

Effects of Picture Books Intervention on Language Learning Skills of Pupils with Learning Disabilities in Jos, Plateau State

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Abstract. This study examined the effects of picture books on language learning skills of pupils with learning disabilities. Quasi experimental research design was adopted for the study; specifically, the non-equivalent pretest-posttest control group design was used. The population of the study comprised of seventy eight primary two pupils with learning disabilities. Purposive sampling technique was used to select forty pupils as sample for the study. An adapted Functional Diagnostic Test of Language Assessment Instrument (FDTLA) and Assessment of Language Ability (ALA) score sheet were used to collect data which helped to answer the research questions and test the hypotheses raised. Data for the research was collected through administration of pretest on the experimental and control groups. After the pretest, the experimental group was exposed to an intervention using picture books, while the control group was taught using the conventional oral method in their regular classroom. Two research questions were answered using mean scores. Three hypotheses were formulated and two were tested using t-test for independent samples at 0.05 level of significance and one hypothesis was tested using ANCOVA. The results showed that picture books improved the language skills of the pupils significantly as shown in the performance of the experimental group who were subjected to an intervention using picture books as against pupils (control group) who were taught using the conventional method. In the same vein, the results also showed that there was no significant difference between the language learning skills of boys and girls after exposure to picture books.

Keywords: Picture Book, Intervention, Language Skills, Pupils with Learning Disabilities

1. Introduction

Pupils with learning disabilities are those who appear to be normal but exhibit some difficulties educationally, socially, emotionally and behaviorally. They may have difficulties in some school subjects and or skills such as reading, writing, spelling, listening and speaking, mathematical reasoning or calculations and social problems. Learning disabilities is a problem or disorder which interferes with the development of basic skills that affect a person's ability to learn. Lerner (2000) explains that pupils with learning disabilities do not perform well in situations that require extensive language interactions and conversations and they are less skilled maintaining a conversation.

Language is the means of communication of any given people. It is through language that people express themselves. It has four skills which are listening, speaking, reading and writing. Language is used to communicate ideas while teaching, learning, speaking, reading, interacting, worshipping and transacting business. Language is a means of social control, a collection of motor responses; it functions symbolically and is used for verbal communication (Azikiwe, 2007). Language is a code whereby ideas of the user concerning the environment and the world at large are represented through signals for communication. "Normal pupils" acquire language in a relatively short time with less difficulty; pupils do this without necessarily any specific language instruction from parents and other care-givers. Pupils pick up a language just from hearing it spoken around them. Umolu (1985) and Omojuwa (1989) carried out separate studies about language learning in school to determine the language skills of primary school pupils in public primary schools in Nigeria. They both found out that 90% of the pupils have language problems. As a result of this, pupils perform poorly in other subjects that demand the use of language skills.

Picture books are books containing drawings of objects and events drawn in such a way that they can attract the attention of the children. Picture books can be wordless, single word or one or more sentences. They have been used by specialists to remediate language skills of pupils with learning disabilities and even those without learning disabilities. Basically, the role of pictures in pupils' texts is to enhance learning, making such experiences quicker, concrete and more meaningful. Most pupils do not learn with ease because they are taught things in abstraction. When pupils are taught using picture books, the picture books serve as concrete objects. Gender is one of the factors which contribute to language skills learning among pupils. Girls are said to develop language early enough than boys. Karmiloff and Karmiloff-Smith (2002) reported in a study that girls begin to talk earlier, articulate better and acquire more extensive vocabularies than boys of the same age. Karmiloff and Karmiloff-Smith added that girls and women surpass boys and men in verbal fluency, correct language usage, sentence complexity, grammatical structure, spelling and articulation. However, there are male and female pupils in homes and schools which may lead to one gender developing language faster than the other. Pupils who exhibit these problems could be boys or girls and are found in both special and regular schools.

