Effect of Phonological Awareness Training on the Reading Performance of Dyslexic Children in Primary Schools in Maiduguri Metropolis, Borno State, Nigeria

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Abstract

The study determined the effects of training in phonological awareness skills on the reading performance of dyslexic children in primary schools in Maiduguri Metropolis. Two hypotheses, which sought to determine the significant effect of phonological awareness training on reading performance of dyslexic children and the significant effect of sex on the intervention guided the study. The design of the study is a quasi-experimental study. A sample of 15 (8 boys and 7 girls) primary two pupils, purposefully selected, in private schools, participated in the study. Phonological Awareness Skills Test (PAST), with index reliability of 0.87 Cronbach Alpha was used to give intervention on four phonological awareness skills for 8 weeks while A reading passage (Cloze test) was used to determine the reading levels of the dyslexic children before and after the intervention. Simple percentage and t test were used to analyze the data at 0.05 level of significance. The results reveal that there is significant effect of the training in phonological awareness skills on the reading performance of the dyslexic children. However, there is no significant effect of sex on the intervention.

Key Words: Effect, Phonological Awareness Skills, Reading, Performance, Dyslexic.

1. Introduction

One of the basic functions of primary school is to ensure that children acquire literacy and numeracy skills needed by the society as well as a solid foundation for future education the primary school therefore provides the foundation for the child's advancement in reading and writing. Reading according to Chall and Stahl (2009) is an activity characterized by the translation of symbols/letters, into words and sentences that have meaning to the individual. The ultimate goal of reading is to be able to understand written material, to evaluate it, and to use it for one's needs. Therefore, reading is central to the child's intellectual development because a child who is a poor reader is likely to be a poor learner.

Thus, Education for All (2000) reported that no nation can aspire to achieve its full development potentials unless its entire people, (men, women, boys and girls), including those with learning difficulties participate in this process of development. However, while most children find the learning processes exciting, others develop fear and anxiety about school and may not likely cope adequately with schooling. This is not because they are blind, deaf or dump nor are they unintelligent or lazy but they have a learning difficulty known as dyslexia. Dyslexia is an inability or difficulty to learn to read or spell, despite otherwise normal intellectual functions. It is a neurological disorder that poses difficulty in achieving proficiency in reading in spite of adequate sensory ability, intellectual skills and schooling (International Dyslexia Association 2000). International Dyslexia Association (2000) proposes that dyslexia is evident when accurate and fluent word reading or spelling develops very incompetently or with great difficulty despite appropriate learning opportunities.

That is, learning opportunities that are effective for the great majority of children. Dyslexia primarily affects the skills involved in accurate and fluent word reading and writing. Therefore, it puts huge constraint on the learning of the child.

Scarborough (1998) states that dyslexia can hinder children's ability to read, write, spell and sometimes speak or demonstrate difficulty in processing text at words level. That is, they are unable to read words accurately and automatically. Dyslexics have difficulty storing word banks and meanings as well as identifying sound patterns. Furthermore, dyslexics are inclined to reverse letters or words, for example, b for p, has a short memory span, directional confusion like being uncertain about left and right, difficulty with written language and figures (Cardwell, 2003). Andzayi (2002) also stressed that such children normally confuse letters like b and d, p and q, u and n. Some have difficulties learning the letter sound systems, difficulty in rapidly and accurately recognizing and naming letters. Furthermore, common characteristics among people with dyslexia are difficulty with spelling; phonological processing (manipulation of sound), phonological awareness, phonological decoding, orthographic coding and auditory, short- term memory and rapid visual responding, difficulty copying from chalkboard, slow and laborious writing and disorganization of written work, despite having good background and normal intelligence (Grigorenko, 2001). Dyslexia is said to be three times more common in boys than in girls and usually becomes evident in the early school years. The disorder tends to run in families. Only a minority of dyslexics remains nonreaders into adulthood, but many dyslexics continue to read and spell poorly throughout their lifetime. Dyslexics frequently perform above average on nonverbal tests of intelligence. However, dyslexia is best treated by a sustained course of proper instruction in phonological awareness training and reading.

