EFFECT OF PHONICS READING METHOD ON PUPILS' ACHIEVEMENT IN WORD RECOGNITION IN AWKA SOUTH LOCAL GOVERNMENT AREA EDUCATION AUTHORITY

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Abstract

The study investigated the effect of phonics reading method on pupils' achievement in word recognition in Awka South Local Education Authority. The study was guided by two research questions and three research hypotheses. The study adopted a quasi-experimental x2 factorial research design. The population of the study comprised 4750 (2,350 female pupils and 2400 male pupils. 144 primary one pupils were randomly sampled using the multi-stage sampling procedure. The instrument used for data collection was structured questionnaire drafted by the researcher. It was titled Word Recognition Achievement Test (WRAT) Face and content validation of the instrument was established by three education experts. The reliability of the instrument was established using pilot study of twenty (20) primary one pupils in Awka South who were not part of the selected sample. Scores generated from the 20 pupils were applied to K – R 20 (Kuder Richardson) formula. The internal consistency co-efficient of 0.77 was obtained. Data collected were analyzed using mean while ANCOVA was used to test the hypotheses at 0.05 level of significance. Findings revealed that female primary one pupil improved in their word recognition than their male counterpart. It was also found among others that the mean word recognition scores of those taught reading using phonics significantly improved the word recognition of primary one pupil when phonics method was used in than when whole language was used. The study recommended among others that curriculum planners should introduce the use of more than one approach of teaching to primary school curriculum in order to bring in learning experiences that would see both the male and female child exposed to different learning activities to ensure a healthy competition among the male and the female pupils.

Keywords: *phonics reading method, academic achievement, pupils' achievement, word recognition*

Introduction

Phonics reading refers to the instructional method that teaches pupils the relationships between letters and sounds to enhance their decoding skills for reading. Through phonics, pupils learn how to sound out letters and blend them into words, which is fundamental for word recognition and reading fluency (Ehri and McCormick, 2017). Phonics is a method of teaching reading and spelling that focuses on the sounds of letters and groups. Phonics instruction has been found to be especially effective in the early stages of reading development, providing pupils with the tools to approach unfamiliar words systematically (Adewale, 2021). The basic idea is that kids learn the sounds of letters and then learn to combine those sounds to form words, so, for example, a child might first learn the sounds of the letters C-A-T and then learn to blend the sounds to make the word cat, the goal is to make it easier for kids to learn to read and spell words by breaking them down into smaller pieces.

The importance of phonics reading lies in its ability to equip pupils with critical reading skills that enable them to decode and comprehend written texts effectively. Phonics helps children to break down complex words into simpler sounds, facilitating smoother and faster reading (Snowling and Hulme, 2017). Phonics instruction has also been associated with long-term improvements in literacy, leading to better academic performance overall (Ehindero, 2020). In addition, it promotes confidence in reading by allowing pupils to independently read new words (Amadi and Okeke, 2022).

Improvements in phonics reading are indicated by various factors, including increased word recognition, faster reading fluency, and enhanced comprehension skills. When pupils are able to decode unfamiliar words more quickly and accurately, it is a strong sign that their phonics skills have advanced (Obiageli, 2019). Another determinant is the ability to read aloud without

significant pauses or errors, demonstrating proficiency in sound-letter correspondence (Han and Torgerson, 2020). Continuous assessment, such as reading tests and performance in classroom activities, can also highlight the effectiveness of phonics instruction (Ehindero, 2020). Hence, the improvement in word recognition is what makes pupils to be efficient readers and learners

Word recognition is the ability to identify and understand written words with ease. It is a fundamental skill in literacy development, as it enables learners to decode and comprehend texts effectively. Word recognition is an essential component of fluent reading and involves both phonological processing and visual identification of words (Ehri, 2014). It allows pupils to move from reading individual letters to recognizing words as whole units, thus improving their reading speed and comprehension (Snowling and Hulme, 2017). The development of word recognition skills directly impacts a child's ability to become a proficient reader (Ehindero, 2020). Word recognition is a part of the abilities that shows efficiency in phonics reading which is one of the most effective approaches for improving reading abilities among primary school pupils which improves their achievement

