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READING AND COMPREHENSION AMONG PUBLIC PRIMARY SCHOOL PUPILS: EFFECTS OF PHONIC INSTRUCTION

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Abstract

The foundational skills for learning the English language are reading and comprehension, which pupils cannot achieve without maintaining proper spelling and pronunciation; hence, we investigated how phonics instruction affected primary school pupils' reading and comprehension skills. Using a straightforward random sampling procedure, 120 pupils from the primary two classes made up the experimental and control groups. The researchers used the English Reading Test (ERT) and English Comprehension Test (EVT) to gather data for the study. The results show that there is no significant effect between pupils exposed to synthetic phonics instruction methods and their ability to read and comprehend. The pupils in the control group who were taught using the traditional look-and-say instruction method performed better. To ensure that before primary four, every student will be able to read and primarily comprehend, understand other subjects, excel academically, and pursue other endeavours, the researchers recommend that primary school teachers receive training, especially those teaching in basic one classes. Thereby ensuring their capability of handling English literacy lessons using traditional, synthetic, and other alternative instructional methods. Consequently, this will increase the level of comprehension and reading ability of the public primary school pupils.

Keywords: Comprehension, Reading, Phonics, Literacy and Primary Pupil

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Introduction

Literacy is the foundation stone of a student's academic success. Without the skill of reading and comprehension, students will almost certainly have limited academic, economic, social, and even emotional success in school and later life, to the detriment of their nation and society at large (Reutzel, 2015; Sheet, 2012). Even though these elementary skills are important, literacy has simply gone beyond the ability to decode words, read a text, make an analysis, or write. Rather, it includes the ability to use reading to gain access to the world of knowledge, to examine and combine information from different sources, to draw conclusions from arguments, and to study new subjects.

These higher-level skills are now important to youths who wish to examine different fields such as history, science, and mathematics; to succeed in primary, secondary and post-secondary education, whether vocational or academic; to earn a decent living in the knowledge-based globalized labour market; and to participate in governance as well as in facing complex difficulties (Murname, Sawhill & Snow, 2012). Several researchers have found that using phonics instructional method improves reading and comprehension in pupils in general and specifically in beginning readers (Amile & Akabogu, 2021; Eshete, 2012; Bast, 2013; Sugato, 2010, 2014; Maddox & Feng, 2013; Nzegwu, 2018). Another study by (Aboho & Isa, 2014; Bast, 2013) found that 99% of teachers agreed that using phonics instruction in teaching was essential for acquiring literacy skills as well as the method of instruction adopted by the teachers.

Therefore, the main reason for undertaking this study is to reduce the level of illiterates in Nigeria to the barest minimum by tackling the problem from the foundation at the beginning of primary education. These will be achieved by studying the effects of phonics instruction on reading and comprehension among public primary school pupils in Enugu North Local Government Area in Enugu State by determining the effect of sounds on pupils' ability to recall, and the effect of blending on pupils' vocabulary. Also, it examines the effect of dictation on a pupil's ability to have literal understanding and the effect of reading fluency on a pupil's ability to make inferences.

Statement of the Problem

In our society, being literate is the ability to read, write comprehend and have access to knowledge to enable a person to succeed in future academic endeavours and meet the 21st century demands of the society. To become skilled readers and comprehend, students must be able to identify letter sounds, blend them, and read words quickly and accurately based on which analysis and decisions

are made. Hence, a phonics educational strategy is essential for excellent early reading and comprehension. The phonics instructional method involves an interactive, playful, and effective means of teaching pupils the English language which is the means of instruction in Nigeria from primary four upwards. There is a poor literacy level among public primary school pupils in Enugu North Local Government Area of Enugu State. Most of them hardly speak English in their conversation and efforts to interact with some of them reveal that they find it difficult not only to read but also to pronounce simple words correctly, and talk less of understanding sentences and paragraphs meaning well. This trend if left unchecked will cripple their future success in academics, other life endeavours and almost every section of the economy too. Little information is available in our school textbooks on the extent to which the phonics instructional approach enhances reading and comprehension and how it can be used to assist in raising the academic performance of primary school pupils. This study sought to provide some insights into how the knowledge of sounds of the letters of the English alphabet helps children to pronounce and read words they are not familiar with, increase their ability to recall, to make sentences and inferences from observed issues before they are through with their primary education. This helps them to understand what is taught in other subjects easily, study on their own, and excel in their academics and other future endeavours. Also to show that literate youths can meet the industrial demand and increase the growth and development of the society in general because of reduced social vices because they are gainfully engaged. Also, to establish the relationship between phonics instruction, reading and comprehension. This informs the burden of the researcher to investigate the effects of phonics instructions on reading and comprehension among public primary school pupils.