Phonological awareness according to Adams (1990); Stanovich (1994); Torgensen (1996), Armbruster, Lehr and Osborn (2001) is the ability to work explicitly with sound elements smaller than the syllable. Phonological awareness is important because it strongly supports learning how language is represented in print. It enables the dyslexic children acquire the ability to notice, hear, identify, and manipulate word parts, including phonemes, syllables, onset and rhyme. A large number of dyslexic children lack these skills. Therefore, they find it difficult to cope with reading in the class. Lack of phonological awareness skills Oyanachi (2012) explains has been found to be a high predictor of reading difficulty. Hence, Children who have poor phonological skills do find it difficult to identify words , blend words or segment them as well as have difficulty understanding rhyming words. They also have poor language skills and poor rapid automatic naming of letters and words. The inability of children to process the phonological features of language is the most common characteristics of reading difficulty. A poor or immature phonological awareness would impact adversely on children's ability to identify initial, medial and final sounds, onset rhymes, syllables and word families. Failure to acquire these skills leads to reading difficulties in both young children and adults.

Reading is the most important skill that children must acquire at school, because one learns to read to be able to read to learn. Oganya (1990) opined that reading is a tool to acknowledge in all human endeavors and a key to successful learning and communication. Language (reading) is used as a medium of instruction in schools and communication in all areas of civil service and at the same time the foundation of other aspects of school. Mynard (1999) stresses that the most important skills any child can leave primary school with are the abilities to read independently and effectively for meaning. Consequently, reading should be the biggest priority goal of primary schools. It is important for the dyslexic children to acquire the necessary skills and knowledge of reading and the way forward in assisting these children is to identify those who are as well as those who are at risk of dyslexia very early and give them intervention on phonological awareness skills training. The International Dyslexia Association (2003) emphasizes that without appropriate intervention, dyslexics have a higher probability of not completing primary schools. Their dreams are shattered and opportunities are lost. However, studies reveal that with appropriate interventions, dyslexic children can overcome, to some extent, their reading, and writing, spelling and mathematical problems. Dyslexia is best treated by a sustained course of proper instruction in reading. On this basis, the study identified and gave intervention to dyslexics children on phonological awareness skills.

1.2. Purpose of the Study;

The purposes of the study were to: identify dyslexic children in primary school, determine their reading levels and give them intervention (training in phonological awareness skills) so as to improve their reading performance, as well as to determine the effect of sex on the intervention.

1.3. Research Question and Hypotheses

1. What are the reading levels of dyslexic children before and after intervention?

Ho_1 There is no significant effect of training in phonological awareness skills on the reading performance of dyslexic children.

Ho_2 There is no significant effect of sex on the training in the phonological awareness skills on the reading performance of dyslexic children

2. Method

2.1. Participants

Quasi-experimental method (pre-test and post-test) was the design of the study. A sample of 15 dyslexic children (8 boys and 7 girls) from primary two selected using purposive sampling technique participated in the study. Dyslexia Identification Questionnaire (DIQ) developed by Davies (1992) was modified and used to select the sample students. The instrument consists of Dyslexia Common Characteristics. It has 41 items (characteristics) commonly exhibited by dyslexic individuals. However, the researchers modified it to 20 items, which specifically targeted the phonological aspect of dyslexia. The predictors were rated on 5 points likert scale –Strongly Agreed (SA) 5 points, Agree (A) 4 points, Disagree (DA) 3 points, Strongly Disagree (SD) 2 points and Undecided (UD) 1 point. It gives a maximum score of 100%. Accordingly, a score of 0- 40 marks on the characteristics indicates that the child is not a dyslexia suspect; a score of 41-69 is an indication that the child is at risk of dyslexia and a score of 70 marks and above indicated that the child is dyslexic and required dyslexia intervention training. Teachers were used as assistants in administering the questionnaire. They were given full instruction on how to tick the questionnaire in respect of every child in the class.

