

Improving Achievement of Primary School Pupils in Reading using Phonics Instructional Approach

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Abstract

The study explored the effectiveness of phonics instructional approach on pupils' achievement in reading. The study adopted a non-equivalent control group quasi-experimental design using a sample of 116 primary two pupils in Awka South LGA of Anambra state. English Reading Achievement Test (ERAT) was used to collect data. The instrument was face and content validated and subjected to trial testing that yielded a reliability index of 0.88 using Kuder-Richardson formula 20. The treatment lasted for five weeks. Data collected were analysed using mean and analysis of covariance (ANCOVA). The hypothesis was tested at 5% probability levels. The result indicated that pupils taught reading using the phonics instructional approach achieved significantly higher than those taught with the look and say method. This means that the phonics instructional approach proved superior to the look and say method in improving pupils' achievement in reading. It was thus recommended, among others, that English language teachers should adopt the phonics instructional approach as an alternative to the look and say instructional approach in teaching reading.

Keywords: Achievement, Primary school pupils, Phonics Instructional Approaches, Reading

Introduction

The use of language is deeply entrenched in human culture. Languages are generally taught and assessed in terms of the four skills: listening, speaking, reading, and writing. Listening and reading are known as 'receptive' skills while speaking and writing are known as 'productive' skills (Suggate, 2010). Language is at the centre of human activities, because every activity carried out by human being employs language. According to Ngonebu (2008), language is a purely human and non-instinctive method of communicating ideas, emotions, and desires by means of voluntarily produced symbols. The desire to share feelings, ideas and thoughts in a highly multilingual nation like Nigeria creates the need for a language of inter-ethnic and cross-cultural communication, a language of unification and a language of national communication, of which English language is there to serve.

English language has since been serving various functions in Nigeria. Its role as the language of education is paramount since education gives life and essence to all spheres of human endeavours (Fatimayin, 2012). The English language plays an important role in the educational system, more especially when it functions as a medium of instruction in schools. It is the language of science and technology and a passport to educational advancement and prestigious employment, the language of commerce, trade and administration, and a means of national and international communication (Adekola, 2011). This function is given greater vigour as a result of the position given to the English language by the Federal Republic Nigeria in the National Policy on Education (2013), which includes making the English language mandatory at all levels of education in Nigeria. The English language like every other school subject requires formal instruction and such instructions in the English language involve the four basic language skills of listening, speaking, reading, and writing. Acquiring a new language necessarily involves developing these four modalities in varying degrees and combinations (Aina, 2011). In particular, Aina pointed out that of all these four skills, reading occupies a central position in language learning endeavour.

Reading is a means of language acquisition, communication, and of sharing information and ideas. It is a complex cognitive process of decoding symbols in order to construct or derive meaning. It is also a complex process and the prime objective of reading is comprehension. Reading is a crucial form of communication through which one gets most of the information for teaching and learning activities (Aina, 2011). The reading process requires continuous practice, development, and refinement (Banjo, Ayodele & Ndahi, 2007). Pang and Muakal (2004) explained that reading is about understanding written texts, and it is a complex activity which involves both perception and thought. Flurkey (2008) opined that reading is a means of language acquisition, communication and sharing information and ideas.

Phonics is a way of teaching reading and spelling that stresses symbol-sound relationships, used especially in beginning instruction. According to Eshiet (2014), phonics is a method of teaching elementary reading and spelling based on the phonetic interpretation of ordinary spelling. It is a method of teaching beginners to read and pronounce words by learning to associate letters or letter groups with the sounds they represent. It teaches beginners to read and pronounce words by learning the phonetic value of letters, letter groups, and especially syllables (Rowlingson, 2010). Phonics, therefore, is all about sounds, and more importantly, about the methodology involved in applying letters, letter groups and syllables to phonetic values for beginners. Phonics gives children the knowledge of the letter-sound combinations in the English language. Without this knowledge, children will lack sufficient strategy for pronouncing new words. If children cannot even decode what the word on the page says, they stand even less chance of understanding it. The more letter-sound combinations the pupils know, the more they can make connections in their mind when approaching new words that they have not seen before. In other words, the more they know about letter sound combinations, the easier it is for them to learn new words (Danladi, 2013).

