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EFFECTS OF AUDIBLOX PROGRAMME ON SPELLING ABILITY OF PUPILS WITH READING DIFFICULTIES IN PANKSHIN LOCAL GOVERNMENT AREA, NIGERIA

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Abstract

This study investigated Effects of Audiblox Programme on Spelling Ability of Pupils with Reading Difficulties. The specific objective of this study is to: find out the effect of Audiblox Programme on spelling ability 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 Spelling Abilities Test (TMSAT)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 spelling ability 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.

Keywords: Effects, Audiblox Programme, Spelling Ability, Pupils, Reading, Difficulties, Solutions.

Introduction

Spelling ability is foretelling letters of words through an already acquired knowledge of phonics sounds or word recognition. To spell is to show knowledge of the letters of a word in the correct order. Knowledge of spelling patterns also help to improve pronunciation and fluency (Shepherd, 2013). Dogo and Philemon (2017) reported that it is one of the most difficult skills to develop in pupils with reading difficulties. Phonological and orthographic skills interact in a reciprocal manner through the development of learning how to spell. That is, pupils with reading difficulties rely on both the sound system (phonology) of a language as well as spelling patterns (orthography) to spell words. Dogo and Philemon further reported that spelling is one of the most difficult skills to develop in pupils with reading difficulties. Murray (2003) opined thatphonological and orthographic skills interact in a reciprocal

manner; pupils rely on both the sound system (phonology) of a language as well as spelling patterns to spell words.

It is important to teach pupils how to spell. A strong background in phonemic awareness, which is the ability to focus on and manipulate sounds in spoken words and phonics skills, make relationships between the letters and their sounds to assist pupils in spelling. In fact, research has shown that spelling proficiency instruction can be used to teach or enhance spelling abilities (Rupke, Blecke and Renfrow, 2006). The primary goal of every spelling instruction is to instill the logic and organization of the spelling proficiency system and to help pupils with reading difficulties become proficient and fluent in spelling words (Murray, 2003).

Eshiet (2014) and Murray and Anna (n. d.) averred that spelling remains a challenge for both native and non-native speakers of English, and is learned from a combination of repeated experience and memorization. Although there are some rules to follow, there are many cases where rules don't apply, and there are often exceptions to the rules themselves. An advice for pupils with reading difficulties to improve their spelling ability is to: familiarize their selves with the basic spelling rules; keep a list of problematic words; and were these pupils are not sure of how a word is spelled, they should look it up in the dictionary and learn the spelling.

Audiblox programme is a systematic training which is achievable after phonic sounds of letters; it is a logical and well thought-out training towards the acquisition of spelling abilities through phonics sounds. Audiblox spelling is done by blending phonic sounds (sounds of letters); it is precise, logical, methodical andwell-structured and its concepts involve movement in rows and columns; from simple to complex.

Strydom (2008) emphasized that the main objective of Audiblox programme is to practice, perfect and automatize the skills that underlie spelling. It is both a treatment and rehabilitation plan which is time-limited, structured based on phonics of letters strategies. Audiblox programme is very useful in blending phonic sounds and learning spelling processes; it enhances, improves word recognition, increases spelling skills, and was originally designed to help pupils solve spelling abilities problems through common sense and reasoning.

Strydom (2008) further 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 to help pupils with reading difficulties solve spelling problems of pupils with reading difficulties. Therefore, this current Audiblox programme consists of five themes that aimed at developing basic foundational spelling abilities in primary school pupils with reading difficulties.

Pupils with reading difficulties are learners who cannot spell words as expected; they have difficulty in their spelling abilities. They are poor spellers who also need to be afforded many opportunities to practice spelling and the like. Pupils with Reading Difficulties in this research

are obviously primary three (3) learners who cannot spell words gracefully; they simply have impaired spelling ability.