Academic achievement refers to the extent to which a student has attained their educational goals. It is typically measured through standardized tests, classroom performance, and mastery of subject matter (Okoro, 2020). Several factors determine pupils' academic achievement, including socio-economic background, teacher quality, learning environment, and parental involvement (Ude and Nwafor, 2023). Effective teaching strategies, such as the use of the phonics reading method, have been shown to significantly improve pupils' academic performance in reading and literacy (Torgesen, 2015). Thus, academic achievement is a multifaceted construct influenced by both individual abilities, external environmental factors location and gender.

Gender refers to the social and cultural roles, behaviors, and attributes that a society considers appropriate for men and women (Duru and Okeke, 2021). It is distinct from biological sex and includes the roles individuals take on within society based on societal expectations. Gender can influence access to education, learning experiences, and academic performance (Obiageli, 2019). In educational settings, especially in early childhood, differences in reading achievement between boys and girls have been noted, with varying factors contributing to these differences (Han and Torgerson, 2020). Gender has been identified as a factor that can influence pupils' achievement in phonics reading and word recognition. Research suggests that girls tend to outperform boys in early literacy skills, including phonics, potentially due to greater linguistic development and classroom engagement (Duru and Okeke, 2021). However, when phonics reading instruction is implemented effectively, it has been shown to benefit both genders equally, reducing any gaps in reading performance (Obiageli, 2019). Structured, explicit phonics instruction ensures that both boys and girls develop the foundational skills necessary for word recognition, although societal expectations and engagement levels may still affect outcomes (Han and Torgerson, 2020).

Several factors can influence the effectiveness of phonics reading among pupils. One such factor is the quality of instruction, as teachers with proper training in phonics tend to deliver more effective lessons (Amadi and Okeke, 2022). Socio-economic status also plays a role, with children from higher-income families often having more access to reading materials and support at home (Agu, 2019). Additionally, the learning environment, including the availability of phonics resources and time allocated to reading instruction, significantly impacts pupils' achievement (Okeke, 2020). Cultural and linguistic backgrounds may also affect how easily children grasp phonics concepts (Obiageli, 2019).

Also, students encounter too many unknown words while reading, fluency is slowed because the reader must apply decoding strategies before moving forward with reading the remainder of the text. Students need to decode words quickly and accurately in order to reduce cognitive strain, and to devote mental faculties to comprehension. It is described as a purely human and non -instinctive method of communicating ideas, emotions and desires by means of a system of voluntary produced symbols. The Universal Basic Education Commission (2010) describes the spelling method as an approach by which children are taught to read the words by first spelling them. First, they are taught to recognize individual letters of the alphabet, master them, and even sing them out so as to recall all the 26 letters individually. Thereafter they are taught to build up words by spelling them. This method is still widely used in many Nigerian schools. Some of the weaknesses associated with this method are that it makes children stick to spelling of all words in their effort to read, even much later in life. When this is an established practice children are essentially slowed down.

However, despite the importance of education at the different levels including primary/basic level, pupils still perform below expectations in subject contents like word recognition. A similar issue observed, lies in the fact were pupils grapple with the fundamental skill of reading, resulting in significant reading difficulties. As a result of this, pupils perform below expectation in termly examinations and entrance examinations, and this remains an unsatisfactory state of affairs. This poor achievement has prevailed despite efforts made by teachers and school administrators to improve pupils' achievement in word recognition.

Presently, teachers in classrooms in Awka South Local Government Area Education Authority are observed to use the conventional method of teaching. As against the phonics method which has been proven effective by some studies in different areas. Hence, it is imperative to

consider and shift focus to a different approach that could prepare pupils for a future effective problem-solving ability, thoughtful decision making and lifelong meaningful learning. Hence the choice for a learner-centered approach like phonics reading method/language method which introduces connected words and sentences to learners remains imperative. Children are not taught to first recognize individual letters, rather words and short sentences are presented as language units and the pupils are led to say what they mean. The backdrop observed in academic achievement of pupils in primary school informs the present study which determines effect of phonics reading method on pupils' achievement in word recognition in Awka South Local Government Area Education Authority.

