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Effects of Audiblox Programme on Literal Comprehension of Pupils with Reading Difficulties in Pankshin Local Government Area, Nigeria

***Margaret Nakom Jatau; **Prof. Sr. Juliana Rotkangmwa Bodang; & **Prof. Isuwa Jikukka Jurmang**

*School of Adult, Non-Formal and Special Education, Federal College of Education Pankshin Plateau State, Nigeria. **Department of Special Education and Rehabilitation Sciences, University of Jos, Jos Nigeria

Abstract

The thrust of this study was on effects of audiblox programme on literal comprehension of Pupils with reading difficulties. The specific objective of this study is to: find out the effect of Audiblox Programme on literal comprehension of pupils with reading difficulties; using pretest-posttest design type of quasi-experimental research, the outcome of interest was measured two times from experimental and control groups. The population in the study area is seventy-two (72). The sample size was forty-seven (47). Teacher Made Literal Comprehension Test (TMLCT) is the instrument used to obtain data in this research. To test the hypothesis at 0.05 level of significance, Analysis of Covariance (ANCOVA) was employed. The results revealed that Audiblox Programme changed the literal comprehension of pupils with reading difficulties to a high level. This study recommended that Federal Government should partner with professionals such as Reading Association of Nigeria and Rehabilitation Scientists of Nigeria, who shall provide trainings, guidance and counselling to teachers on reading skills. Pupils with reading difficulties should be skilled on literal comprehension via audiblox programme. Teachers should be seriously be trained or be made to learn and how to apply treatment such as audiblox programme on literal comprehension on and teachers should seek for better and interested ways to improve literal comprehension ability of pupils with reading difficulties.

Keywords: Audiblox Programme, Literal Comprehension, Pupils, Reading and Difficulties

Introduction

Pupil's success in school hinges on his ability to read and comprehend learning materials. Reading is the act of taking a look at a word or group of words and calling them out effortlessly and gracefully within the shortest possible time. It is the ability to read texts with appropriate precision, expression and the capability to exhibit sand literal comprehension. The regular methods teachers have been using in teaching reading in many primary schools in the investigation area are the 'touch and say,' 'mastery method' or rote learning of reading, but without much success. The researcher is of the opinion that pupils with reading difficulties need a reading programme that is different from the regular reading method obtained in most schools. Shaywitz (2003) opined that reading can be targeted through repeated readings, echo readings, guided readings and self-identifying reading errors. Reading skills can be taught through oral reading, and opportunities for feedback as the pupil reads. It is related to oral language proficiency and eloquence. In a nut shell, reading skill in this study is the capacity to exhibit literal comprehension of what has been read.

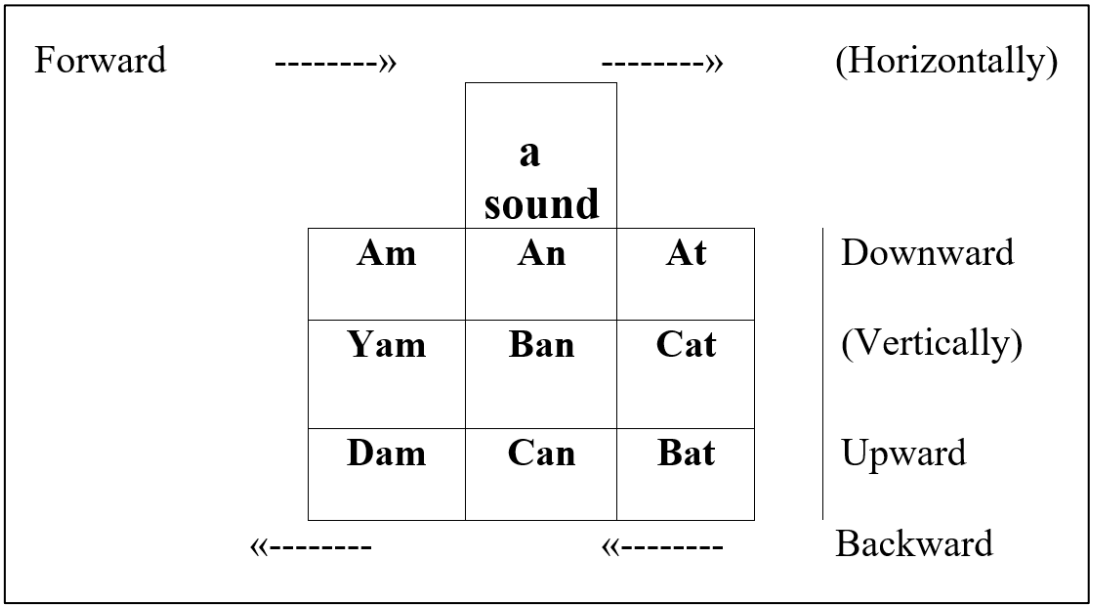
Leli (2017) opined that there are few research evidences that support the fact that poor performances in school subjects often stem from primary school pupils' inability to read text and comprehend the subject matters and answer the questions asked during assignments, tests and examinations. Otana (2018) did a research in Jos, Nigeria which affirmed that pupils with poor performance in academic tasks with scores less than 40% are due to lack of reading skills. Otana further opined that 80% of learners without good reading skills live their lives with reading difficulties and are easily frustrated. This simply affects the learners' academic performance, psycho-social development and other developments negatively; it significantly diminishes their reasoning abilities to develop self, proper articulation and living a normal life. The lack of reading skill makes learners with reading difficulties experience sadness, grief, emotional and psychological instabilities; they experience one form of cognitive dissonance in form of conflicting thinking, feelings and disagreement with self.

