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EFFECT OF LETTER-SOUND STRATEGY ON PUPILS' PERFORMANCE IN LITERACY SKILLS IN EKITI STATE

By

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Abstract

This research aimed to assess the impact of the Letter-sound strategy on the literacy skills of pupils in Ekiti state. Academic underperformance among public primary school students has been linked to challenges in word recognition, resulting in inadequate literacy skills. Employing a pretest-posttest control group quasi-experimental design, the study encompassed all pupils in Ekiti state. Senatorial districts were selected via multistage sampling, with Ekiti South and Ekiti North districts chosen randomly. One rural (Oye) and one urban (Ikere) local government area were picked from each district, comprising a total of four schools. From these schools, one intact class of primary three pupils were randomly assigned to either experimental or control groups. The experimental groups were exposed to the Letter-sound Instructional Guide (LSIG) while the control groups were taught using conventional methods. Data were collected using the Literacy Performance Test (LPT) and analyzed employing simple percentages and Analysis of Covariance (ANCOVA). Results indicated a significant positive impact of the Letter-sound strategy on pupils' literacy performance in Ekiti State ($F(1; 63) = 181.467$, $P < 0.05$). Furthermore, no significant effects of gender or school location were observed on pupils' literacy performance. Interaction effects between treatment, gender, and school location were also found to be insignificant. In conclusion, the study highlights the efficacy of the Letter-sound strategy in enhancing the literacy skills of primary school pupils. The findings suggest the integration of the Letter-sound strategy into classroom instruction as a viable approach. Consequently, it is recommended that educators adopt the Letter-sound strategy to enhance literacy education in primary school.

Keywords: Letter-sound, Academic performance, Literacy skills, Primary School Pupils

Introduction

One of the major problems confronting young learners in primary schools in Nigeria is poor academic performance which may not be unconnected with their performance in the literacy skills. There is a large percentage of young children who cannot learn using literacy as tool for learning. In specific terms, only 33% of young children between age 6 to 14 years are proficient in literacy skills, this means that 33% of young children in Nigeria primary schools are literate. Report has it that, 40% of Pupils in 2017/2018 common entrance examination scored 50 marks and above while 60% score below 50 marks in literacy questions. Record also has it that 105 million of young children in Nigeria are out of schools and these are children that may never acquire literacy skills in school (United Nations Educational, Scientific and Cultural Organization 2017). This alarming poor performance in literacy skills is attached to so many variables, such as parents' socio-economic status, teacher's qualifications and experience, teachers' personality, and teaching strategies.

Literacy is the acquisition of skills such as listening, reading, writing and speaking which should be learnt proficiently at the basic level of education. It is also the ability to understand rudiments of letters which are to be learnt properly at the preschool and at the basic level of education. Thanh (2018) opined that Literacy goes beyond the ability to read and write, it also includes the skills to connect, explain and clearly differentiate complex issues. In twenty first century, however, children who have good early literacy skills are known to have quality education. Learning literacy skills early with adequate support of family helps children to be exposed to high percentage of words compared to pupils who do not have such opportunities (Samantha, 2015).

According to United Nation Educational, Scientific and Catural Organization (2017), literacy as the ability to identify, understand, interpret, create, communicate, and compute, using printed and non-printed materials associated with varying contents. It

also stressed that literacy involves a continuous learning that enables individual to achieve their goals, to develop their knowledge and potentials that will make such individual to be useful to himself and to the community at large. The National Council of Teacher of English and the International Reading Association added visual representation to the list of competencies that constitute literacy (Eno, Uduak, Alice & Isioma, 2014). Oyitso and Olomukoro (2010) submitted that literacy is an indispensable means of effectiveness, in social and economic institution that improves human development as well as way of raising one standard of living to a better status. Literacy helps an individual to be able to contribute positively and to implement right judgment among people and it also addresses the need of everyone in the society (Adedokun, 2013).

Literacy is so crucial in that it is a means of instruction in Nigeria schools from Upper primary to higher institutions. The knowledge of content of school subject is transferred to learners at all levels of education through Literacy medium, or how proficient a learner is, will predict school academic performance, and at the same time how they can cope with the language of instruction thus, there is a significant influence of literacy proficiency on learner's academic performance. Exposing children to literacy skills improve early language development and it is a good attempt at investing in learners reading and writing skills to prevent social and behavioral problems. The level of learners' academic performance in school subject may be determined by learners' level of proficiency in literacy skills.