Phonics helps to prevent common errors that arise from sight reading; it ensures that children adopt a rigorous strategy that enables them to deconstruct each word individually, rather than trying to remember what the word looks like. This will benefit children from all backgrounds. If they have internalized some words through sight reading, this method will help to iron out any errors (Agbatogun, 2012). Phonics instruction could help to support those who are not from culturally rich home environment. If pupils are not encouraged to read at home, they will have a lesser reservoir of sight-learned words to draw from when reading. If they are taught using the phonics strategy, they could method any new word with more confidence. This is because if they feel confident when reading and experience the sense of success from being able to successfully decode, reading could become a more pleasurable experience for them.

Children learn the sounds of individual letters first, then the sounds of letters in combination and in simple words. Phonics instruction requires the teacher to provide pupils with a core body of information about phonics rules or patterns. Some of the phonics rules are that vowels letters are "a, e, i, o, and u"; and also, sometimes "y" and "w". This also includes the diphthongs which is a combination of two sounds, each with two different spellings. Despite the importance of reading, given that pupil's success in school and beyond depend on some measure of their ability to read, there is need to provide instruction that will equip them with skills in reading. Reading is the cornerstone of a child's success in school and throughout life. Early and sustained failure in reading can have devastating consequences regarding schooling in the lives of poor readers. Though efforts by research are being geared towards improving reading in the early school years, research findings indicate that there are many learners who experience reading difficulties. Analysis of research result indicates that 80% of Nigerian pupils did not reach the low international benchmark, meaning that they lacked basic reading skills and strategies to cope with academic tasks. Also, records of examination results in basic education level across the country indicate very poor level of achievement of pupils in English language in both First School Leaving Certificate and Common Entrance.

In Anambra State, the analysis of First School Leaving Certificate Examination results for the period 2012 to 2016 indicate that less than 48% had a credit pass in English language. Moreover, the performance of pupils in English language at the Common Entrance Examinations for both national and local bodies has not been impressive. The poor and unimpressive examination results in English language at local and national Examinations have been attributed greatly to poor teaching method employed by teachers. In other words, the Look and Say methods mostly used by teachers in teaching English has been reported to be responsible for pupil's poor achievement in English language reading. However, researchers agree that methods that would involve active participation of pupils could ensure greater achievement and interest in English language. Based on the above, this study sought to find out the effect of phonic instructional method on achievement of pupils in reading. Thus, the researchers hypothesised that phonic instructional method has no significant effect on achievement of pupils in reading.

Review of related empirical studies

Johnson and Watson (2005) carried out a seven-year longitudinal study on effects of synthetic phonics teaching on reading and spelling attainment. The study was aimed at comparing the achievement of pupils who were taught using synthetic phonics and those taught with analytic phonics. Three research questions guided the study. The results of the study revealed that synthetic phonic method has a major and long lasting effect on children's reading and spelling achievement. The major limitation of this study is the fact that it was only limited to two types of phonics instruction and no other method was compared to the phonics instruction.

A study on the effect of intensive phonics instruction was carried out by Kodae and Laohawiryanon (2011) carried out a study on reading and spelling attainment of learners with reading difficulties. Forty grade one pupils in a primary school were used for the study. The pupils were taught reading and spelling intensively for eight weeks. The results showed that the word recognition ability of the pupils with reading difficulties improved significantly. Activities such as searching words, sorting words, making words and playing word bingo were found to be useful for the pupils' learning.

Martin (2011) conducted a study comparing in-context phonics instruction and isolation phonics instruction on the development of early elementary literacy skills of pupils. Three research questions and three null hypotheses guided the study. The study employed a quasi-experimental design, specifically the non-equivalent control group design. The result of the study revealed that pupils taught phonics in-context performed significantly better than students who were taught the phonics method in isolation. The study concluded that students who were taught phonics in context were likely to become more efficient readers than pupils taught phonics in isolation.

Eshiet (2012) carried out a study on synthetic phonics as a tool for improving the reading skills of Nigerian pupils. The design of the study is quasi-experimental design. This study examines one of the reasons for poor reading skills in government primary schools in Nigeria, namely the teaching method, and suggests an alternative teaching method. The result suggests that the synthetic phonics method led to improved reading achievement of pupils and an increase in teachers' interest in teaching English.

Yusuf and Enesi (2012) conducted a study on using sound in teaching reading in early childhood education. The study compared two schools in which jolly phonics was used in teaching reading and another school which used the teaching handwriting, reading and spelling skill strategy. The design of the study is quasi experimental. The sample of the study comprised 54 children in pre-primary school. Short tests were used to assess the pupil's performance in the post test. The results showed that students taught using jolly phonics performed significantly better than students using the teaching handwriting, reading and spelling skill strategy.