The importance of reading to primary school pupils and especially pupils with reading difficulties are so numerous, these include intellectual soundness, academic self-assurance, self-satisfaction, reading confidence and apt learning aptitudes. From the researcher's

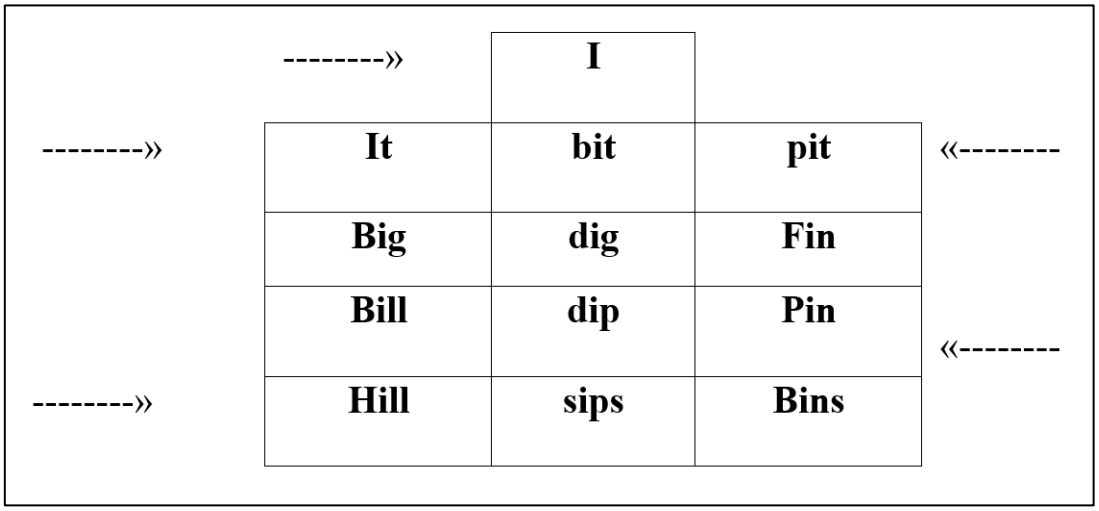
experience as a teacher, reading is the bedrock of learning and education. It is the cornerstone of Art, Science and Technology; reading is the basic tool for all academic subjects. Frequent failure in school by pupils with reading difficulties can be traced to inadequate reading skills. Andzayi (2010) opined that reading skills such as literal comprehension are very essential for all pupils. If the pupils with reading difficulties must do well in school and in life generally, reading skills must be inculcated in them. Andzayi further buttressed that it is important to help pupils without reading skills to learn to read through viable strategies instead of memorizing words, and that strong foundation in phonics awareness and literal comprehension strategies stick with learners well beyond their elementary years and have a high impact on their academic successes in the long run.

Therefore, pupils with reading difficulties need to be trained in reading skills to develop a store of words that they recognize automatically and understand. In this study, reading is made up of constructs (build-ups) such as literal comprehension. Literal Comprehension is both conscious and unconscious processes that are used by pupils with reading difficulties to gain meaning from a text or to conceptualize meaning from any given text. In the act of precise comprehension or accurate conception of any given text, reading and background knowledge are very important; they facilitate understanding, knowledge and intellectual capacity. Literal Comprehension facilitates quick thoughts, views and opinions, which helps pupils with reading difficulties to derive or develop meanings from texts being read. Literal Comprehension that is both conscious and unconscious makes texts clear and clearer to pupils with reading difficulties as the exercise progresses to the end (Andreason, 2015).