2.2. Instrument

Two instruments: Reading passage called 'Cloze Test' and 'Phonological Awareness Skills Test' (PAST) were used to collect the data. The Cloze Test was used to determine the pre-test and post-test reading performance levels of the dyslexic children, while the PAST was used to train the dyslexic children on four reading skills. Robertson (1995) developed the PAST for training dyslexic persons on phonological skills that will help to improve their reading. It assesses students' awareness of the oral language segments that comprises words, syllables, and phonemes. It is comprehensive and involves a wide variety of tasks. It has sub-tests including rhyming words, syllable blending, words segmentation, syllable deletion, words discrimination, and words production. The instrument has a reliability index of 0.95. The researchers adapted it because it has been correlated with success and planned for effective interventions. However, it used four instead of the six sub-tests measuring four phonological awareness skills instead the six sub-texts namely, word identification (recognition), word deletion, word blending, and word rhyming. Word segmentation and word discrimination were dropped because they are suitable for higher levels of students. Each of the skills has 10 items, which the dyslexic children were assessed on.

The measure the reading levels of the dyslexics an extracted passage in English Language Text Book 2 was used. The test is called 'Cloze Test'. The test reveals the interplay between the prior knowledge that children bring to the reading tasks and their language competence. To determine the reading level, each of the correct 50 words extracted to test children for effective individualized instructions is scored 2. That is, 50 x 2 = 100% marks. A score of 30 % and below means the child's level of reading is at the frustration level, a score of 31%-59 % is described as instructional level meaning, and the child can read simple words in a text. A score of 60 % and above is independent level. It means the child can read on his own (Andzayi 2002). The instruments were validated by experts in the field of Measurement and Evaluation, English language teachers and specialists in areas of learning difficulties. As part of the validation too, a pilot study was carried out to determine whether the instruments were appropriate for the study. Cohen and Minion (1997) states that, the essence of pilot testing is to provide earlier information and permit a thorough check of the planned statistical procedures. The instrument was found to have reliability index of 0.87 Cronbach Alpha which was appropriate for the study

2.3. Procedure:

The researchers sought for informed consent of the pupils to participate in the study first from the Local Education Authority (LEA), then from the parents through the Headmaster of the school then the pupils.

At each stage, the purpose of the study was clearly explained as well as the issue of confidentiality and dissemination of results of the study. In the first phase of the intervention, a pre-test Cloze Test was administered to the pupils to determine their reading levels. In the second to the fifth stages of the experiment, a phonological awareness training in the four reading skills were given, each for a period of two weeks with four time (days) meetings per week in the following order: word identification (recognition), word deletion, word blending and word rhyming. Each of the training session lasted for 3 minutes. The training lasted for 8 weeks. After the training in each of the skills, the participants were tested in their awareness of the skill. In the phase 6 of the intervention, the dyslexics were given a post test reading to determine their reading levels.

2.4. Method of Data analysis

The data collected were analysed using descriptive statistics (mean, standard deviation, frequency count and percentage) to measure pre-test and post-test reading levels of the dyslexics, while t-test was used to measure the effect of the phonological awareness training skills on the reading performance of the dyslexic children as well as the effect of sex on the intervention. The hypotheses were tested at 0.05 levels of significant

3. Results

The results of the study were presented in tables which were followed with the interpretations of the results.
Cloze Test was used to determine the reading levels of the dyslexic children at pre-test and post-test. The results on table 1 reveals that out of the 20 selected dyslexics with the used of DIQ, 5 read at independent level (scored 60%-64%) and were exempted from the training. Out of After the training, even though all the dyslexics improved in their reading to some extent (scored 28% -48%) out of 13 whose reading were at frustration level 11 have their reading level improved to instructional level (Post test scores 32% to 48%) while two still remain at frustration level (Post-test scores 28%-30%). The two whose pre-test reading levels were at instructional level, still remained at the instructional level even though there was increase in their post- test reading scores. Thus, none of the dyslexics was able to acquire an independent reading level.

With this little improvement seen in the scores of the all the dyslexic, there is hope that with longing period of training and time devoted to training in PAST, dyslexics children can improve their reading performance .In table 2, a paired sample t-test was used to determine the effects of the training in Phonological awareness skills in facilitating reading of the dyslexic children. The results on table 2 reveals that Training in Phonological awareness skills has a significant effects on the reading performance of dyslexics t = -9.615, p = .000, df 14, pre-test M = 7.93, Sd = 4.183 while the M for the post-reading is M = 16.93, SD=5.6. This means that training in the four phonological awareness skills, (word identification (recognition), word deletion, and word blending and word rhyming.) improved the reading performance of the dyslexic.

