

EFFECT OF PHONEMIC AWARENESS INSTRUCTION ON READING PERFORMANCE OF PUPILS WITH DYSLEXIA IN JOS SOUTH, PLATEAU STATE

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ABSTRACT

This study was undertaken to investigate the "Effects of Phonemic Awareness Instruction on Reading Performance of Pupils with Dyslexia in Jos South, Plateau State". Five objectives, five research questions and five hypotheses were formulated to guide the study. The design of the study was pretest-posttest quasi-experimental design, the population of the study was 58 pupils, while the sample was 20 pupils with dyslexia, which were selected considering their personological variables from primary 2 in Bright Star Christian Academy, Rantya and Da-Zang Private School, Bukuru; all in Jos-South. Purposive sampling technique was adopted for this study; which was administered using a teacher-made maze test and word-recognition test. Mean and standard deviation were used to analyze the research questions, while t-test of related samples was used to analyze the hypothesis. The findings of the study showed that, the experimental group performed better than the control group with a post-test mean score difference of 44.00 in the reading skill performance; and a 26.00 mean score difference in the comprehension performance skills. It was recommended that; Education authorities such as 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 dyslexia, and deploy them to primary and secondary schools.

Keywords: Awareness, Dyslexia, Performance, Phonemic, and Reading.

Introduction

Phonemic awareness is the ability to hear, identify, move or change sounds, called phonemes, in spoken words. This is an important basic skill that gets pupils ready to develop into readers. It is usually taught during kindergarten and beginning first grade (Piper, 2010). Before a child can learn to read and write, they need to develop several skills. First, they need to understand how sounds work and how these sounds relate to words. Also, developing an interest in books can help to improve vocabulary, comprehension, and overall literacy skills. Therefore, it is crucial to encourage children to read a variety of books in order to foster a love for reading and learning.(Talbot,

2020). Reading is the first and most important skill a child must obtain, especially at the primary level which is the first journey of education. No primary school must allow its pupil leave the school or even get to primary 5 or 6 without knowing how to read. Reading skill is very important and it is a must have for every child. Reading is therefore central to the child's intellectual development and advancement in the educational programmes.

Dyslexia primarily affects the skills involved in accurate and fluent word reading and writing. Therefore, it puts a huge constraint on the learning of the child. Dyslexia can hinder children's ability to read, write, spell, and sometimes speak or have demonstrative difficulty in processing text at word level. Dyslexics are unable to read words accurately, and automatically have difficulty storing words and meanings, as well as identifying sound patterns. Also, learners with Dyslexics usually reverse letters or words. For example, they can see b as d and d as p. Their memory span is short and they have trouble retaining information. They sometimes experience confusion when it comes to direction and may have difficulty telling left from right. Written language and figures can be challenging, and they may struggle to learn letter sound systems. Recognizing letters and sounds quickly and accurately can be difficult for some individuals with these learning differences. Other characteristics of dyslexia include, spelling difficulty, phonemic processing (manipulation of sound), phonemic awareness, phonemic 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, trouble pronouncing words, delayed spoken language, and inability to understand what is read.

Reading skills is the ability for someone to interact with a text and take in the words. It is the ability to understand written text and to make meaning out of what is being read and apply what is read to prior knowledge. When Pupils read and comprehend written text, they can perform various reading skills. These skills include identifying simple facts presented in the text (literal comprehension), making judgments about the text (evaluation comprehension), and connecting the text to other written passages and real-

life situations (inferential comprehension). It is crucial for Pupils to acquire proficient reading skills as it directly impacts their academic success. Research has indicated a correlation between reading competence and overall scholastic performance. (Jauni, 2016).

According to Galiza (2022), The reading abilities of Pupils is a prevalent worry for higher education establishments as there is a significant correlation between reading proficiency and academic achievement. For Pupils to be able to obtain these vital skills, phonemic awareness could be a tool. Gillingham (2016) online academy defines Phonemic awareness as the ability to recognize and manipulate individual phonemes in spoken words. Phonemic awareness is crucial to reading because it helps readers understand the alphabetic principles that the letters in words are systematically represented by sounds. Children who lack phonemic awareness skills cannot group words with similar and dissimilar sounds. They cannot blend and split syllables, they cannot blend sounds into words, and they cannot detect or manipulate sounds within words. Children with dyslexia face unique challenges in their educational pursuit. Children with dyslexia may struggle with understanding language as they are unable to recognize and manipulate individual sounds in words. Dyslexia can affect a child's ability to decode words, also known as recoding, which is the capacity to apply knowledge of letter-sound relationships to accurately translate a written word into sound.