Purpose of the Study

The purpose of this study is to find out the effect of phonics reading method on pupils' achievement in word recognition in Awka South Local Government Education Authority of Anambra state. Specifically, the study determined:

1. The pre –test mean word recognition scores of pupils taught reading using phonics method and those taught using whole language.
2. The post- test mean word recognition scores of male and female pupils taught reading using phonics method.
3. The interaction effect of gender and teaching method on pupils' word recognition achievement scores

Research questions

The following research questions guided the study.

1. What is the difference in the pre - test mean word recognition scores of pupils taught reading using phonics method and those taught using whole language?

2. What is the difference in the post-test mean word recognition scores of male and female pupils taught reading using phonics and whole language?

Null hypotheses

The following null hypotheses were formulated to guide the study and were tested at 0.05 level of significance.

1. There is no significant difference in the pre –test mean word recognition scores of pupils taught reading using phonics method and those taught using whole language.
2. There is no significant difference in the mean post-test mean word recognition score of male and female pupils taught reading using phonics and whole language.
3. There is no significant Interaction effect of gender and teaching method on pupils' word recognition achievement scores.

Methods

Design of the study: This study adopted a quasi-experimental x2 factorial research design, employing intact classes as the unit of analysis.

Area of the study: The study was carried out in Awka South Local Education Authority of Anambra State of Nigeria.

Population of the study: The target population for the study consisted of primary one pupil in Awka South Local Government Area of Anambra State numbering 4750 and it comprises of 2,350 female pupils and 2400 male pupils (Source Anambra State Universal Basic Education Board 2023 ASUBEB 2023).

Sample and sampling technique: The researcher used multi-stage sampling approach to constitute a representative sample. In the first stage, one primary school was selected using the purposive sampling technique due to the reason that the sample represents the population of

interest (primary one pupils) and allows the researcher to maintain intact groups for the intervention. From this school, two intact classes of primary 1 (A) and (B) were used. In the second stage, from the intact class, the simple random sampling techniques was used to select 44 males and 34 females and 38 males and 28 females from primary 1 (A) and (B). In the third stage, the simple random technique precisely flip of a coin was used to assign experimental treatment to one of the class, while the other class was assigned control treatment. Therefore, samples of 144 primary school pupils (82 males & 62 females) were used which will serve as experimental and control school. Out of this sample, 78 belonged to the experimental group with 44 male and 34 female.

Development of instrument: The instrument named Word Recognition Achievement Test (WRAT) was developed by the researcher and used for data collection. The validities were carried out on the instrument.

Validation of Instrument: The instrument was validated by three experts, two from the Department of Early Childhood and Primary Education, the other from the Department of Educational Foundations both departments are in faculty of education in Nnamdi Azikiwe University, Awka.

Reliability of the instrument: A trial test was carried out to ascertain the reliability of the instrument, to establish the internal consistency of word recognition achievement test, scores generated from the 20 pupils were applied to K – R 20 (Kuder Richardson) formula. The internal consistency co-efficient of 0.77 was obtained.

Experimental procedure: The experimental procedure involved a pre-experimental orientation organized for the teachers to be used for the study. Separate orientation was organized for the

teachers in the two groups. The researcher also monitored the study to ensure uniform approaches by the teachers. The pupils were pre-tested using WRAT.

Method of Data Analysis: Mean was used to answer the research questions. While the Analysis of co-variance (ANCOVA) was used to test the hypotheses.

Results

Research question 1: What is the difference in the pre - test mean word recognition scores of pupils taught reading using phonics method and those taught using whole language?

Table 1

Mean word recognition Scores of pupils taught reading using phonics method and those taught using whole language.