According to Jimenez, Siegel and Lopez (2003), pupils with spelling difficulties need as many opportunities as possible to write a word correctly before they remember the word. Jimenez, Siegel and Lopez further recommends that the greater part of a given lesson that is for pupils with reading difficulties who are of course poor spellers, should include old information and only a little percent, should be new information so that spelling patterns or words are revisited, restudied and a criterion of mastery is met over a period of time. The researcher feels that the spelling coaching progression should daily be from known to unknown words. Andzayi and Umolu (2004) said that practice in spelling proficiency is important given the commonly observed tendency of poor spellers to forget a word that they previously spelled correctly, particularly if they are using word in text-level writing. Dogo and Philemon (2017) wrote that pupils with reading difficulties who are certainly poor spellers, need basic practices and intervention be it in phonological awareness and the alphabetic principle as well as with morphology and meaning. Stage, Abbott, Jenkins and Berninger (2003) opined that a typical spelling instruction consists of memorizing words, word analysis and sorting activities within the context of balanced, authentic spelling proficiency, phonics and word recognition activities.

It is common to see pupils with reading difficulties in primary three and other classes. Many other ones are failing to learn to read. This is one problem that must be tackled by all means; especially using any viable Programme or treatment, because inability to spell words signifies the beginning for disharmony in the academic life of a pupil. Many Pupils live with all kinds of spelling problems so; their achievement gap continues to widen.

Otana (2018) noted that many people believe that the first step towards spelling by pupils takes place in a school and that teachers have the primary responsibility in guiding them. This is not really true. Otana further advised that educationists must be very careful as they counsel and train pupils with spelling difficulties towards spelling abilities, so that at the end, these pupils with reading difficulties are not disheartened nor discouraged, but are properly encouraged and repositioned to appreciate Audiblox programme.

Primary three (3) is one of the most important and crucial stages for acquisition of spelling abilities. Primary three level is that imperative platform for basic spelling to be inculcated into pupils with reading difficulties. From the researcher's experience as a teacher, many pupils with reading difficulties are pupils with spelling problems and at the same time experience low self-esteem towards spelling activities; it is as a result of those reasons mentioned above 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. Especially 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 spelling difficulties and have being unsuccessful; there has being little or no success.

The dangers that will manifest if spelling difficulties in pupils are left unchecked consists of emotional trauma, fear of academic failure, terror of stigmatization and discrimination. But

when properly checked, it will bring about happiness, joy, peace and self-satisfaction. The researcher beliefs that Audiblox programme in this study, which is both a counselling and therapy programme for pupils with spelling problems is likely to be a paradigm shift that may serve as a solution to lack of spelling abilities in pupils with reading difficulties.

One of the problems stirring parents, teachers and pupils with reading problems is in the fact that there has not been schools or training centres that are ready and willing to impart basic spelling abilities into pupils with reading difficulties, as a result, so many pupils with spelling issues had dropped out of school prematurely. Even though Government had had many spelling trainings in Pankshin LGA, but still these pupils are not able to spell to the optimal. Doktorska (2015) upheld that many pupils experiencing spelling difficulties are often sad and worried over their difficulties and the problems that come with it.

This study therefore is centred principally on the effects of Audiblox programme on spelling abilities of pupils with reading difficulties in Pankshin LGA. The problem of this study is that it is not certain if the use of Audiblox programme can serve as solution to spelling difficulties in primary three pupils.

The aim is to find out the effects of Audiblox Programme on spelling of pupils with reading difficulties. The specific objective of this study is to: find out the effect of Audiblox Programme on spelling ability of pupils with reading difficulties.

Research question
What is the effect of Audiblox Programme on spelling ability of pupils with reading difficulties after exposure to Audiblox Programme?

Hypothesis
HO: The hypothesis is formulated and will be tested at 0.05 level of significance:
There is no significant difference in the pre-test and post-test spelling ability mean scores of pupils with reading difficulties who are exposed to Audiblox Programme and those who are not.