Dodd and Carr (2013) describe literacy skills as the key to learning in school since it allows them access to the curriculum. Learners who find reading and writing difficult in the early stages of education often perform poorly on academic measures (Dilorenzo 2015). It leads to the importance of developing a solid foundation of letter-sound acquisition in the early years since research has linked the difficulty with reading and

writing to difficulty and delay in acquiring letter-sound knowledge (Dodd & Carr, 2013). Pupils need to develop the knowledge of letter-sound relationships as early as possible to set a solid literacy foundation and to be able to make progress on independent reading and writing activities (Nicholas, 2017).

Letter-sound may be one of the strongest predictors of young learners' future success in learning to read and literacy (Cordoso-Martins, Mesquita and Ehri, 2016). It is essential for learners to develop strong alphabet knowledge as early as possible because the letter names and their sounds represent two different sets of knowledge, both of which young children need to grasp, learn to read, write and each of them may predict academic performance in literacy (Wagner, Torgesen, and Roshotte 2013). Research has shown that letter-sound may account for much of the word-reading success of first grade pupils (Ehri, 2015). Children who have well-developed letter sound knowledge may learn to read easily and at a quicker rate than those who do not. Learners' letter-sound knowledge may have a direct relationship with word reading such that letter names provide a link between letters and print and help children understand that spellings are not just strings of letters (Kim, Petscher, Foorman, & Zhou, 2015). Diamond, Gerde, and Powell (2017) agree that there is a relation between letter-sound and the pupils' literacy abilities. Share and Gur (2014) stated that there are strong correlations between word recognition and letter knowledge. Letter-sound is the ability to recognize that phonemes are represented by letters and that the use of letters allows for words to be spelled out. Learners need to be able to hear the sounds in a word, recall the appropriate letter shape or find it on an alphabet strip to master letter knowledge (Huxford, 2017). Dilorenzo (2015) state that many pupils struggle to identify letters of the alphabet consistently and automatically by sight or make the connection between a letter, its name, and its sound which shows basic literacy skills to be absent which will lead to greater difficulties in connections of letter knowledge. An

experience of a breakdown in the development of the alphabetic principle is when a learner has trouble making the initial connection of letter-sound relationships and has trouble reading words in isolation as well as in context.

Letter-sound may be a key player in the literacy success of the learners since it includes the building blocks to later literacy experiences. There are factors capable of influencing pupils' performance in literacy, among which is gender. The finding of Ajayi (2022) revealed that gender has no significant effect on Pupils' performance in literacy. With these disputing figures, it is therefore necessary to find out if gender has any main effect on the performance of pupils in literacy skills and since it has not generally been found that gender has either positive, negative, or no contribution on pupils' performance, it is therefore necessary in this study to find out if gender has any main effect on pupils' performance in literacy skills.

School location refers to the community or an area in which the school is located. It might be rural, urban, or semi-urban which might also be a factor. For over four decades, series of studies have suggested the importance of school location in learners' academic performance (Dada, 2005). In the area of literacy, scholars have called for the consideration of school location especially the rural areas (Stockard, 2016).

Statement of the Problem

It has been observed that public primary school pupils are not performing well academically because they have difficulty in recognizing words, and they have poor academic performance in literacy. Different researchers have investigated the problem of poor academic performance in literacy and established the fact that poor academic performance in literacy could emanate from word recognition and so on. Different numbers of learners for unexplainable reasons are unable to comprehend and enjoy the rudiments of literacy. Many researchers have tried to solve the problem by using

different strategy such as close-up procedure, cooperative learning, and others. The problem persists despite their efforts. This study therefore investigates the effect of letter-sound on pupils' performance in literacy.

Research Hypotheses

The following seven null hypotheses were tested in the study

1. there is no significant main effect of:

a. treatment

b. gender

c. school location on pupils' performance in literacy

2. there is no significant interaction effect of:

a. treatment and gender

b. treatment and school location

c. gender and school location

d. treatment, gender and school location on pupils' performance in literacy

Methodology

The study adopted pretest-posttest control group quasi-experimental design. This design made use of pupils in four intact classes drawn from four randomly selected primary schools. The population for the study consisted of all pupils in Ekiti State. According to Ekiti State annual school censors report project, there are 96 public primary schools 97,334 pupils Ekiti state. Multistage sampling was used to select the senatorial districts. Ekiti South, Ekiti North senatorial districts were used for the study. One Local Government Area was selected using simple random sampling technique from each of the senatorial districts. Oye Local Government was selected as rural area from Ekiti North while Ikere Local Government was selected as urban area from Ekiti South. Two

primary schools were randomly selected from each local government area making a total number of four schools. Two primary schools were selected from each in Oye Ekiti Local Government and two primary schools were selected from Ikere-Ekiti Local Government. One intact class of primary three pupils was selected from each of the schools because primary three is the transition level from early childhood. The classes were randomly assigned to two experimental and two control groups respectively. One Experimental and One control group in Urban (Ikere-Ekiti), One experimental and One control group in rural (Oye Ekiti).