	Pretest			**Post-test**			
Group	N	Mean	S.D	N	Mean	S.D	Mean diff
Whole language	66	32.28	11.33	66	36.11	12.56	12.85
Phonics method	78	32.70	11.36	78	46.97	16.95	0.78

Result Table 1 revealed that the mean scores of primary one pupil's taught reading using whole language had mean scores of 32.28 and 36.11 for pretest and post-test respectively with difference of 3.83 while pupils taught with phonic method had mean scores of 32.70 and 46.97 for pre-test and post-test respectively with mean difference of 14.27. The above result gave a mean difference of 10.44 from the two groups in favour of those taught with phonics method. The result revealed that the mean score of primary one pupil when phonics was used is far better than when' whole language was used.

Research question 2: What is the difference in the post-test mean word recognition scores of male and female pupils taught reading using phonics and whole language?

Table 2
Mean word recognition Scores male and female pupils taught reading using phonics method

	Pretest			**Posttest**			
Gender	N	Mean	S.D	N	Mean	S.D	diff
Male	44	32.05	10.91	44	42.00	16.11	9.95
Female	34	33.17	11.7	34	50.57	16.77	17.40

In Table 2, the result showed mean score of primary one male pupils' taught reading using phonics method to be 32.05 and 42.00 for pretest and post-test respectively and mean difference of 9.95 while females had mean score of 33.17 and 50.57 for pretest and post-test respectively with mean difference of 17.40. The result revealed that female primary one pupil improved in their word recognition than their male counterpart.

Hypotheses Testing

Hypothesis 1: There is no significant difference in the pre –test mean word recognition scores of pupils taught reading using phonics method and those taught using whole language.

Table 3
Analysis of covariance between the mean scores of primary one pupils taught reading using phonics method and those taught using whole language.

Source	Type III Sum of Squares	df	Mean Square	F	p-value	Decision
Corrected Model	7166.668[a]	4	1791.667	8.174	.000	
Intercept	24833.721	1	24833.721	113.296	.000	
Pretest	407.084	1	407.084	1.857	.175	
Method	4321.908	1	4321.908	19.717	.000	Significance
Gender	939.885	1	939.885	4.288	.040	
Method * Gender	536.363	1	536.363	2.447	.120	
Error	36605.309	167	219.193			
Total	347012.000	172				
Corrected Total	43771.977	171				

The result in Table 3 showed that there is a significant difference in the mean word recognition scores of primary one pupil's taught reading phonics and those taught with whole language. This is because the p-value (.000) is less than the level of significant (0.05). Based on the above, the null hypothesis was rejected.

Hypothesis 2: There is no significant difference in the mean word recognition score of male and female pupils taught reading using phonics.

Table 4
Analysis of covariance between the mean word recognition scores of primary one male and female pupils taught reading using phonics method

Source	Type III Sum of Squares	df	Mean Square	F	p-value	Decision
Corrected Model	1854.332[a]	2	927.166	3.396	.038	
Intercept	25199.900	1	25199.900	92.294	.000	
Pretest	189.579	1	189.579	.694	.407	
Gender	1715.930	1	1715.930	6.285	.014	Significant
Error	24573.625	90	273.040			
Total	231677.000	93				
Corrected Total	26427.957	92				

a. R Squared = .070 (Adjusted R Squared = .050)

The result in Table 4 showed that there is a statistically significant difference in the mean word recognition score of male and female primary one pupil's taught reading phonics and those taught with whole language. This is because the p-value (.014) is less than the level of significant (0.05). Based on the above, the null hypothesis was rejected.

Hypotheses 3: There is no significant Interaction effect of gender and teaching method on pupils' word recognition achievement scores.

Table 5
Analysis of covariance of Interaction effect of gender and teaching method on pupils' word recognition scores of primary one pupil.