The result for the effects of sex on the intervention on the reading performance of the dyslexic children is presented on table 3. The result reveals that there are no significant effects of sex on the phonological awareness training on reading performance of the dyslexic children, in determining whether there is significant effect of sex on the intervention on the reading performance of the dyslexic, the pre- test and post-test reading performance of boys and girls dyslexic children were compared. The pre-test result reveals that there is no statistical significant difference in the reading performance of boys and girls at .p.05 level, t = 1.330, P = .206, df 13. Boys' M = 6.63, SD=2.264, while that of girls is M = 9.43, SD =5.47. Similarly, the post test reading performance for boys and girls is not statistically significant at p = .05, t = -.217, p = .832 df = 13. Boys' M = 4.25, SD =1.165, and girls' M = 2.71, SD = 2.360. Thus, the result reveals that there is no statistical significant effect of sex on phonological awareness skills training on reading performance of dyslexic's children in Maiduguri Metropolis.

3.2 Discussion

The pre- test reading level of the dyslexics, who were selected with the DIQ, as measured with the cloze test showed that five read at independent, 2 read at instructional level and 13 read at frustration level and meaning that they later had extreme difficulties learning to read. This means that the cloze test is a good tool in discriminating between real potential dyslexic children from difficulty those whose problems of reading is not due to learning difficulty. The finding corroborates Andzayi's (2002) findings that a close encounter with cloze test should reveal the interplay between the children's reading and language competence. The use of the cloze test therefore enables the researcher to determine the effectiveness of the application of this test.

The result further reveals that out of the fifteen dyslexic children who participated in the training, four of the dyslexics' reading performance remained at the same level: two at a frustration level and two at an instruction level. Eleven had their reading improved from frustration level to instructional level after the PAST.

This supports the reports of Frost and Sorensen (2007) and Torgesen (2009), that there was improvement in the reading levels of dyslexic after intervention; that the intervention group made ratio gain of 4:56 in word reading, 8:82 on pseudo word reading and 1.09 on spelling over five weeks of intervention (total instruction 40 hours). The intervention given in this study lasted for 8 weeks with a total of 16 hours of instruction (30 minutes x 4 contacts per week x 8 weeks). With the improvement of in the reading levels of the 11 dyslexics from frustration to instructional level as well as with the little improvement in the score of those whose reading performance still remind at the frustration and instructional levels, the researchers as optimistic that if they were given longer session of contacts in the 8 weeks of the intervention, their reading levels cloud have improved to instructional level while those whose reading level improved to instructional levels might have reached an independent reading level. Based on this performance, the dyslexic children were expected to gradually begin to cope with their reading activities in the class. It is the most important skill a child must acquire at school. Since reading is central to all forms of learning every effort should be made to sustain this achievement made.

The result of the pre and post reading performance of the dyslexics after the intervention reveals that there is significant effect of the training in the phonological awareness skills on the reading performance of the dyslexic. This finding concurs with Torgesen, Wagner and Rashotte, (1994); Hogan, Catts, and Little (2005) that phonological awareness skills is a powerful predictor of reading and spelling in early school years. Similarly, the findings is in agreement with Schneider, Roth and Ennermoser (2000) who used syllable deletion and word segmentation training in fostering reading among dyslexic children. Their findings revealed that dyslexic children who were trained in syllable deletion and word segmentation out-performed all other dyslexic children not trained on these phonological skills when related with reading. This is also in agreement with Bryne, Fielding, and Brantley (1991), likewise O'Canner, (1995) findings that there is significant effect of training in phonological awareness on children's ability to decode words. Stonovich (1986) and Adams (1990) concluded from the findings of their studies that syllable deletion is one of the important early skills for learning to read and that failure to acquire this skill leads to reading difficulties in both young children and adults.