2. Statement of the Problem

Language learning skills by pupils with learning disabilities are limited due to poor listening, speaking, reading and writing skills. This makes it difficult for pupils with learning disabilities to learn a language. Specialists in language have devised various methods to help the teacher address the problem of language skills of pupils with learning disabilities. Many teachers do not teach language skills with pictures which makes it difficult for the pupils whose second language is not the same with the mother tongue. Studies have shown that picture books are popular in the early years, but these picture books are often kept aside once such pupils reach ages 4-6.

Language problems are found among both boys and girls in schools. It is assumed that girls acquire language faster than boys; as a result of this assumption, language problems among girls are sometimes ignored.

3. Purpose of the Study

The purpose of this study is to find out the effects of picture books on learning of language skills by pupils

with learning disabilities in Jos, Plateau state. Specifically the objectives of this study are to: ascertain the difference between the language learning skills of boys and girls taught using picture books intervention in Jos, Plateau State.

ascertain the difference between the language learning skills of pupils with learning disabilities who were taught with and those taught without picture books.

4. Research Questions

This research sought answers to the following questions:

- What is the language learning skills ability mean scores of boys and girls with learning disabilities taught with and without picture books in Jos, Plateau State?
- What is the language learning ability mean scores of pupils with learning disabilities taught with and without picture books in Jos, Plateau State?

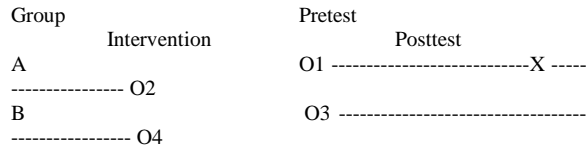
5. Hypotheses

The following research hypotheses were tested at 0.05 level of significance:

- There is no significant difference in the posttest language learning ability mean scores of pupils taught with picture books and those taught without.
- There is no significant difference between the pretest language learning ability mean scores of boys and girls in the experimental group.
- There is no significant difference between the posttest language learning ability mean scores of boys and girls who were taught using picture books.

6. Research Design

The research by its very nature is an experimental research. The researcher employed the quasi-experimental design. Specifically, the non-equivalent pretest-posttest control group design was used which quasi-experimental design allows. The researcher also used quasi-experimental design because it allows the use of intact groups. The reason for using intact groups is because the pupils have already been arranged into classes and the school management did not allow the classes to be redistributed for the purpose of an experiment. This design is illustrated below:



(Source: Awotunde, Ugodulunwa & Ozoji, 2002)

In the diagram, there were two groups of participants, A and B. Group A was the experimental. It took the pretest O1, received intervention X and then received the posttest O2. Group B was the control. It also took the pretest O3, received no intervention and then took the posttest O4. Analysis of covariance was also used in order to have control over intervening variables.

6.1 Population and Sample

The population of this study comprised of all primary two school pupils with learning disabilities in Jos North Local Government Area. The researcher used one primary school. The population comprised 78 pupils with learning disabilities. These pupils have problem of language skills. From the population, the researcher selected forty (40) pupils with learning disabilities and language problems. This number was drawn from primary two (2). The researcher decided to select this number because it allowed the researcher to have maximum control of some extraneous variables that may affect the result of the findings if the number is higher. From this sample, the researcher assigned them equally into experimental and control groups, that is, twenty (20) pupils for experimental group and twenty (20) pupils for control group. From this sample, 70% of the participants were boys and 30% were girls. The reason for this distribution was because there were more boys than girls in the selected school.

6.2 Sampling Technique

The sampling technique that was used for the selection of the school was simple random sampling technique. This is a probability sampling technique in which the researcher attempted selecting a sample that appeared to be a representative of the population defined by the research problem. Using this method, the researcher picked Methodist Primary School, Kashim Ibrahim Street Jos purposively.

For the selection of the class that was used for this research, the researcher used purposive sampling technique. The researcher picked primary two (2) because at this level, a lot of work is supposed to be put to ensure pupils learn the basic skills of language. In order to select the forty (40) pupils that participated in this research, the researcher assessed

all the pupils in primary two to determine those that have learning disabilities. After determining the number of pupils with learning disabilities in primary two, the researcher assessed this number again to determine those that have language skills problems among them. After the researcher has identified those with language learning skills problems using Functional Diagnostic test of Language Assessment Instrument, the researcher picked forty (40) from among them. The stratified sampling technique was used to select the forty pupils who participated in the research because the sample consisted of both male and female pupils.