Purpose of the Study

The main purpose of the research is to study the effects of phonics instructions on reading and comprehension among public primary school pupils in Enugu North Local Government Area, Enugu State. Specifically, the study seeks to:

1. Determine the effect of sound on the pupils' ability to recall.
2. Ascertain the effect of blending on pupils' vocabulary.
3. Examine the effect of dictation on a pupil's ability to have literal understanding.
4. Assess the effect of reading fluency on the pupil's ability to make inferences.

Research Questions

The following research questions were raised to guide this study:

1. To what extent does sound affect a pupil's ability to recall?
2. To what extent does blending affect a pupil's vocabulary?
3. To what extent does dictation affect a pupil's ability to have understanding?
4. To what extent does reading fluency affect a pupil's ability to make inferences?

Research Hypothesis

The following hypotheses were formulated as follows:

HO1: There is no significant relationship between sound and the pupil's ability to recall.

HO2: There is no significant relationship between blending and the pupil's vocabulary.

HO3: There is no significant relationship between dictation and a pupil's ability to have literal understanding.

HO4: There is no significant relationship between reading fluency and the pupil's ability to make inferences.

Method

Research Design

The pure experimental research design was used for this study. It is used mostly in educational research because it provides highly valid and reliable results. The study specifically adopted two groups (control and experimental group) randomized subject to post-test only design. The group exposed to treatment is the experimental group represented by the symbol (E) whereas the other group represented by (C) is the control group. Thereafter post-test scores were computed to determine whether there was a difference between the scores of the two groups.

The study focused on Enugu North Local Government Area in Enugu State because it is accessible to the researcher and also the people speak the local language "Igbo" which the researcher is conversant with. The study was conducted among government primary schools and focuses on pupils in primary two classes because the researcher is investigating the foundation of the problem of illiteracy. Enugu North has many hills, especially in the Ngwo area and Udi area which is where the state got its name "Enuugwu" i.e. on top of the hill. Coal is also a major mineral resource in the area, though it is no longer mined, which is where the state got its nickname Coal City State. It is mostly a school and civil service populated area.

Population of the Study

This study will consist of primary two pupils in fifty-three (53) government primary schools in

Enugu North Local Government Area of Enugu State. The total population of pupils in primary two classes are 1787, sourced from ESUBEB.

Sample and Sampling Technique

For this study, the simple random sampling technique was used. The sample size was derived using one hundred and twenty (120) pupils who are representative of the whole population. Adopting the sample, the tests were administered to the pupils in primary two classes at the end of the term, i.e. after five-week lessons. The tests were administered to sixty (60) primary two pupils in Udi Road School 11 and St. Luke's Primary School formed the experimental group and sixty (60) pupils in O'Connor and Construction Primary School formed the control group respectively.

Instrument of Data Collection

The data for this work were collected through primary data. A constructed study lesson plan and assessment question based on primary two curriculums on phonics were used.

Development of Instruments

The researchers developed a phonics study lesson plan that consists of ten letter sounds out of the forty-two letter sounds in the English Language alphabet. The lesson lasted for 30 minutes within the one-hour lesson period for the English Literacy subject, intact classes were used so as not to disrupt the school programme. Also, the regular class teachers were used. Two sounds, a day each week will be introduced by the class teacher in each group. The teachers in the experimental group were already trained by the government in jolly phonics. The researchers went through the study lesson plan with teachers in the experimental group before the experiment started. In the course of teaching English Literacy subject, pupils in the experimental group were taught phonics through a synthetic multisensory phonics approach named Jolly Phonics by trained phonics class teachers using the five basic skills; learning the letter sounds which is introduced using a story, letter formation which is taught using flashcards with the letter sound written on it, blending (reading words containing the sound introduced and other previously taught sounds), identifying sounds in words (for writing and making sentences) and tricky words (learning regular and irregular words), songs that involves revising the letter sound introduced. The control group were taught phonics through repetition and memorization methods otherwise called "The Look and Say Method" by the class teachers who were not trained in phonics.