The result of the study that there is significant effect of the training in the four phonological skills: word identification, syllable blending, syllable deletion, and word rhyming on reading performance supports two major suppositions. First, is that findings from correlational studies which indicated that young children's phonological sensitivity is related to later development of reading skills. Warrick and Lonigan (1998) validate early screening of phonological sensitivity to identify children who may be at risk for reading difficulties. Second, experimental studies of the effectiveness of phonological awareness training reveal that young children's phonological awareness can be promoted, thereby altering patterns of initial weaknesses (Bentin & Leshem, 1993; O'Connor Jenkins, Leicester, 1995; Torgesen & Davis, 1996; Warrick, Rubin and Rowe-Walsh, 1993).

However, the study did not support the findings of, O'Connor, Slocum, and Jenkins (1995) that there is no significant effect of training on phonological awareness skills on reading performance of dyslexic children. They carried out a study on phonological awareness skills on 268 kindergarten children. The study examined the effects of two variations of phonological awareness instructions: phoneme blending and segmenting. Sixty-seven children were randomly selected for the low-skilled experimental group based on pretest scores of 0 – 30% on two phonological sub-tests, blending and segmenting single-syllable words from and into onset-rime. The results showed that the post-intervention scores of treated and control groups on measures of phonological awareness did not differ significantly. Among blending, segmenting, rhyme production, rapid letter naming, and syllable deletion; only blending and segmenting yielded significant differences. Both treatment groups outperformed the control group on measures of blending and segmenting. However, the treatment groups did not differ from each other. Although the present study has no control group, the dyslexics trained in the phonological awareness skills showed significant improvement in their reading. The differences in the findings could be attributable to one or all of the following: differences in the ages of the participants - kindergarten children as against primary school children; sample size - 67 kindergarten children as against 15 primary schools children, and lastly method of the study - the previous study used both experiment and controlled group and also compared the pre and post test awareness performance on the phonological skills whereas the present study did not used control group nor compared the pre and post awareness skills on the segment of the skills trained.

It is found that there is no significant effect of sex on the intervention. Boys and girls did not differ significantly on their reading performance at the pre-test and post- test reading performance.

This is contrary to the repost of previous studies. Nass (1993), International Dyslexia Association (2003) and National Institute of Neurological Disorders and Stroke (2010) reported that the prevalence of reading difficulties is typically higher in males than females in both referred and research, a ratio of 7.6% male and 3.8% female in relation to Nass (1993). Melgosa (2009) and Georgetown University News release (May 8, 2013); reported that dyslexia is more pronounced among males than females.

4. Conclusion

Based on the findings of this study, it is concluded that training in phonological awareness skills has improved the reading ability of the dyslexic children. The study equally concludes that there is no significant effect of sex on the reading performance of the dyslexic children.

4.2. Limitation of the study

The study should have tested the reading level of the dyslexics at the end of each treatment on a phonological skills which would have enabled teasing out which is the most significant phonological awareness among the four skills in improving reading performance of students**.** Secondly, the recommended period of the intervention is 40 minutes training five times a week for 12 weeks? However, this study could not do that due to restriction from the school. Hence, it made do with the number of days per week and time given to it for each contact by the school**.** Further studies may choose to include a step by step measuring of the effect of each segment of the phonological awareness skills on the reading performance, and increase the duration and days of contact for the intervention for a better result that will tease out the effectiveness of the PAST.

4.3 Recommendations

Based on the findings of this study, the following recommendations were made. Educational authorities like the Universal Basic Education (UBE) and Local Education Authorities (L.E.A), State and Federal Ministries of Education should train and employ specialists in the area of learning difficulties to primary schools who will help in regular screening to identify children who are at risk of dyslexia so as to provide early intervention. Stakeholders in the Education industry like the Federal Ministry of Education, State Ministries of Education, Teaching Service Board, Local Education Authorities, and Universal Basic Education (UBE) should organize routine workshops, seminars, or conferences to inform and educate teachers and parents on the need for early identification and treatment of dyslexia. The training in phonological awareness has revealed that it is significant in improving the reading performance of the dyslexics. Universities and colleges of education should give students specializing in English Language training in handling dyslexia to enable them indentify and handle their need in their teaching in view of the move towards inclusive education Since sex is not a barrier to acquiring reading skills, both male and female dyslexic children should be encouraged to participate actively in intervention programmes that will help overcome their reading difficulties.