Maddox and Feng (2013) studied the effect of whole language instruction and phonics instruction on reading fluency and spelling accuracy of pupils. One group was instructed using whole language principles while the other group was instructed using explicit phonics instruction. The design of the study is quasi experimental. The result indicated that there were no significant differences between the two literacy methods in the effect on students' reading fluency or spelling accuracy.

Suggate (2014) did a meta-analysis of the long-term effects of phonemic awareness, phonics, fluency, and reading comprehension interventions. To carry out this study, a detailed analysis of follow-up effects as a function of intervention, sample, and methodological variables was conducted. Overall, comprehension and phonemic awareness interventions showed good maintenance of effect that transferred to non-targeted skills, whereas phonics and fluency interventions, and those for preschool and kindergarten children, tended not to. Several methodological features also related to effect sizes at follow-up, namely experimental design and dosage, and sample attrition, risk status, and gender balance.

Holsted (2015) studied the effect of a non-systematic phonics program on emergent and early readers. Five research objectives and five null hypotheses guided the study. The design of the study is quasi-experimental. A group was taught using the conventional method which involved teaching words and sentence memorization and referral intervention programs. The second group was taught reading using the non-systematic phonics program. The results of the study revealed that pupils who were taught using the conventional methods and those taught with the non-systematic phonics instruction achieved the same mean average in the post test and showed marked reading deficiencies which place them at risk for reading difficulties as they grow older.

Bing, Bingxia, Jinfen and Hui (2015) investigated the effects of phonological awareness training on the reading performance by child EFL learners in China. Eighty grade one Chinese children from two intact primary

school classes participated in the study. The study employed a quasi-experimental design. The treatment class received a 10-week English phonological awareness training, while the contrast class did not receive any training. The results showed that the treatment class outperformed the contrast class in the post-test in reading measures and phonological awareness measures; phonological awareness positively correlated with children's early reading performance; phoneme tasks were strong predictors of Child EFL learners' early reading performance.

Makinde (2015) investigated the effects of phonological awareness on word formation and decoding skills of disabled readers. Three research questions guided the study. The design of the study is quasi-experimental design. The result of the study showed that there is significant achievement on the skills of decoding $t(98) = 15.22$, $p < 0.05$ and word formation $t(98) = 16.02$, $p < 0.05$. The implications of the findings of the study for reading instruction in developing countries are drawn.

Musa and Balami (2016) carried out a study on effects of phonological awareness training on the reading performance of children with dyslexia in primary schools in Maiduguri Metropolis, Borno State, Nigeria. Two hypotheses, which sought to determine the significant effects of phonological awareness training on reading performance of children with dyslexia and the significant effect of sex on the intervention guided the study. The design of the study is quasi-experiment. A sample of 15 (8 boys and 7 girls) primary two pupils, purposefully selected in a private school, participated in the study. The results revealed that the training in phonological awareness skills significantly improved the reading performance of the children with dyslexia.

Method

Design of the Study

The study adopted a quasi-experimental research design. Specifically, the pretest-posttest non-equivalent control group design was used. A quasi-experimental design is a type of experimental design that do not provide for full control of extraneous variables, primarily because of the lack of random assignment of subjects to groups (Ali, 2006). This design has been used recently by Adene et al. (2021), Ejimonye et al. (2020a, b), Njoku et al. (2020), Onah et al. (2020). Ugwuanyi et al (2019) and Ugwuanyi et al. (2020) in similar studies.

Participants

A sample of 116 primary two pupils in Awka South LGA of Anambra State from a population of 11,346 primary two pupils in Awka South LGA of Anambra State participated in the study. The sample was drawn from the population of the study using purposive and simple random sampling techniques. Purposive sampling technique used to draw four primary schools out of the 43 public primary schools in the LGA. Two out of the four sampled schools were randomly assigned to the experimental group and the other two were assigned to the control group. At the school level, one intact class each was sampled using simple random sampling techniques by balloting. The entire primary two pupils in those four intact classes constituted the sample for the study.