The study when completed would benefit pupils with spelling/reading difficulties, to develop interest in acquiring spelling abilities, enhance their spelling abilities and would improve the general academic performances of these pupils. They will no longer live with shame, fear of failure and ugly emotions. The findings will also make pupils to see spelling as a way of life; it shall help pupils fall in love with spelling activities by showing them how to approach spelling through Audiblox programme that takes out frustration, anxiety and lack of confidence, then replaces it with success, peace of mind, self-assurance/confidence and joy.

The findings would be of benefit to regular teachers by showing how these teachers can help pupils with spelling/reading difficulties find Audiblox programme for positive change towards acquisition of spelling abilities. The findings will help teachers inculcate spelling abilities into their pupils as foundational aids which should be integrated into spelling exercises to ensure sufficient levels of spelling understanding for pupils who have difficulties in learning to spell.

It is hoped that the findings of this research would increase the awareness and interest of other researchers and specialists especially: rehabilitation scientists, special educationists, Reading Association of Nigeria, and other therapists; to apply the knowledge gained to help, encourage and guide pupils with reading difficulties to the maximum.

This study is anchored on Orton Gillingham's Theory of Reading (spelling) propounded in 1976. The theory states that pupils can use phonics tools to spell words and to develop thought and have idea of words to be recognized and called or read (Orton, 1976). Orton Gillingham's theory is related to this study based on the fact that it involves giving training, counsel and therapy to pupils with reading difficulties to enable them acquire spelling abilities.

The theory is also very relevant due to its nature of training that brings pupils to a place of decision-making and problem-solving in the acceptance or rejection of Audiblox programme by pupils with reading difficulties, who have no spelling abilities. The researcher believes that to change the condition of pupils with reading difficulties which are not palatable, the pupil with the spelling difficulties must learn the right issue: spelling ability; as being stated by Orton Gillingham's theory.

The research centred on one public Primary school in Pankshin Local Government Area of Plateau State. Only primary three pupils that have spelling difficulties were involved. The focus shall be on spelling abilities. Other intervening variables affecting academic performance are outside the scope of this study and will not be treated.

Methodology

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 spelling ability 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
X = Treatment
O_2 = Post-test for Experimental Group
O_3 = Pre-test for Control Group
– = Absence of Treatment
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.

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.

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. The instruments used in this research for data collection; at both pre-test and post-test was the Teacher Made Spelling Abilities Test (TMSAT).

This TMSAT was adapted by the researcher from Deshi (2018). Teacher Made Spelling Abilities Test (TMSAT) which tested spelling abilities. TMSAT was developed by the researcher and used at pre-test and post-test, which also gave the pre and post outlook on spelling abilities.

Teacher Made Spelling Abilities Test was used in this research for data collection at pre-test and post-test. TMSAT 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' spelling ability. The items covered spelling ability on the TMSAT. In scoring the TMSAT, 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 TMSAT. The researcher's final decisions by the use of TMSAT 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 (TMSAT) 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 TMSAT 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 spelling ability. It also consists of Phonics Tips and plenary sessions. Audiblox Programme for Treatment During the experiment: after pre-test and before post-test, was equipment for enhancing sounds and spelling abilities.

The researcher used Audiblox training to determine the Effects of Audiblox Programme on Acquisition of spelling abilities of Pupils with Reading Difficulties. Pupils with reading difficulties were expected to use and display benefits obtained from phonics sounds/spelling. 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 spelling 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 TMSAT 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 TMSAT assess the respondents' spelling abilities both at pre-test and at post-test.