6.3 Instrument for Data Collection

Two instruments were used for data collection in this research. The instruments that were used for data collection in this research were the Functional Diagnostic test of Language Assessment Instrument (FDLAI) and Assessment of Language Ability score sheet (ALA). The first instrument adapted from Ihenacho (1986) is Functional Diagnostic test of Language Assessment Instrument (FDLAI). The second instrument, Assessment of Language Ability (ALA) was developed by the researcher. The two instruments were used for pre test and post test. Picture books which included wordless, single word and single sentence picture books were used for intervention.

6.4 Procedure for Data Collection

A letter of introduction was obtained from the researcher’s supervisor introducing the researcher and soliciting for cooperation of the school authority and the pupils. After the researcher had obtained permission from the school to conduct the research, the researcher then used the two instruments (Functional Diagnostic Test of Language Assessment Instrument and Assessment of Language Ability score sheet) to conduct a pretest on the pupils with language problems. The pretest was done in their classes. After the pupils have been identified using Functional Diagnostic test of Language Assessment Instrument, the researcher divided them into experimental and control groups.

After dividing the pupils into experimental and control groups, the experimental group were taken to a separate classroom for the intervention. The researcher visited the school twice a week for 10 weeks. The intervention was conducted one hour before break time using picture books. The pupils in the control group were taught the same thing but without pictures by the researcher.

After the ten (10) weeks of treatment, the researcher administered the posttest to both the experimental and control groups using Functional Diagnostic Test of Language Assessment Instrument and Assessment of Language Ability Score Sheet that were used for the administration of the pretest.

6.4.1 Administration of Pretest

The pretest was to find the equivalence of participants after which they were assigned into experimental and control groups. The pupils were tested individually using Functional Diagnostic Test of Language Assessment Instrument (FDLAI) and Assessment of Language Ability Score Sheet (ALA). The assessment ran for one hour each day for one week. Each pupil’s score was recorded on a score sheet.

6.4.2 Procedure for Intervention

The intervention was administered using the picture books and it lasted for ten weeks. The intervention was conducted twice a week for one hour during which the skills of listening and speaking were taught using greetings and responding correctly to simple greetings. They were also taught to obey or respond to simple commands and also gave simple commands in week two, listened to stories and retold stories using picture books in week three. They were shown pictures from a picture book and taught to talk about the pictures seen in week four.

The pupils were taught reading skills using letters of the alphabet (capital and small letters), word recognition and reading in week five. In week six, they were taught to identify capital and small letters of the alphabet, recognition of names of objects and identification of words in week seven. In week eight, they were taught to match words to pictures using picture books. The skills of writing were taught by teaching them to write names of objects, simple sentences under pictures given to them. They were taught to copy the names of objects and simple sentences before writing the names of objects and sentences under pictures given to them in weeks nine and ten.

6.4.3 Administration of Posttest

7. Results

The researcher re-administered the Functional Diagnostic Test of Language Assessment Instrument (FDLAI) and Assessment of Language Ability Score Sheet (ALA) to both experimental and control groups after the last week of the treatment session.

6.5 Method of Data Analysis

The research questions were analysed using mean scores. The formula for calculating the mean is given below:

$$\bar{x} = \frac{\sum fx}{\sum f}$$

Where:

- \bar{x} = The Arithmetic mean
- \sum = Greek letter sigma meaning “summation of”
- X= scores
- N= number of cases

The analysis for covariance (ANCOVA) was used to test hypothesis 1. The formula for calculating ANCOVA is given below:

$$F_c = \frac{(x - \bar{x})(y - \bar{y})}{n}$$

$$F = \frac{BetweenGroupVariance}{WithinGroupVariance}$$

F_c = calculated F Ration

- X = Group one which either experimental or control
 - X = Experimental Group
 - y = Control Group
 - x - \bar{x} = Deviation of score of member of experimental
 - y - \bar{y} = deviation of score of member of control
- The statistical procedure used to analyse hypotheses 2 and 3 was the t-test for independent samples and was tested at 0.05 level of significance.