The skill of phonemic awareness involves the capability to identify distinct sounds, or phonemes, that make up spoken words. This entails being able to hear each individual phoneme and then manipulate and recognize them accordingly. In order for children to learn to read written language, it is important for them to understand how the sounds in words function. Having phonemic awareness is crucial in order to understand how language is represented in print, and it helps those with dyslexia identify, hear, manipulate, and recognize word parts such as phonemes, syllables, onset, and rhyme. The ability to blend sounds together, identify the odd one out in a given set of words, and manipulate word parts such as phonemes, syllables, onset, and rhyme are all part of the phonemic awareness skill.

Research has shown that 64% of 4th graders read below grade level in the (National Assessment of Educational progress) NAEP reading test, the nation's report card. Most struggling readers, 88% according to a 10-year (National Institute of Health) NIH Study, share one common problem; weak phonemic awareness (Learning, 2017). Large number of pupils with dyslexia lack phonemic awareness skills. As a result of that, they find it difficult to cope with reading in the class. Lack of phonemic awareness skills has been found to be a high predictor of reading difficulty in children. Hence, Children who have poor phonemic awareness skills find it difficult to do the following: identify words, blend words, segment, understand rhyming words, accurate and/or fluent word recognition, and poor spelling and decoding abilities. A weak phonological awareness would have a negative impact on pupil's ability to identify initial, medial and final sounds, onset rhymes, syllables and word families. When a pupil is inefficient in reading skills, such a child will definitely be deficient in reading.

Statement of the Problem

The challenges of children with dyslexia are poor reading skills, difficulty in spellings, as well as writing skills. Reading enhances the ability to understand written text, evaluate and use it to communicate and solve problem. A child who is a poor reader is likely to be a poor learner. This unfortunately may result in poor self-image and social interaction. The Dyslexia Foundation in Nigeria said that over 32 million Nigerians are struggling with reading, writing, spelling, comprehension difficulties and other symptoms of dyslexia. Individuals with dyslexia, both in and out of school, encounter educational marginalization and adverse life consequences due to their condition. Statistics revealed that one in 10 pupils have dyslexia. The chairman, Board of Trustees of the foundation, Ben Arikpo said that about one in every three Nigerian children have the condition.

According to Arikpo, awareness support system and necessary accommodation for persons with dyslexia and related learning disorders do not exist in Nigeria's educational system. In the workplace, there are no policies to protect the rights of

people with dyslexia. Consequently, the culture of silence and denial prevail; many people with dyslexia are afraid to come public, and parents whose children have dyslexia are skeptical about enrolling their wards. The author said, children and individuals with dyslexia are at risk of lifelong challenges along with the many negative social and economic consequences without early identification and remediation (Adedigba, 2018).

In Jos South, Plateau State, many pupils' reading performance is very low in primary school. Such pupils are usually labelled as stupid, and unintelligent by teachers, parents, siblings and even their peers. Many of such pupils have been discouraged, resulting to even worse performance. Some children have dropped out of schools due to frustration. Several surveys reveal that pupils can perform poorly due to dyslexia, and that if they are given early intervention, they can improve their reading abilities, overcome the difficulties, and cope with their education. This study therefore, sought to explore the use of Phonemic Awareness Instruction in solving the challenges of poor reading abilities. In other words, this research is to test the effects of phonemic awareness instruction on the reading performance of pupils with dyslexia in Jos south metropolis, Plateau State, Nigeria.

AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to find out the effects of phonemic awareness instruction on reading performance of pupils with dyslexia in Jos South Plateau State. The specific objectives are to:

- i. determine the extent to which Phonemic awareness instruction can enhance reading skills of pupils with dyslexia.
- ii. evaluate the extent to which Phonemic awareness instruction can enhance comprehension skills of pupils with dyslexia.

