Table 5
Comparative Statistics Level of reading Difficulties of Control Group before and after the Experiment

Areas	Before	After	t-value	c-value	Interpretation
Word recognition Skills	33.73	8.33			Not Significant at 0.05 α
			1.699	0.2596	
Comprehension Skills	74.63	51.67			

5. Table 6 presents the pupils' reaction to clarity and effectiveness of the lesson through multi-level materials (MLMS). It appears on the table that the evaluation remarks of experimental group on the level of effectiveness of multi-level materials (MLMs) in overcoming reading difficulties. Mechanics, content and relevance were the criteria in evaluating the effectiveness. The evaluation result revealed the highest rating of 2.81 or very effective. Apparently, the findings show that pupils treated the multi-level materials (MLMs) as informative and effective in overcoming reading difficulties. The effective instruction has been accounted from the feature of the multi-level materials that focused on the reading skills to be learned. They stimulate learning, guide the

development of concepts/focus skills, elicit the message or meaning that a student can take away from an activity and experience. Thus, the multi-level materials attained their purpose in the study. Differentiating instruction and providing multiple level of materials allow more flexibility for students to meet the standards and requirements of the class (Udvari-Solner, A., 1994).

Table 6
Level of Effectiveness of the Multi-level Materials as answered by the Experimental Group

A. Mechanics	Mean	Interpretation
1. Main ideas are presented clearly	3.00	Very Effective
2. Supporting details unify the composition	2.64	Very Effective
3. Ideas are organized and presented logically	2.64	Very Effective
4. Correct grammar is observed	2.86	Very Effective
5. Paper is neatly written	3.00	Very Effective
B. Content		
1. Has clear directions in varied activities	3.00	Very Effective
2. Provides examples to concretize the concepts	2.86	Very Effective
3. Contains lot of knowledge of the subject matter	3.00	Very Effective
4. Allows pupils to make discoveries and formulate ideas on their own	2.35	Effective
5. Contains the drills or exercises and assesses students understanding of what they have learned	3.00	Very Effective
C. Relevance		
1. The focus skills were taken from the learning Competency (LC) of English IV	3.00	Very Effective
2. Provides questions that elicit the meaning based on pupil's experience or experiences	2.46	Very Effective
3. Establishes the relationship between the topic/ lesson and what pupils already know or are familiar to them	2.89	Very Effective
4. Topics and lessons are within the levels and needs of the pupils	2.75	Very Effective
5. Learning activities are varied, interesting and suited to the pupil's grade level	2.75	Very Effective
Over-All Mean	2.81	Very Effective
Scales: 2.34 – 3.00 – Very Effective, 1.67 – 2.33 – Effective, 1.00 – 1.66 – Not Effective		

Conclusions

On the basis of the findings, the following conclusions were drawn:

1. The level of reading difficulties encountered by the experimental and control groups in the area of word recognition before the experiment was independent, while in the area of

comprehension skills, the result was instructional. Pupils were fluent in oral reading, but had difficulty in reading comprehension.

2. The level of reading difficulties of the experimental group in word recognition and comprehension skills improves after the intervention (from instructional to independent). The same finding also implies to the control group, their reading difficulties improved but slightly lower than that of experimental group. It appears that MLMs contributed much on the improvement of pupils reading difficulties.
3. There was a significant difference between the level of reading difficulties of pupils in the experimental group, before and after the experiment. Their reading difficulties vary after the intervention. Therefore, evidently multi-level materials (MLMs) had a positive effect on the pupils' reading ability and in overcoming reading difficulties.
4. There was no significant difference between the level of reading difficulties of the pupils in the control group before and after the experiment. Pupils in this group still committed a number of errors in word recognition and comprehension skills.
5. The multi-level material (MLM'S) was "very effective" in overcoming reading difficulties among Grade IV.

Recommendations

Based on the findings and conclusions, the following recommendations are advanced.

To the School Division Superintendent. Evidently multi-level materials are very effective as intervention in overcoming reading difficulties among Grade IV pupils. By using them, the reading levels of the pupils were alleviated. It is highly recommended that appropriate amount for the reproduction of materials in the whole Division of La Carlota City be allocated.

To the School Administrator. The result of this study shows that there is improvement in the reading abilities of pupils when multi-level materials were used. Therefore, school administrators should utilize the multi-level materials among Grade IV pupils in their respective schools.

To the English Teachers. Teachers should utilize these materials inside the classroom to lessen their load, because MLMs help them to development concepts and skills of reading through various activities features in these materials.

To the Grade IV Pupils. The result of the study shows that MLMs have improved the reading skills both in word recognition and comprehension of the pupils. It is, therefore, recommended that multi-level materials be used by Grade IV pupils in overcoming reading difficulties and in facilitating learning for a meaningful outcome.

To the Parents. It is suggested that the reading materials be provided by the parents at home for the remediation or tutorial purposes, if their children have difficulties in reading. Likewise, these multi-level materials help them to develop their children's study habits and reading habits.

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