The formula is given as:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

- \bar{x} = mean
- S²=Variance
- n = Sample size

The rule for making decision when using this statistical technique is that the calculated t-value will be compared with the p-value and then inferences will be drawn as thus: when the calculated t-value is greater than the critical value of p, we reject the hypothesis and when the calculated t-value is less than the critical value of p, we accept the hypothesis.

Results of the main study were analysed using SPSS version 21. The results are stated below.

Research Question 1: What is the language ability mean scores of boys and girls with learning disabilities taught with and without picture books in Jos, Plateau State?

Table 1: Summary Table for Mean Scores of Language Ability of the Experimental and Control Groups Before and After Exposure to Picture Books

Group	n	Pretest	Posttest
		\bar{x}	\bar{x}
Control	20	19.75	39.15
Experimental	20	22.50	67.35

Research Question Two: What is the language ability mean scores of pupils with learning disabilities taught with and without picture books in Jos Plateau state.

Table 1: Summary Table for Mean Scores of Language Ability of the Experimental and Control Groups Before and After Exposure to Picture Books

Group	n	Pretest	Posttest
		\bar{x}	\bar{x}
Control	20	19.75	39
Experimental	20	22.50	67.35

Hypothesis Two: There is no significant difference between the posttest language learning ability mean scores of pupils taught with and those taught without picture books.

Table 3: Summary Table of ANCOVA Analysis on Language Learning Ability Mean Scores of Pupils Taught with and those Taught without Picture Books

Source	Type III Squares	df	Mean Square	F	Sig.
Corrected model	8114.262 ^a	2	4057.131	63.040	.000
Intercept	4764.919	1	4764.919	74.038	.000
PRETEST	161.862	1	161.862	2.515	.121
GROUP	6898.910	1	6898.910	107.196	.000
Error	2381.238	37	64.358		
Total	123918.000	40			
Corrected Total	10495.500	39			

R Squared = .773 (Adjusted R. Squared =.761)

Hypothesis One: There is no significant difference in the posttest language learning ability mean scores of pupils taught with picture books and those taught without.

Table 4: Summary Table for Mean Scores of Language Ability of the Experimental and Control Groups Before and After Exposure to Picture Books

Group	n	Pretest	Posttest
		\bar{x}	\bar{x}
Control	20	19.75	39
Experimental	20	22.50	67.35

Hypothesis Two: There is no significant difference between the pretest language learning ability mean scores of boys and girls in the experimental group.

Table 5: Summary Table for t-Test Result Analysis for Difference in the Pretest Language Learning Ability Mean Scores of Boys and Girls in the Experimental Group

Group	Test	Gender	n	\bar{x}	SD	df	t-value	P-value
Experimental	Pretest	Boys	14	23.29	6.43	18	.855	.404
		Girls	6	20.67	5.89			

p>0.05

Hypothesis Three: There is no significant difference between the posttest language learning ability mean scores of boys and girls who were taught using picture books.

Table 6: Summary Table for t-Test Analysis for Difference Between the Posttest Language Learning Ability Mean Scores of Boys and Girls Taught with Picture Books

Group	Test	Gender	n	\bar{x}	SD	df	t-value	P-value
Experimental	Posttest	Boys	14	66.29	11.16	18	-.667	.514
		Girls	6	69.83	10.23			

p>0.05

8. Recommendations

Based on the findings of this research, the following recommendations are made:

- Publishers of books for lower level primary schools should publish more picture books for use by pupils in the lower primary classes.
- Teachers should improvise picture books for teaching pupils with learning disabilities language skills in lower primary level.
- Parents should provide picture books that are helpful for their children who have learning disabilities to learn language skills at the lower level classes of primary school.

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