The main instrument for assessing the effect of the treatment by both trained and untrained phonics teachers on both the experimental and control group were the English Reading Test (ERT) and

English Comprehension Test (ECT) which is in line with the variables of synthetic phonics instructional approach that affect pupils' reading and comprehension for the post-test. The two assessment instruments: the English Reading Test (ERT) and English Comprehension Test (ECT) consist of forty item questions divided into four sections respectively; A, B, C and D. The ERT assessment questions consist of letter sounds in section A and section B consists of blending and spelling. The ECT assessment questions were on sentence making in section C and matching in section D. The assessment test consists of ten item questions in each section making up a total of forty items which lasted for thirty (30) minutes. In scoring, the pupil's achievement was computed by allotting 2 points for each correct answer and 0 for each wrong answer on each section after a five-week intensive lesson, two times a week on phonics during the English Literacy lesson period. Tests were administered to both the experimental and control groups to determine the effect of phonics instructions on the variables set out in the purpose of the study as taught and thus ascertain if a difference exists between the scores of the two groups. The administering of the assessment questions was conducted through the face-to-face procedure for the part that involves reading aloud an essay part to the primary two pupils in both the experimental and control groups.

Method of Data Collection

The data was collected by face-to-face administration of the assessment test (ERT and ECT) to the pupils with the help of the class teacher as the research assistant. The pupils were taught by their class teacher one letter sounds a day for thirty minutes, two times a week for the five weeks the lesson lasted. The experimental group was taught with the synthetic phonics instructional method while the control group will be taught using the look and say method. Again, the assessment test, ERT and ECT were administered after the five-week lesson to test the pupils' performance on their ability to identify letter sounds, blend and spell, make sentences and matching of words to the correct category. The researcher collected the question paper for marking and scoring. The forty-test items for the ERT and ECT were awarded two marks each giving a maximum of 20 points in each section.

Method of Data Analysis

The data collected from the study were analysed using Mean, Standard Deviation, and t-test. The responses from the experimental and control groups were presented in a tabular form. Mean and Standard Deviation were used to answer the research questions while t-tests were used to test the hypothesis at a 0.05 level of significance ($p<0.05$).

Results

Research Question 1

To what extent does sound affect a pupil's ability to recall?

Table 4: 1A: Mean and Standard Deviation (S.D) of pupils' sound pronunciation scores in section A.

Groups	No of students	Mean scores	S.D.
Experimental	60	7.17	5.53
Control	60	6.55	5.26
Difference	0	0.62	0.26

Table 4.1A shows the mean and S.D. of sound pronunciation scores of pupils taught the synthetic phonics instructional method (experimental group) and those pupils taught with the look and say method. The table reveals that the mean scores of 7.17 and 6.55 with S.D. scores of 5.53 and 5.26 were recorded for pupils in the experimental and control group respectively. This means that the experimental group was more effective in the ability to recall than the pupils in the control group because they had a higher score.

Research Question 2

To what extent does blending affect a pupil's vocabulary?

Table 4: 1B: Mean and Standard Deviation (S.D) of pupils blending scores in section B.

Groups	No of students	Mean scores	S.D.
Experimental	60	3.97	5.16
Control	60	4.93	29.85
Difference	0	-0.96	-23.69

Table 4.1B shows the mean and S.D. of blending scores of pupils taught the synthetic phonics instructional method (experimental group) and those pupils taught with the look and say method.

The table reveals that the mean scores of 3.97 and 4.93 with S.D. scores of 5.16 and 29.85 were recorded for pupils in the experimental and control groups. This means that the control group was more effective in the ability to spell.

Research Question 3

To what extent does dictation affect a pupil's ability to have understanding?

Table 4: 1C: Mean and Standard Deviation (S.D) of pupil's sentence-making scores in section C.