5. References.

Adams, M. J. (1990). *Beginning to Read: Thinking and learning about Print*. Cambridge. MIT press.

Andzayi, C. (2002). *Reading Instructions In Primary And Secondary Schools*. Jos: University of Jos Press .

Armbruster, B., Lehr. F, and Osborn, J. (2001). *Put Reading First: The Research Building Blocks For Teaching Children To Read. Jessup,* M D: Education Publishing Centre..

Bentin , C., and Leshen , O. (1993). *Teaching Children To Read: Putting The Pieces Together*. New Jersey: Prentice-Hall, 269.

Byrne, B. and Feildling –Barnsley, R . (1991). Evaluation of a programme to teach phonemic awareness to young children: A one year follow up. *Journal of Educational Psychology 85:104-111*.

Cardwell, D. (2003). *Dyslexia .The Phonology of Reading* .Keith Rayner Alexandra Pollastsek: Prentice.Hall International.

Chall, S.J and Stahl ,S. (2009). *Reading. Encarta Dictionary*. Microsoft cooperation.

Cohen, L. and Minion, L. (1997). *Research Methods In Education. (4th ed).* London: Routeledge.

Davis, R. (1992). 41 common characteristics of people with dyslexia. They can learn .UK: CPI Beccles NR347TL. Online from *wwwdyslexia.com*.

Education For All. (2000). Assessment: country report, Nigeria. Retrieved from; http//www/UNESCOorg/edu/wef/Country/Nigeria 22/6/2010.

Frost, J., & Sorensen, P.M. (2007). The Effect of a comprehensive reading intervention programme for grade 2-3 children. *Journal of Researc*h *in Reading*.30: 270-286.

Georgeton University (May, 2013). Brain anatomy of dyslexia is not the same in men and women/boys. Online from *www.sciencedaily.com/release/2013*.

Grigorenko, E .L. (2001). A Comparative meta-analyses of linkage and practical association studies of developmental dyslexia. *Scientific Studies of Reading*. 9: 285-316.

Hogan,T. P., Catts, H. W., and Little, T. D. (2005). The Relationship between phonological awareness and reading: Implications for assessment of phonological awareness. *Language And Speech Services In Schools*,36: 285-293.

International Dyslexia Association (2000). Multisensory teaching. *Factsheet#69. interdys. org/ewebeditpro5/upload/multisensory.Teaching.pdf*

International Dyslexia Association. (2003). What is dyslexia? Bright Solutions for Dyslexia. Retrieved 8/1/2012 from www.dys.add.com/define.html

Melgosa, J. (2009). *Developing A Healthy Mind*. USA: Washington. Mynard, D. (1999). Repeated reading to enhance fluency: Old approaches and new directions, *Annals of Dyslexia*, 49: 283-306

National Institute of Neurological Disorders and Stroke (2010). Retrieved from www8T6U.

Nass, R. (1993). Sex difference in learning abilities and disabilities. *Annals of Dyslexia* . pp 46-77.

National Institute of Child Health and Human Development.(1995). What is dyslexia*?* Retrieved 2/3/2012.from *www.interdays.org/FAO/whatisdyslexia.*.

O'canner, R., Jenkins, J., Leicester, N. and Slocum, T. (1995). Teaching phonological awareness to young children with learning disabilities. *Exceptional Children*, 59, 6: 532.

Oganya, A. E. (1990). *Factors Influencing Reading Problems Among The Learning Disabled Children:* Jos: University of Jos Press.

Onyenachi, A. C. (2012). Factors influencing the lack of dyslexia awareness and its impact on Inclusive learning in selected primary schools in Owerri West Local Government Area, Imo State .Nigeria. *Unpublished Doctorate Degree Thesis in Education*: University of Greenwich.