Audiblox programme in this study is a systematic and organized training (treatment) achievable after phonic sounds of letters; it is a logical and well-thought-out training towards the acquisition of reading skills through phonics sounds, amongst primary school pupils. The regular reading movement in English Language is done from left hand to right hand and it is done horizontally. But Audiblox reading and especially literal comprehension is done by blending phonic sounds (sounds of letters); it is precise, logical, methodical and structured in such a way that reading skills and its concepts involve movement in rows and columns; from simple to complex. Drills are done in calisthenics movements with a lot of maneuvers. Movements while calling or reading words are from left-to-right (forward/horizontally), top-to-bottom (downward/vertically), bottom-to-top (upward) and all those are in rows and columns as in the figures below:



Similar calisthenics movements are also done in the blocks below:



Related calisthenics movements and maneuvers are also done in blocks for the phonic sounds of the other vowels: **e, i, o, u**. Intensive drills normally characterize Audiblox trainings as it is commonly obtained in military exercises or cardiovascular exercises; frequently carried out in straight line, up and down or in rows and columns. Audiblox programme drills are meticulous prearranged technique of instilling reading skills into pupils with reading difficulties.

The Audiblox programme has much to do with awareness of sounds, that is phonemes of letters of the alphabet and deriving the relationships between letters and their sounds. Strydom (2008) and Loong and Aziz (2019) emphasized that the main

objective of Audiblox programme is to practice, perfect and automatize the skills that underlie reading, spelling, writing, mathematics and comprehension. It is both a treatment and rehabilitation plan which is time-limited, structured based on academic considerations and phonics of letters strategies. It is both a counselling and social-therapy programme, which consists of Reading-Therapy Tips (RTT), Reading Skills Games (RSG), Puzzles, Brainteasers, Riddles and plenary/discussion sessions. Audiblox programme is very useful in teaching phonics, blending phonic sounds and learning reading processes; it is expected to develop, enhance or improve: literal comprehension of pupils with reading difficulties. Deshi (2018) said: it is a training that was originally designed to help pupils solve reading skills problems through common sense and reasoning.

Strydom (2008) averred that Audiblox programme is regularly designed to take care of issues that are linked to emotions, feelings and self-satisfaction of pupils with reading difficulties; at the end of the programme, pupils with reading difficulties are expected to experience joy, peace, self-satisfaction and have some forms of fulfilment. Consequently, Audiblox programme in this investigation, is adapted with the hope that it will help improve pupils with reading difficulties solve spelling, comprehension and literal comprehension problems or difficulties, in addition to ensuring the self-satisfaction of pupils with reading difficulties. Therefore, this current Audiblox programme consisted of five steps that aimed at developing basic foundational reading skills in primary school pupils with reading difficulties.

Primary three (3) is one of the most important and crucial stages for acquisition of reading skills. Primary three level is that imperative platform for basic reading to be inculcated into pupils with reading difficulties. From the researcher's experience as a teacher, many pupils in Pankshin LGA and specifically at LGED Tambes (the study area) are pupils with reading difficulties and at the same time experience low self-satisfaction towards their reading abilities. It is as a result of those reasons mentioned ealier that the researcher finds it necessary to use Audiblox Programme as treatment in this study; it is hoped that the treatment shall be a departure from the normal methods often used at the study area. Methods and approaches such as: Literary Awareness Programme; touch and say; Language Experience Approach and the like which are the common approaches often used by other teachers at the study area to address reading difficulties have been unsuccessful; there has being little or no success.

The problems that will manifest if reading difficulties in pupils are left unchecked consists of emotional trauma, anxiety of academic failure or fear of stigmatization and fright of discrimination. But when reading difficulties in pupils are properly checked, it will bring about happiness, joy, peace and self-satisfaction in these pupils. The researcher beliefs that Audiblox programme in this study is a treatment, which is both

a counselling and therapy programme for pupils with reading difficulties and is likely to be a paradigm shift that may serve as a solution to lack of reading skills in pupils with reading difficulties.