Groups	**No of students**	**Mean scores**	**S.D.**
Experimental	60	6.13	6.54
Control	60	6.2	6.62
Difference	0	-0.07	-0.08

Table 4.1C shows the mean and S.D. of sentence-making scores of pupils taught the synthetic phonics instructional method (experimental group) and those pupils taught with the look-and-say method. The table reveals that the mean scores of 6.13 and 6.2 with S.D. scores of 6.54 and 6.62 were recorded for pupils in the experimental and control group respectively. This means that the control group was more effective in the ability to have understanding than the pupils in the experimental group.

Research Question 4

To what extent does reading fluency affect a pupil's ability to make inferences?

Table 4: 1D: Mean and Standard Deviation (S.D) of pupils' reading fluency scores in section D.

Groups	**No of students**	**Mean scores**	**S.D.**
Experimental	60	8.83	6.12
Control	60	10.03	6.96
Difference	0	-1.2	-0.84

Table 4.1D shows the mean and S.D. of reading fluency scores of pupils taught the synthetic phonics instructional method (experimental group) and those pupils taught with the look-and-say method. The table reveals that the mean scores of 8.83 and 10.03 with S.D. scores of 6.12 and 6.96 were recorded for pupils in the experimental and control group respectively. This means that the control group is more effective in their ability to match (make inferences) than the pupils in

the experimental group.

Analysis of Hypothesis

Hypothesis 1

HO1: There is no significant relationship between sounds and the pupil's ability to recall.

Table 4: 2A: Summary of T-test of difference between the mean effects of sound pronunciation scores in reading when exposed to synthetic phonics method and look and say method.

Groups	Mean	SD	No. of students	Degree of freedom	T-Calculated	T-Table
Experimental	7.17	5.53	60			
Control	6.55	5.26	60	95%	0.6292	0.677

The result of the analysis in Table 4: 2A, could be observed that the t-test calculated (0.6292) was less than the t-test critical table value (0.677). Hence, the null hypothesis (HO1) was accepted since the t- t-t-test table critical value was greater at the level of significance of 0.05. Therefore, there is no significant relationship between sounds and a pupil's ability to recall.

Hypothesis 2

HO2: There is no significant relationship between blending and the pupil's vocabulary.

Table 4: 2. B: Summary of T-test of difference between the mean effects of sound pronunciation scores in reading when exposed to synthetic phonics method and look and say method.

Groups	Mean	SD	No. of students	Degree of freedom	T-Calculated	T-Table
Experimental	3.97	5.16	60			
Control	4.93	5.04	60	95%	-0.2186	0.677

The result of the analysis in Table 4: 2B shows that the t-test calculated of (-0.2186) was less than the t-test critical table value of (0.677). Hence, the null hypothesis was accepted, since the t-test

table was greater at a level of significance of 0.05 than the t-calculated. Therefore, there is no significant relationship between blending and a pupil's vocabulary.

Hypothesis 3

HO3: There is no significant relationship between dictation and a pupil's ability to have literal understanding

Table 4: 2. C: Summary of T-test of difference between the mean effects of sound pronunciation scores in reading when exposed to synthetic phonics method and look and say method.

Groups	Mean	SD	No. of students	Degree of freedom	T-Calculated	T-Table
Experimental	6.13	6.54	60			
Control	6.2	6.62	60	95%	-0.150	0.677

From the above analysis in Table 4: 2C, the t-test calculated (-0.150) was less than the t-test critical value (0.677). Hence, the null hypothesis was accepted Since the t-calculated was less than the t-test table at a level of significance of 0.05. Therefore, there is no significant relationship between the pupil's taught comprehension using dictation and their ability to have literal understanding.

Hypothesis 4

HO4: There is no significant relationship between reading fluency and the pupil's ability to make inferences.

Table 4: 2.D: Summary of T-test of the difference between the mean effects of sound pronunciation scores in reading when exposed to the synthetic phonics method and the look and say method.

Groups	Mean	SD	No. of students	Degree of freedom	T-Calculated	T-Table
Experimental	8.83	6.12	60			
Control	10.03	6.96	60	95%	-2.57	0.677

From the results in Table 4: 2D above, it can be observed that the t-test calculated (-2.57) was less

than the t-test critical table (0.677). Hence, the null hypothesis was accepted at the level of significance of 0.05. Therefore, there is no significant relationship between the pupils' taught comprehension using reading fluency and their ability to make inferences.