Results

Research Question

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

Table 1a:
Extent of Spelling Ability of Pupils with Reading Difficulties before and after exposure to Audiblox Programme

Speaking Ability	Experimental Group (n=14)		Control Group (n=13)	
	Pre-Test (%)	Post-Test (%)	Pre-Test (%)	Post-Test (%)
Low Level (0–39)	14(100)	0	13(100)	13(100)
Moderate Level (40–69)	0	2(4)	0	0
High Level (70–100)	0	12(96)	0	0
Total	14(100)	14(100)	13(100)	13(100)

Table 1b:
Spelling Ability of Pupils with Reading Difficulties before and After Exposure to Audiblox Programme

Groups	n	PRE-TEST SCORES		POST-TEST SCORES		Mean Score Difference Within Group	Post-test Mean Score Difference
		Mean	SD	Mean	SD		

							between Groups
Experimental	14	4.14	1.79	19.07	1.14	14.93	11.82
Control	13	3.38	.87	7.25	5.22	3.87	

*Table 1 shows the*Pre-test and Post-test Spelling Ability of Pupils with Reading Difficulties before and after Exposure to Audiblox Programme. *Pupils with* Reading Difficulties *in experimental group had a pre-test mean score of 4.14 and a standard deviation 1.79 and post-test mean score of 19.07 and a standard deviation of 1.14 with a mean difference of 14.93. While pupils with* Reading Difficulties *in the control group had a pre-test means score of 3.38 and a standard deviation 0.87 and post-test mean score of 7.25 and a standard deviation of 5.22 with a mean score difference of 3.87. This implies that before intervention the spelling ability 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 a high Spelling ability mean scores than pupils with* Reading Difficulties *who were not exposed to* Audiblox Programme.

HO: There is no significant difference in the post-test spelling ability 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 Spelling Ability 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	902.975[a]	1	902.975	68.326	.000	.740
Intercept	4476.668	1	4476.668	338.737	.000	.934
Groups	902.975	1	902.975	68.326	.000	.740
Error	317.179	24	13.216			
Total	6040.000	26				
Corrected Total	1220.154	25				

a. R Squared = .740 (Adjusted R Squared = .729)

Table 2 above shows the pre-test and post-test Spelling Ability 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 19.07 and a standard deviation of 1.14, while pupils with*Reading Difficulties*in the control group had a post-test mean score of 7.25 and a standard deviation of 5.22* with F-test value of 68.33 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 Spelling Ability mean scores of pupils with reading difficulties who were exposed to Audiblox programme. This implies that before intervention there was no significant difference between Spelling Ability

mean scores of pupils with reading difficulties in experimental and control groups, but after intervention the experimental group had high spelling ability mean scores. This means that the treatment was effective in improving the spelling ability mean scores of pupils with reading difficulties.

In addition, $p < 0.05$, partial $\eta 2 = .740$, since the p- value of 0.000 is less than 0.05 level of significance with an effect size of 74.0%, the null hypothesis was rejected, indicating that there is significant difference between the spelling abilitymean scores of pupils with reading difficulties who were in the experimental and control groups. The result further reveals an adjusted R squared value of 0.729, which means that 72.9 percent of the variation in the dependent variable which is Spelling Ability was explained by variation in the treatment, while the remaining 27.1% is due to other factors not included in this study.

Discussion

This study is to investigate the Effects of Audiblox Programme on Spelling Ability of Primary Three (3) pupils with reading difficulties.The purpose was to help pupils with reading difficulties to develop and improve their spellingabilities at school.

Results of the findings revealed that Research Question One inTable 1 showed the spelling ability of primary three pupils with reading difficulties before and after exposure to Audiblox programme. Before intervention, both experimental and control groups to an extent had low spelling ability. Majority of the students in the experimental group showed a high spelling ability, after exposure to Audiblox programme. The result of Hypothesis One displayed the Analysis of Covariance (ANCOVA) result of spelling ability responses mean scores of pupils with reading difficulties in experimental and control groups before and after exposure to Audiblox programme. This result synchronized the study conducted by Rupke, Blecke and Renfrow (2006); the researchers used treatment that encouraged every client to participate inspelling exercises. Audiblox programme in this study enhanced spelling ability of pupils with reading difficulties.This study recommends that Federal Government should partner with professionals such as Reading Association of Nigeria and Rehabilitation Scientists of Nigeria, to provide trainings, guidance and counselling to teachers on reading skills.

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