To a great extent, the researcher feels that primary schools are places where reading difficulties can be ameliorated and reading skills can be impacted then pupils with reading difficulties can best be helped to become fluent, smooth and graceful readers. The primary school is a place where Audiblox Programme can be administered to pupils with reading difficulties and these pupils may become excellent readers. For statistics of Primary Three Pupils with Reading Difficulties at the Study Area, see Appendix A8. It is in the light of such that the researcher finds it necessary to investigate effects of Audiblox Programme on literal comprehension of Pupils with reading difficulties in Pankshin LGA of Plateau state, Nigeria.

STATEMENT OF THE PROBLEM

While reading is considered to be a basic need in the modern world of science and technology, a lot of primary three pupils in many schools lack reading skills. Some pupils had dropped out of schools due to reading difficulties and without acquiring the necessary literal comprehension skills; more so, many of these pupils with reading difficulties read without achieving good or high self-satisfaction as readers do.

There has not been schools or training centres that are ready and willing to impart basic literal comprehension into pupils with reading difficulties, as a result, so many pupils with reading difficulties had dropped out of school prematurely. Even though Government had had many reading trainings such as Language Experience Approach (LEA), look and say teaching method and Whole Language Approach (WLA) in Pankshin LGA and Plateau state at large, yet many pupils with reading difficulties are not able to read to the optimal. Doktorska (2015) maintained that many pupils experiencing reading difficulties are often sad and worried over their difficulties and the problems that come with it.

The justification at this juncture is that making Audiblox programme the focus of this study will make many pupils experiencing reading difficulties experience joy, peace and possibly. This study therefore is centred principally on the effects of Audiblox programme on literal comprehension of pupils with reading difficulties in Pankshin Local Government Area of Plateau State, Nigeria.

AIM AND OBJECTIVES OF THE STUDY

The aim of the study was to find out the effects of Audiblox Programme on literal comprehension of pupils with reading difficulties in Pankshin Local Government Area of Plateau State, Nigeria. The specific objectives of the study are to:

Find the effects of Audiblox Programme on literal comprehension of pupils with reading difficulties.

RESEARCH QUESTIONS

What is the effect of Audiblox Programme on literal comprehension of pupils with reading difficulties after exposure to Audiblox Programme?

HYPOTHESES

The following hypotheses were formulated and was tested at 0.05 level of significance:

There is no significant difference between pre-test and post-test literal comprehension mean scores of pupils with reading difficulties who are exposed to Audiblox Programme and those who are not.

METHODOLOGY

Research Design

The study is an experimental research. The researcher adopted the non-equivalent quasi experimental research design. The choice of this design is due to the fact that the nature of the study requires determining the effect of treatment on the literal comprehension of pupils with reading difficulties. The non-equivalent control group design can be illustrated as shown below:

Groups	Pre-test	Treatment	Post-test
Experimental	O_1	X	O_2
	- - - - - - - - -	- - - - - - - - -	- - - - - - - - -
Control	O_3	–	O_4

O_1 = Pre-test for Experimental Group
O_2 = Post-test for Experimental Group
– = Absence of Treatment
X = Treatment
O_3 = Pre-test for Control Group
O_4 = Post-test for Control Group
(Awotunde & Ugodulunwa, 2004).

Longpoe (2018) affirmed that quasi experimental design has two groups which are not composed on the basis of randomization but on the bias of using intact classes (groups); the researcher used one class as the experimental group and the other class as the control group. Awotunde and Ugodulunwa (2004) professed that lack of randomization in selection in this design introduces selection bias (as a source of internal validity) into any study in which it is used. The two groups may not be equivalent because the researcher did not compose them, and, in fact, those who composed the classes did not do so on the basis of randomization. The independent

variable in this study is Audiblox Programme and the dependent variable is reading skills of pupils with reading difficulties.

Population

There are 203 public primary schools in the study area. One of the schools with a very high number of pupils was purposely selected. The population of the study was seventy-two (72) which comprised of primary three pupils under study. One arm of the three arms of primary three was randomly assigned as the experimental group with 23 pupils, while the second randomly chosen arm was assigned as the control group with twenty-four (24) pupils. This also gives the overall total of forty-seven (47) pupils as the total sample.

Sampling Technique

The sampling technique in this research is the Non-Probability Technique and the type of Non-Probability Technique is the purposive sampling. The purposive sampling was used in this research in the sense that the pupils under investigation are pupils with reading difficulties and so were picked based on purpose. Only one school with high population sample was selected and investigated, this is because the school had a better and more accurate representation of the pupils in the LGA; it had the target sample for the study.