Source	Type III Sum of Squares	df	Mean Square	F	p-value	Decision
Corrected Model	7166.668[a]	4	1791.667	8.174	.000	
Intercept	24833.721	1	24833.721	113.296	.000	
Pretest	407.084	1	407.084	1.857	.175	
Method	4321.908	1	4321.908	19.717	.000	
Gender	939.885	1	939.885	4.288	.040	
Method * Gender	536.363	1	536.363	2.447	.120	Not significant
Error	36605.309	167	219.193			
Total	347012.000	172				
Corrected Total	43771.977	171				

Table 5 result shows that there is no statistically significant Interaction effect of gender and teaching method on pupils' word recognition scores of primary one pupil. This is so because, the p-value (.120) is greater than the level of significant (0.05). Based on this, the null hypothesis was not rejected. The researcher therefore concluded that there is no statistically significant difference.

Discussion of Findings

Effect of phonic method on word recognition achievement of pupils

The findings of this study in respect to research question one to ascertain the mean word recognition scores of primary one pupil's taught reading using phonics method and those taught using whole language of pupils showed that the mean word recognition scores of those taught reading using phonics significantly improved the word recognition of primary one pupil when phonics method was used in than when whole language was used.

The above findings of this study agreed with the findings of Omile and Akabuogu (2021) who carried out a study explore the effectiveness of phonics instructional approach on pupils'

achievement in reading in Awka South area of Anambra State. The researchers found out that pupils taught reading using the phonics instructional approach achieved significantly higher than those taught with the look and say method. In addition, the findings of Suggate (2014) are in alignment with the findings of the present study as it implies that phonics method improves primary early word recognition of primary school pupils than the use of whole language method. The findings of the present study further align with Abdullahi (2017) who found that phonemic awareness instructional strategy had significant effect in improving the reading ability and reading behaviours of the pupils. Finally, adoption of the strategy was recommended for teachers teaching reading as an intervention programme for pupils with reading difficulty.

Effect of phonic method on word recognition achievement of male and female pupils

The findings of this study in respect to research question two revealed that the that female primary one pupil significantly improved in their word recognition than their male counterpart. This is because the merge of their mean difference of 17.40 on word recognition when phonics method was used was very high compared to the mean difference of their male counterparts who had a mean difference of 9.95.

The findings is in conformity with the findings of Ajayi and Adedigba (2020) whos' result showed that there was significant main effect of treatment on pupils' learning outcome in reading. Also, there was no significant effect of school type on pupils' learning outcome in Reading in Ado-Ekiti. There was no significant effect of gender on pupils' learning outcome. There was no significant interaction effect of treatment and gender on pupils' learning outcome in Reading. Additionally, gender differences in reading interests suggest that girls are more likely to perform well in passage comprehension of text regardless of content, whereas boys are more likely both to exert themselves and perform better in comprehension if the passage is meaningful to them (Logan,

et al. 2015). The instructional texts associated with a synthetic phonics approach to teaching reading, often referred to as basal readers, contain a restricted vocabulary which may lead to a lack of authenticity and meaning, with less motivational content for boys.

Conclusion

The researchers conclude that, use of Phonics method in teaching reading among primary one pupil improved the mean score of their word recognition than the use of whole language. This is evident from the fact that this group taught with phonics method had mean scores significantly higher than the group taught with whole language method. The results of the study indicated that the use of phonics method in teaching a child helps the child to improve in reading. But this should not be the sole approach to teaching reading to all children and boys in particular. Instead, a more balanced approach should be taken whereby children are taught additional strategies including the use of whole-word and more visual techniques. Perhaps more importantly, the instructional texts young children are given to read should reflect the more natural language of 'real' books.

Recommendations

Based on the findings and conclusions drawn from the study, the following recommendations were made that:

1. That curriculum planners should introduce the use of more than one approach of teaching to primary school curriculum in order to bring in learning experiences that would see both the male and female child exposed to different learning activities to ensure a healthy competition among the male and the female pupils.
2. Primary school teachers should also ensure that both male and female pupils are given equal attention during teaching so that male pupils can be able to perform or improve in

reading other activities. Varieties of methods should be adopted by classroom teachers so as to avoid one sided improvement in learning.

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