Robertson , C. (1995). Dyslexia Assessment. Online from *www.reding horiznsathome .com*

Ronald, D. (2007). Learning *To Read Words: What of Reading*. Melbourne: Ed assist

Scarborough, H. (1998). Early identification of children at risk of reading disabilities: Phonological awareness and Some other promising predictors. In B .K Shapiro, J Schneider, W., Roth, E. and Ennemoser, M. (2000). Training phonological skills and letter in children at risk for dyslexia .A comparison of three Kindergarten intervention programmers. *Journal of Educational Psychology*, 92, 257-267.

Schneider, W., Roth, E. and Ennemoser, M. (2000). Training phonological skills and letter in children at risk for *Journal of Educational Psychology* dyslexia .A comparison of three Kindergarten intervention programmers. , 92, 257-267

Stanovich , K .E (1986). How research might inform the debate about early reading acquisition. *Journal of Research in Reading, 18*, 87-105.

Stanovich , K .E (1994). Phenotypic performance of profile of children with reading disabilities: A regressional based text of the phonological –core variable difference model. *Journal of Educational psycholog, 86:24-53*.

Torgesen, J.K. (1996). Phonologically based reading disabilities: Toward a coherent theory of one kind of learning disability. In R.J. Sternberg & L. Spear-Swerling (Eds.), *Perspectiveson Learning Disabilities*. (pp. 231-262). New Haven: Westview Press.

Torgesen, J., and Davis, C. (1996). Individual difference variables that predict response to training in phonological awareness. *Journal of Experimental Child Psychology*, 63, 1- 21.

Torgesen, J.K. (2009). Phonological1y based reading disabilities; Towards a coherent theory of one kind of learning disability. In; R.J. Stenberg & Spear-Swerling (Eds) *Perspective of Learning Disabilities*. New Haven: West view press. Pp. 231-262

Torgesen, J.K., Wagner, R., &Rashotte,C. (1994). Longitudinal studies of phonological processing and reading .*Journal of Learning Disabilities, 27,276- 286*

Uzoagulu , E.A. (1998). *Practical Guide To Writing Research Project Reports In Tertiary Institutions.* Enugu: John Jacobs's classic publisher's limited.

Warrick, N., Rubin, H., & Rowe-Walsh, S. (1993). Phoneme awareness in language delayed children: Comparative studies and interventions. *Annals of Dyslexia*, 43, 153-173

Warwick, N., & Loningan, S. (1998). Teaching phonological Awareness to students at risk of reading failure: An analysis of four instructional programmes. *Learning Disabilities. Research and Practice,* 15, 4): 226-239

Table 1: Pre-Test And Post-Test Reading Levels of The Dyslexics

S/No	Pre-test reading levels (scores %)	Description	Post- test reading levels (score %)	Description
1	24	Frustration	40	Instructional
2	10	Frustration	30	Frustration
3	24	Frustration	30	Frustration
4	12	Frustration	36	Instructional
5	10	Frustration	36	Instructional
6	26	Frustration	32	Instructional
7	32	Instructional	46	Instructional
8	10	Frustration	32	Instructional
9	36	Instructional	48	Instructional
10	10	Frustration	28	Frustration
11	12	Frustration	44	Instructional
12	20	Frustration	46	Instructional
13	12	Frustration	40	Instructional
14	12	Frustration	32	Instructional
15	12	Frustration	32	Instructional
16	64*	Independent		
17	62*	Independent		
18	64*	Independent		
19	60*	Independent		
20	60*	Independent		

N = 20

**Those who read at independent level at the pre-test. They were exempted from the study

Table 2: Effect of the Training In Phonological Awareness Test on The Reading Performance of The Dyslexic Children

V Variables M SD Df t Sig.
Pre-test Reading 7.93 4.183
14 -9.615 .000
P post-test Reading 16.93 5. 6 8

N = 15

Table 3: Effect of Sex on the Training in Phonological Awareness skills on Reading Performance of Dyslexic Children

Variables Sex Mean SD Df t Sig.
Pre test reading Boys 6.63 2.264
13 -1.330 206
Pre test reading Girls 9.43 5.47
Post test reading Boys 4. 25 1.165
13 -.217 .832
Pos ttest reading Girls 2.71 2.360

N (Boys = 8, Girls =7) 15