Literacy Performance Test (LPT) was developed by the researcher, and it was used to assess the pupils' performance in literacy before and after the teaching strategies. It is used to gather information for pretest and posttest. Literacy Performance Test was divided into two sections. Section A is the personal data which consists of the learner's name, sex, age, class, school location and the name of school. Section B was used to obtain information on pupils' performance in literacy. Question A asked the pupils to check a box for letters that can change a word to a new word. Question B asked the pupils to circle a word that starts with the same sound as an image. Question C asked the pupils to say the name of each picture and draw a line from each letter to the word that begins with a matching sound. Question D asked the pupils to say the name of each picture and circle the sounds. Question E asked the pupils to circle the number of sounds that can be heard in a word. Question F asked the pupils to check and circle words that have same. Question G asked the pupils to read the words then check the ones that have the long /I:/ sound. Question H asked the pupils to circle letters that spell some words. Question I asked the pupils to say what is seen in a picture and circle the correct letters to complete the words. Question J asked the pupils to identify magic-e words and list two examples on their own.

Experimental group A and Experimental Group B was exposed to Letter-Sound

Instruction Guide (LSIG) which consisted of onset-rime, sound substitution, short and long vowel sounds, identifying the beginning and ending sounds, alphabet principle, vowel phonic pattern, consonant phonic pattern, magic-e and sight words. The face and content validity of the two instruments used in the study LPT and LSIG were examined by experts in Early childhood Education and Tests and Measurement to ensure the suitability of objectives and the instrument, suitable for the age of the pupils, measurement and to assess the extent to which it contains essential items that are required to achieve the objectives of the study. A test-retest method was used to establish the reliability of the instrument (LPT) and (LSIG). A pre-test and post-test of Literacy Performance Test (LPT) was also conducted after the pupils' exposure to Letter-Sound Instruction Guide. Based on this, the same test was administered after an interval of two weeks. At the end of the second test, results were subjected to Pearson Product Moment Correlation, to determine the reliability of the instruments. A correlation co-efficient (r-value) of 0.77 and 0.82 were obtained which adjudged the research instrument suitable for obtaining the intended information. The data collected were analyzed using Analysis of covariance at 0.05 level of significance.

Results

Ho1: There is no significant main effect of treatment on the performance of pupils in Literacy

Table 1: summary of Analysis of Covariance (ANCOVA) showing the Main Effect of Treatment in Pupils Academic performance in Literacy.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	348.205[a]	8	43.526	11.341	.000
Intercept	1381.762	1	1381.762	360.041	.000
Pretest	1.728	1	1.728	.450	.505
Main Effect					
Treatment	181.467	1	181.467	47.284	.000
Gender	5.874	1	5.874	1.531	.221
School location	17.185	1	17.185	4.478	.038
Two Way Interaction					
Treatment* gender	19.634	1	19.634	5.116	.027
Treatment *school location	37.687	1	37.687	9.820	.003
Gender * school location	18.292	1	18.292	4.766	.033
Three Way Interaction					
Treatment * gender* School location	4.835	1	4.835	1.260	.266
Error	241.781	63	3.838		
Total	18419.00	72			
Corrected Total	589.986	71			

a. R Squared = .590 (Adjusted R Squared = .538)

Table 1 shows the effect of treatment on pupils' academic performance in Literacy in Ekiti State. There was significant main effect of treatment on pupils' academic performance in Literacy in Ekiti State ($F(1; 63) = 181.467$, $P < 0.05$). The hypothesis is therefore rejected in the light of the result since the significant value (.000) is less than 0.05. This implies that treatment had significant effect on pupils' academic performance in Literacy in Ekiti State.

Table 2: Summary of Bonferroni's Poc Hoc Pairwise Comparison of the scores within the two groups

Treatment	Mean Difference	Experimental	Control Group
Letter-sound	17.885	*	
Conventional Method	14.231		*

Table 2 revealed that the significant main effect exposed by table 1 is as a result the significant difference between Letter-sound and conventional method. Letter-sound refers to experimental group, while conventional method is known as control group. This implies that those exposed to Letter-sound (17.885) performed significantly better than those exposed to conventional method (14.231).