Discussion

The researchers found no significant effect between pupils exposed to synthetic phonics instruction method and their ability to read and comprehend. Rather the pupils in the control group who were taught using the traditional, look-and-say instruction performed better in reading and comprehension. This is in line with the findings of Bowers, (2020) titled "Reconsidering the evidence that systematic phonics is more effective than the alternative method of reading instruction" which examined the experimental evidence used in support of systematic phonics by a detailed 12 meta-analysis of other authors that have assessed the efficiency of systematic phonic and showed evidence that systematic phonics has little or no significant improvement in initial reading than other alternative method of instruction.

The result of the investigation showed that the pupils taught English Literacy using the traditional look-and-say instructional method performed better in their ability to sound letters correctly and to read aloud in line with the findings of Bowers 2020.

The study found out that the pupils in the control group easily learnt to blend, spell and read thereby increasing their vocabulary and comprehension ability in the participatory traditional look and say method, which involves "repeat after me" teaching skill. Pupils at this stage can cram easily. This was also the same with the research of Bowers in 2020.

The researchers found out that all the letter sounds have not been taught as well as other aspects of the phonics courses in primary two classes. It prevented the pupil from having a full grasp of all the words, i.e. vocabulary needed to blend, form some words, make a sentence completely, read fluently as well and understand all they have read. So, there is a need to continue the phonics lesson up to at least primary three for the pupils to reap the maximum benefit of using the synthetic phonics instructional method to improve pupils' initial reading and comprehension ability.

The researchers found that using synthetic phonics teaching skills of telling stories, using pictures of sounds and words to be taught and singing songs related to the sound to be taught greatly enhanced their pupils' ability to sound. It made the class highly interactive, and learner-centred

which helps the pupils to recall what they have been taught (Vajime, Muodumogu & Achor 2020; Eshiet, 2014; Umezinwa & Udogu 2017; Asonze 2018; Shepherd 2013; Omile & Akabugo 2021).

In contrast, the pupils taught phonics by trained teachers using the synthetic phonics instruction method, performed poorly in blending, spelling, and making inferences, and had difficulties in making correct sentences. This is in line with the findings of Bowers 2020, which showed that the conclusion of many authors that systematic phonics instruction is effective in enhancing initial reading in pupils and has led to the adoption of such in many countries is not conclusive but rather that it should be used alongside other alternative method of instruction to ensure a more effective reading and comprehension ability in pupils as soon as possible so that illiteracy and general excellent academic performance will be easily achieved soonest.

Conclusion

In conclusion, the pupils taught English literacy subject using the look-and-say method have better word reading and comprehension ability. The researchers were able to establish that, the full phonics curriculum has not yet been taught at primary two, so this affected the pupils' performance generally but more in their ability to make sentences due to their limited vocabulary.

Again, the highly participatory method of teaching synthetic phonics, and the use of flashcards and songs made it more learner-centred than the traditional look-and-say method of teaching the pupils. Therefore, the traditional look-and-say method; synthetic phonics instructional method should be used from primary one to at least primary three to be a more effective tool for improved reading and comprehension ability in pupils before they are through with primary school. This will help the pupils understand what is taught in other subjects and curb the prevalence of illiteracy in Nigeria as well as provide enabling ground for further studies.

Recommendations

The researchers, therefore, recommend that pupils from primary one upwards should be taught how to read and comprehend using the traditional look-and-say method, synthetic phonics using the jolly phonics programme and other alternative methods of instructions to be able to read and understand to achieve maximum academic excellence and illiteracy will be eradicated soon.

Again, the time allotted for teaching reading and comprehension during the English Literacy lesson period should be increased and/or phonics should be taught as a separate subject to reap its maximum benefit as a tool for improved reading fluency, writing, comprehension, etc. The phonics

pupil's book should be made available each session on time to all the students and free of charge. Also, all primary school teachers should be trained on synthetic phonics to ensure that any teacher placed anytime within primary one to three classes can take up the phonics lesson where the previous teacher stopped to ensure that before primary four, every pupil will be able to read and comprehend to a great extent to enable them to understand other subjects and thereby reducing the level of illiteracy within few years.

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