Instruments

The instruments used in this research for data collection; at both pre-test and post-test was the Teacher Made Literal Comprehension Test (TMLCT). This TMLCT was adapted by the researcher from Deshi (2018). Teacher Made Literal Comprehension Test (TMLCT) which tested Literal Comprehension. TMLCT was developed by the researcher and used at pre-test and post-test, which also gave the pre and post outlook on literal comprehension.

Teacher Made Literal Comprehension Test was used in this research for data collection at pre-test and post-test. TMLCT was in two parts. Part A. elicited information from the respondents about their personal data such as: designation and class. Part B measured the respondents' literal comprehension. The items covered literal comprehension on the TMLCT. In scoring the TMLCT, each correct item carried one mark: totaling 20 marks in all, used during the pre-test and post-test to determine the scores gained on the TMWRT. The researcher's final decisions by the use of TMLCT was based on certain percentages and levels; before and after exposure to treatment as presented: 0 – 39 percent = Low level, 40 – 69 percent = Moderate Level, and 70 – 100 percent = High Level.

The instrument before now, was validated by three professionals with PhD in the related fields: two professionals from the department of Special Education and Rehabilitation Sciences, then one professional from the department of Educational Foundation (Test-and-Measurement). These experts were drawn from the University of Jos, Jos Nigeria. The validity index of the instrument (TMLCT) was generated to be 0.816.

The researcher sought for permission to carry out the study. Upon agreement, the researcher was introduced to the pupils, and the researcher established rapport with the pupils; there then, the processes began which also indicated the commencement of the programme as planned. There was preparation, examination and demonstration of the equipment needed for the research. The instruments for data collection: a pre-test, treatment and a post-test. There was training of two research assistants on what to do and be familiar with the TMLCT and any other process, procedure and equipment that was employed in the research.

This treatment programme: Audiblox Programme (AP) was an eight-week treatment and therapy programme designed or developed foremost for literal comprehension. It also consists of Phonics Tips and plenary sessions. Audiblox Programme for Treatment During the experiment: after pre-test and before post-test, was an equipment for enhancing sounds and literal comprehension.

The researcher used Audiblox training to determine the Effects of Audiblox Programme on Acquisition of literal comprehension of Pupils with Reading Difficulties. Pupils with reading difficulties were expected to use and display benefits obtained from phonics sounds. At the end of the training the researcher administered the post-test in order to determine the effects of the treatment (AP) on the pupils with literal comprehension problems. The Audiblox Programme training lasted for 40 minutes, four times a week. The respondents were given individual and group treatment: one-to-one Audiblox training and group training.

In the eighth week of this study, a post-test on TMLCT was administered to both the experimental and control groups. This post-test collected the respondents' responses after the experimental group was exposed to treatment. The post-test lasted 60 minutes. This same TMLCT assess the respondents' literal comprehension both at pre-test and at post-test.

RESULTS

Research Question

Research Question One

What is the effect of Audiblox Programme on literal comprehension of pupils with reading difficulties after exposure to Audiblox Programme?

Table 1:
Pre-Test and Post-Test Literal Comprehension Mean Scores of Pupils with Reading Difficulties in Experimental and Control Groups

Groups	N	PRE-TEST SCORES		POST-TEST SCORES		Mean Score Difference Within Group	Post-test Mean Score Difference between Groups
		Mean	SD	Mean	SD		
Experimental	14	1.57	1.55	18.14	2.11	16.57	15.72
Control	13	1.54	1.71	2.42	3.06	0.88	

Source: Field data

Table 1 shows the Pre-test and Post-test Literal Comprehension Mean Scores of Pupils with Reading Difficulties in Experimental and Control Groups. Pupils with Reading Difficulties in experimental group had a pre-test mean score of 5.64 and a standard deviation 2.10 and post-test mean score of 18.50 and a standard deviation of 3.61 with a mean difference of 16.57. While pupils with Reading Difficulties in the control group had a pre-test mean score of 4.69 and a standard deviation 1.32 and post-test mean score of 9.00 and a standard deviation of 5.44 with a mean score difference of 0.88. This implies that before intervention the Literal Comprehension mean scores of pupils with Reading Difficulties in the experimental and control groups were low, but after exposure to Audiblox Programme, the pupils in the experimental group had the highest Literal Comprehension mean score than pupils with Reading Difficulties who were not exposed to Audiblox Programme.

Hypothesis One: There is no significant difference in the pre-test and post-test literal comprehension mean scores of pupils with reading difficulties who are exposed to Audiblox Programme and those who are not.