Table 3: Summary of estimated marginal means with the Groups

Group	Mean	Std. Error
Experimental	17.885	0.403
Control	14.231	0.352

Table 3 revealed that the significant main effect exposed by table 2 is because of the significant difference among:

i. Letter-sound

ii. Conventional method

This implies that those exposed to treatment (Mean = 17.885) performed significantly better than those exposed to conventional method (Mean = 14.231).

Research Hypothesis Two: There is no significant effect of gender on pupils' performance in Literacy.

Table 1 also revealed the effect of gender on pupils' academic performance in Literacy in Ekiti State. There was no significant effect of gender on pupils' academic performance in Literacy in Ekiti State ($F(1; 63)=5.874; P > 0.05$). The hypothesis is therefore not rejected in the light of the result since the significant value (.221) is greater than 0.05. This implies that gender had no significant effect on pupils' academic performance in Literacy in Ekiti State.

Research Hypothesis Three: There is no significant effect of school location on pupils' performance in Literacy.

Table 1 also revealed the effect of school location on pupils' academic performance in Literacy in Ekiti State. There was a significant effect of school location on pupils'

academic performance in Literacy in Ekiti State (F(1; 63) =17.185 ; P < 0.05). The hypothesis is therefore rejected in the light of the result since the significant value (.038) is less than 0.05. This implies that school location had significant effect on pupils' academic performance in Literacy in Ekiti State.

Research Hypothesis Four: There is no significant interaction effect of treatment and gender on pupils' performance in Literacy

Table 1 also revealed the interaction effect of treatment and gender on pupils' academic performance in Literacy in Ekiti State. There was a significant interaction effect of treatment and gender on pupils' academic performance in Literacy in Ekiti State (F (1; 63) = 19.634; P < 0.05). The hypothesis is therefore rejected in the light of the result since the significant value (.027) is less than 0.05. This implies that interaction of treatment and gender had significant effect on pupils' academic performance in Literacy in Ekiti State.

Research Hypothesis Five: There is no significant interaction effect of treatment and school location on pupils' performance in Literacy

Table 1 also revealed the interaction effect of treatment and school location on pupils' academic performance in Literacy in Ekiti State. There was a significant interaction effect of treatment and school location on pupils' academic performance in Literacy in Ekiti State (F (1; 63) = 37.687; P < 0.05). The hypothesis is therefore rejected in the light of the result since the significant value (.003) is less than 0.05. This implies that treatment and school location had significant effect on pupils' academic performance in Literacy in Ekiti State.

Research Hypothesis Six: There is no significant interaction effect of gender and school location on pupils' performance in Literacy

Table 1 also revealed the interaction effect of gender and school location on pupils' academic performance in Literacy in Ekiti State. There was a significant interaction effect of gender and school location on pupils' academic performance in Literacy in Ekiti

State (F (1; 63) = 18.292; P < 0.05). The hypothesis is therefore rejected in the light of the result since the significant value (0.033) is less than 0.05. This implies that the interaction of gender and school location had significant effect on pupils' academic performance in Literacy in Ekiti State.

Research Hypothesis Seven: There is no significant interaction effect of treatment gender and school location on pupils' performance in Literacy.

Table 1 also revealed the interaction effect of treatment, gender and school location on pupils' academic performance in Literacy in Ekiti State. There was no significant interaction effect of treatment, gender and school location on pupils' academic performance in Literacy in Ekiti State (F (1; 63) = 4.835; P > 0.05). The hypothesis is therefore not rejected in the light of the result since the significant value (.266) is greater than 0.05. This implies that treatment, gender and school location had no significant effect on pupils' academic performance in Literacy in Ekiti State.

Discussion of findings

The findings showed that treatment has significant effect on pupils' academic performance in literacy. This implies that the treatments enhanced pupils' academic performance in literacy significantly. Pupils exposed to the treatment performed better than those pupils in the control groups. The results obtained in this study are in line with Bradley's (2015) findings that pupils' exposure to letter-sound had a positive effect on their academic performance in literacy. Bradley found out that children that are exposed to letter-sound at early age may predict their performance in literacy. Also, Egbe and Cajetan (2020) indicated that letter and sound technique had a significant effect on students' achievement in English stress patterns. Thus, letter-sound devices should be given prime attention by both English Learners, material developers and instructors as a potentially

efficient technique for vocabulary instruction, acquisition, and long-term retention at foreign language improvement.