Validity and Reliability of Measure

English Reading Achievement Test (ERAT) was used as a measure for data collection. The ERAT is a thirty-item achievement test developed by the researcher to investigate primary two pupil's achievement in reading. The thirty item ERAT comprises matching, filling the gap, and crossword puzzle questions from primary two curriculum. The time allowed for the test was 35 minutes. Each correct answer in the item carries 2marks. A table of specification (test blueprint) built by the researcher guided the construction of the items in the achievement test.

The instrument was subjected to face and content validation, by giving it to three lecturers, two from the Department of Arts Education (Language Education Unit) and one from the Department of Science Education (Measurement and Evaluation unit) all from the University of Nigeria, Nsukka. The experts scrutinised the instrument in terms of relevance, general format, suitability, structure and adequate timing. The suggestions of the experts were used to get the final version of the instrument. The content validation of the ERAT was established using the table of specification. The table of specification was also vetted by the experts.

ERAT was trial tested to determine its reliability by administering copies of the measure on 30 primary two pupils in St. Joseph's Primary School Umunze in Orumba South LGA. The scores obtained from the pupils were subjected to Kuder-Richardson formula 20 was used to determine the reliability of the instrument and it yielded reliability index of 0.88.

Experimental Procedure

Prior to the commencement of the treatment, the participants were pretested using ERAT and the scores obtained kept for use after the treatment period. Thereafter, the actual experiment started. The two intact classes in each of the sampled schools were randomly assigned to the experimental groups and control group respectively. The experimental group was taught reading using phonics instructional method while the control group was taught reading using Look and Say instructional method. The actual experiment was conducted by the regular English teachers of the sampled schools trained for the experiment. The experiment lasted for five weeks. Two different lesson plans were drawn for the study, one for the experimental group and the other for the control group. The behavioural objectives and questions at the end of the lesson periods were the same for the two groups but the teaching strategies were different. Before the commencement of the experiment, the researcher had a one-day training session with the participating English Language teachers from the four schools that were used for the study. After the five weeks lesson period, the posttest was administered to the pupils in the two experimental groups. The scores obtained from both the pretest and posttest were used to answer the research questions and test the null hypotheses.

Control of Extraneous Variables

The following steps were taken to control some variables extraneous to the study.

Initial Group Differences

Since intact classes were used for the study, the control for the non-equivalence of such intact classes were determined using the Analysis of Covariance (ANCOVA) to partial out the initial differences among the research subjects.

Experimenter’s Bias

To eliminate this extraneous variable, the actual instructional presentation in the sampled schools were carried out by the regular English Language teachers who had already been trained for the experiment. Thus, the researcher was not personally involved in the administration of the research conditions.

Teacher Variable

To control this variable and enhance the achievement of a minimum uniform standard in the implementation of the experimental conditions, the researcher prepared lesson plans on the units of instruction for the participating English Language teachers of the sampled schools. Furthermore, the teachers were not allowed to see the test instruments beforehand. The final vetting of the two tests- the pretest and posttest – were done by the researcher after the trained teachers used for the experiment had done their own marking.

Experimental Environmental Conditions

To control this variable, the experimental groups stayed in their original classrooms of study. The participating English Language teachers were encouraged to adhere to the time allotted to English Language on the school timetable for their teaching.

Effects of Pretest /Posttest

To avoid the influence of earlier treatment experiences the experiment were spread over a period of five weeks. Two different reading passages equivalent were used. One was used for the pretest while the second passage were used for the posttest.

Method of Data Analysis

The research question was answered using mean and standard deviation while the Analysis of Covariance (ANCOVA) was used to test the corresponding null hypothesis at 5% probability level.

Results

The results were presented in line with the research questions and hypotheses that guided the study.

Research Question One: What are the mean achievement scores of pupils taught reading using phonics and Look and Say instructional methods?

Table 1: Mean and standard deviation of achievement scores of pupils taught reading using phonics and Look and Say instructional methods

Group	Pre-test		Post-test		
	n	Mean	SD	Mean	SD

Phonics Instructional Method	120	8.15	3.63	25.98	2.59	17.83
Look and Say Instructional Method	120	4.25	1.42	10.50	1.58	6.25

Table 1 shows that the pupils who were taught reading using phonics instructional method had mean achievement score of 8.15 with a standard deviation of 3.63 at the pre-test and a post-test mean achievement score of 25.98 and standard deviation of 2.59. Also, pupils who were taught reading using Look and Say instructional method had mean achievement score of 4.25 with a standard deviation of 1.42 at the pre-test and a post-test mean achievement score of 10.50 with a standard deviation of 1.58. Mean gain scores of 17.83 and 6.25 for the two groups of pupils respectively indicate that the pupils who were taught reading using phonics instructional method had higher post-test mean achievement score than their counterparts who were taught using Look and Say instructional method. However, the post-test standard deviations of 2.59 and 1.58 for the two groups respectively imply that pupils who were exposed to phonic instructional method varied much in their individual achievement scores than pupils exposed to Look and Say instructional method.