Table 2:
Analysis of Covariance (ANCOVA) of Post-test Literal Comprehension Mean Scores of Pupils with Reading Difficulties who were exposed to Audiblox Programme and those who were not.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1598.023[a]	1	1598.023	238.762	.000	.909
Intercept	2731.254	1	2731.254	408.079	.000	.944
Groups	1598.023	1	1598.023	238.762	.000	.909
Error	160.631	24	6.693			
Total	4839.000	26				
Corrected Total	1758.654	25				
a. R Squared = .909 (Adjusted R Squared = .905)						

Source: Field data

Table 2 shows the pre-test and post-test Literal Comprehension mean scores of pupils with reading difficulties who were exposed to Audiblox programme and those who were not. Experimental group had post-test mean score of 18.50 and a standard deviation of 3.61, while pupils with Reading Difficulties in the control group had a post-test mean score of 9.00 and a standard deviation of 5.44 with F-test value of 238.762 and p-value of 0.00. Since the p-value is less than 0.05, this implies that there is a significant difference between post-test Literal Comprehension mean scores of pupils with reading difficulties who were exposed to Audiblox programme and those who were not exposed. This implies that before intervention there was no significant difference between Literal Comprehension mean score of pupils with reading difficulties in experimental and control groups, but after intervention the experimental

group had high Literal Comprehension mean score. This means that the treatment was effective in improving the Literal Comprehension mean score of pupils with reading difficulties who were exposed to Audiblox programme.
In addition, $p < 0.05$, partial $\eta 2 = .909$, since the p- value of 0.000 is less than 0.05 level of significance with an effect size of 90.9%, the null hypothesis was rejected, indicating that there is significant difference between the Literal Comprehension mean scores for pupils with reading difficulties who were in the experimental and control groups. The result further reveals an adjusted R squared value of 0.905, which means that 90.5 percent of the variation in the dependent variable which is Literal Comprehension was explained by variation in the treatment, while the remaining 9.5% is due to other factors not included in this study.

DISCUSSION

This study was conducted to investigate the Effects of Audiblox Programme on literal comprehension of pupils with reading difficulties, with an aim to change the pupils with reading difficulties from low reading skills to high reading skills. The purpose was therefore, to help pupils with reading difficulties to develop and improve their reading skills and literal comprehension at school and in the society at large.
The generated data from this study was analysed. The simple frequencies count, mean scores and percentages were used to answer the research questions, while Analysis of Covariance (ANCOVA) was used to test Hypotheses at 0.05 level of significance. The summary of the findings is discussed.
Result of Research Question one in Table 1 revealed the level of literal comprehension of pupils with reading difficulties; after intervention the control group showed low literal comprehension level, while the experimental group showed a high level of literal comprehension. The result of Hypothesis one in Table 2 displayed the Analysis of Covariance (ANCOVA) result of literal comprehension responses mean scores of pupils with reading difficulties in experimental and control groups before and after exposure to Audiblox programme. The ANCOVA revealed that difference existed between experimental and control groups, the treatment was effective in improving the literal comprehension amongst pupils with reading difficulties. This discovery harmonized the view of Okwudire (2012) which affirmed that literal comprehension is an education exercise, and can be altered or changed through training or treatment. Management of literal comprehension or reading problems involves the use of education (programme), training and therapeutic programmes. JRank Articles (n.d.) emphasized that comprehension trainings are carried out at individual level or in a group. The earlier literal comprehension problems are detected and properly manage through interventions such as Audiblox programme, the better for the pupil in question and other pupils around.

CONCLUSION

The study synthesizes offering insights into the effects of audiblox programme on literal comprehension ability of pupils with reading difficulties in Pankshin Local Government Area, Nigeria. The positive outcomes underscore the potential of

collaborative and tailored interventions in improving reading skills and literal comprehension amongst this population. The implications for practice and recommendations for future research contribute to the broader discourse on educational practices for pupils with reading difficulties and continuous research on alternative ways to improve reading skills of pupils with reading difficulties using audiblox programme on literal comprehension.

RECOMMENDATION

Based on the findings of this study the following recommendation were made:

1. Federal Government should partner with professionals such as Reading Association of Nigeria and Rehabilitation Scientists of Nigeria, who shall provide trainings, guidance and counselling to teachers on reading skills.
2. Pupils with reading difficulties should be skilled on literal comprehension via audiblox programme.
3. Teachers should be seriously be trained or be made to learn and how to apply treatment such as audiblox programme on literal comprehension.
4. Teachers should seek for better and interested ways to improve literal comprehension ability of pupils with reading difficulties.

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