There was significant effect of school location on pupils' academic performance in Literacy in Ekiti State. This result is in line with Ogunleye's (2002) findings. He found significant difference in the urban and rural schools. School location is a predictor of primary school pupils' academic performance in literacy. There are some studies where school location is not significant; this may be as a result of the teachers in those locations. Teachers in some urban locations are more qualified than teachers in rural location and also the stimulating environment for learning in some urban locations are better than learning environment in some rural locations. These factors might have affected the performance of pupils in such studies. From these results, it is interesting to note that school location is a strong determining factor to pupils' academic performance in literacy.
There was no significant effect of gender on pupils' academic performance in Literacy in Ekiti State. This is in line with Torgesen (2015), he studied the effects of four different instructional strategies for improving reading ability. The findings of this study indicated that gender does not have a significant effect on reading ability on most phonemically explicit group.This finding is in line with the finding of Fauto and Friedman (2017), who submitted that there was no significant difference between male and female cognitive ability. This is in line with the submission Robinson and Lubienski (2018) which shows that there is no significance difference based on gender in reading. This finding negates Ajayi (2017) who found significant gender differences in the academic performance of students. The female students were found performing their male counterparts.

Conclusion

Based on the findings of this study, it was concluded that letter-sound strategy is necessary in primary schools as it improved pupils' performance in literacy. This is

premised on the observed significant effect of treatment on pupils' performance in literacy. This suggests that letter-sound strategy is effective in teaching literacy effectively.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Since Letter-sound strategy was found to have a significant effect on pupils' performance in literacy, teachers should employ the strategy to teach pupils in literacy classes
2. Teachers should be trained with the use of this strategy as it aids effective learning of literacy
3. Teacher training institutions should include letter-sound strategy in their course content to train teachers on how to improve learning in literacy
4. Curriculum planners should incorporate letter-sound strategy into the school curriculum so that pupils will learn literacy skills at a fast rate

References

Ajayi, O. A**.,** Usman, U.T, Omilola, A. O. (2022). Effect of Mnemonics Strategy on Pupils' alphabetics and the fallacy of direct intensive phonics instruction. *Journal of Educational*

Dodd, B., & Carr, A. (2013).Young children's letter-sound knowledge.*Language, Speech, and Dyslexia*.

Egbe., & Cajetan I. (2020). Effect of letter and sound on Nigerian senior secondary school students' achievement in English stress patterns. *Review of Education Institute of Education Journal*, University of Nigeria Nsukka. 23(1) -6576

Ehri, L. (2015). Letter names and phonological awareness help children to learn letter-sound

Fauto., & Friedman. (2017). The myths and space factor of gender difference in mathematics: review of educational research 5(1), 22-50. New work *Hearing services in schools,* 34

Huxford, L. (2017). Teaching a phonemic strategy for reading: Implications of research identification strategies. *Cognition and Instruction*, *17*(2).

Kim, Y., Petscher, Y., Foorman, B., & Zhou, C. (2015). The logographic nature of English

Nicholas, M. (2017).As easy as 'ABC'.*Australian Literacy Educators' Association*, *16*(2). orthographic representations. Reading and Writing: An Interdisciplinary Journal, 15, 295-316. phonological processing abilities: New evidence of bi-directional causality from a latent variable longitudinal study. Developmental Psychology, 30. pre-kindergarten year in Head Start: Relations between growth in children's writing and *Psychology, 102*(2). relations. *Journal of Experimental Child Psychology.*

Robinson, J. P., & Lubienski, S. K. (2018). The development of gender achievement gaps in and reading during elementary and middle school: examining direct cognitive assessment and teacher ratings. *American Education Research Journal* 48, 268-302. Doi:10.3102/0002831210372249

Share, D. L., & Gur, T. (2014). How reading begins: A study of preschoolers' print State. *Ife Journal of Theory and Research in Education (IJOTRE)*, Vol. 23, 2022, 83-91

Stockard, H. (2016). *Defining issues in English Language teaching*. Oxford: OUP.

Sulyman, H. T. & Akorede, M. A., Ogunsanwo, T., (2021). Effect Of Letters and Sounds As A Phonics Method on Preschool Children's Reading Abilities In Ilorin Metropolis of Kwara State. Journal of Early Childhood Association of Nigeria (JECAN) 10 (1), 53.

Torgesen, J. K. (2015). Preventing early reading failure. *American Educator, 28*(3), 6–19. understanding of letters. *Early Childhood Research Quarterly, 23*(4) United Nation Educational Scientific and Cultural Organization (UNESCO) (2017). Definition of literacy. CIAML. Fifth meeting 17-18 October 2018 Hamburger Germany UNESCO institute per statistics retrieved from wushpp/uis: UNESCO org/@ UNESO std.

Wagner, R. K., Torgesen, J. K., &Rashotte, C. A. (2013). Development of reading-related with picture mnemonics: Itchy's alphabet and early decoding. *Preventing School Failure,*