H₀₂: There is no significant difference in mean achievement scores of pupils taught reading using phonics and Look and Say instructional methods.

Table 2: Levene's Test of Equality of Error Variances

F	df1	df2	Sig.
1.710	3	236	.075

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 2 shows the test of homogeneity of variance of the set of data for the study. It shows that the associated probability for the Levene's Test of Equality of Error Variances is 0.075 which is greater than the 0.05 level of significance. This implies that the assumption of homogeneity of variance is met for the analysis of covariance for the test of the hypothesis.

Table 3: Analysis of Covariance of the effect of instructional methods on the achievement of pupils in reading

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14374.615 ^a	4	3593.654	773.444	.000	.929
Intercept	12916.032	1	12916.032	2779.852	.000	.922
Pre-test	.751	1	.751	.162	.688	.001
Treatment	9351.682	1	9351.682	2012.715	.000	.895
Gender	.475	1	.475	.102	.749	.000
Treatment * Gender	5.040	1	5.040	1.085	.299	.005
Error	1091.881	235	4.646			
Total	95365.000	240				
Corrected Total	15466.496	239				

a. R Squared = .929 (Adjusted R Squared = .928)

Table 3 showed that there is a significant difference in the mean achievement scores of pupils taught reading using phonics and Look and Say methods in favour of those taught using phonic instructional method, $F(1, 235) = 2012.715, p = .000$. Thus, the null hypothesis was rejected ($p < .05$). Besides, the partial Eta Square value (effect size) of 0.895 shows that 89.5% change in the achievement of pupils in reading can be attributed to the effect of phonic instructional method.

Discussion of the Findings

Evidence from this study shows that pupils in the experimental group who were taught reading using phonics instructional method obtained a higher post-test mean achievement score than those in the control group who were taught the same reading using Look and Say instructional method. The difference between those mean scores was statistically significant. The result of this study is in tandem with the findings of Johnson and Watson (2005), Kodae & Laohawiryanon (2011), Martin (2011), Eshiet (2012), Yusuf and Enesi (2012), Maddox and Feng (2013), Suggate (2014), Holsted (2015), Farokhbakht and Nejadansari (2015), Bing, Bingxia, Jinfen and Hui (2015) and Makinde (2015) on the effectiveness of phonics instructional method in reading and other areas of the English language. The efficacy of phonics instructional method over the Look and Say instructional method is not surprising because phonics is a method where students associate the letter combinations and syllables in a word in an effort to decode the speech sounds represented by the letters and the meaning of the words unlike the Look and Say method where the teacher says the word and the pupils are asked to repeat after him.

Phonics teaches learners to associate letters with the speech sounds they represent, rather than learning to recognize the whole word as a unit. This may have given pupil an edge over their counterparts taught using the Look and Say method. Thus, is because a child has to understand a concept before he or she can acquire the particular language which expresses that concept. Phonics instructional method creates a variety of learning experiences for the learners to explore the language and acquire it just as children do. However, it also provides the learners with the rules which involves teaching sound symbol correspondences directly, having children manipulate sounds in written words through spelling tasks pointing out patterns in similarly spelt words or anything else which children learn about orthographic patterns in written language. This method has been found to be superior to the Look and Say method which focuses chiefly on rote memorization of rules that are easily forgotten, with less emphasis on language in context.

Conclusion and recommendations

The phonics instructional method has facilitative effect on primary school pupils' achievement in reading. Pupils taught reading using the phonics instructional method achieved significantly higher than those taught with the Look and Say method. This means that the phonics instructional method proved superior to the Look and Say method in promoting pupils' achievement and interest in reading.

1. English language teachers should adopt the method as an alternative to the Look and Say method in teaching reading.
2. Workshops, seminars and conferences should be regularly organized for classroom teachers in primary schools by education authorities such as Universities, Colleges of Education, Ministries of Education Post Primary Schools' Management Board and the Universal Basic Education Commission (UBEC) on the use of phonics instructional method in teaching reading.

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