RESEARCH QUESTIONS

- i. To what extent would phonemic awareness instruction influence the reading skill performance of pupils with dyslexia in the experimental group after intervention?

- ii. To what extent would phonemic awareness instruction influence the comprehension skills performance of pupils with dyslexia in the experimental group after intervention?

HYPOTHESES

The following hypotheses were tested:

1. There is no significant difference of Post-test mean scores in the reading skills between pupils with dyslexia in experimental and control groups.
2. There is no significant difference of Post-test mean scores in the comprehension skills between pupils with dyslexia in experimental and control groups.

REVIEW OF RELATED LITERATURE

This section reviewed the literature relevant to the effects of phonemic awareness on the development of reading skills of pupils with dyslexia in Jos South, Plateau State. The review was done under the following sub-themes; theoretical framework, concept of phonemic awareness, introduction to reading, concept of dyslexia/reading difficulties, causes of dyslexia, studies on phonemic awareness, and summary of literature review.

THEORETICAL FRAMEWORK

Morgan's (1986) phonological deficit theory forms the basis of this paper. This theory suggests that dyslexia is a congenital disorder that affects the left hemisphere of the brain, specifically the Peninsular area, which is responsible for phonological representation and the connection between phonological and orthographic representation. The theory's principles are as follows. Dyslexia can lead to difficulties in representing, storing and retrieving the sounds of speech, which can hinder the process of learning to read an alphabet system. Learning to read an alphabet system requires understanding the correspondence between graphemes and phonemes, or the letters and constituent speech sounds. Therefore, if these sounds are not accurately represented, stored or retrieved, it can impede the learning of grapheme/phoneme correspondence.

1. Individuals with dyslexia find it challenging to segment words due to a malfunction in their brain. For instance, the word "sunshine" can be segmented as "sun/shine" or when the "shine" is removed, "sun" can stand alone as a word and "shine" as another word. Thus, dyslexia is linked to inadequate phonological awareness. The current study aims to assist dyslexic individuals in learning how to segment words.
2. The theory suggests that individuals with dyslexia experience an impairment in sound manipulation that affects their ability to process speech, recall words, associate sounds, and utilize auditory memory. A training program for phonemic awareness has been applied in various cultures to provide assistance to individuals with dyslexia. The program has been successful in enhancing the reading skills of such individuals.

PHONEMIC AWARENESS

Phonemic awareness is one of the strongest predictors of early reading success. Children who have little phonemic awareness often have more difficulties in learning to read. Research suggests that children who have special needs related to reading often do so, because they lack appropriate phonemic awareness and skills. Lacking phonemic awareness can contribute to academic failure and continued academic frustration (Chloe Hill, 2012). The definition and importance of phonemic awareness, its relations with phonics, and guidelines for phonemic awareness instruction are illustrated in this section.

Concept of Phonemic Awareness

There are three cognitive components that make up phonemic awareness. The first component concerns a linguistic element called a phoneme. The second component is about being consciously aware of this element. The third component involves the ability to manipulate these units intentionally. Consequently, phonemic awareness is the conscious ability to manipulate language at the level of the phoneme. To have phonemic awareness, it is necessary to have explicit and reflective knowledge of the linguistic units that underlie language. (Hoover, 2002).

Phonemic awareness is a stronger indicator of literacy compared to factors such as

intelligence, vocabulary knowledge, and socioeconomic status. This means that having the ability to recognize and manipulate individual sounds in words is more closely linked to literacy than other factors..(Gillon, 2004). It is possible for teachers to have an impact on phonological awareness, which plays a crucial role in achieving success in reading. (Lane and Pullen, 2004).

Singh (2020) identifies five (5) levels of Phonemic awareness, which are: **Phoneme segmentation**: Phoneme segmentation is the process of breaking down spoken words into individual sounds, or phonemes. This begins with the segmentation of syllables, progresses to the segmentation of each word, and finally to that of the entire sentence. In order to understand the sound of a word, the phonemes are counted and sounded out separately. It's important to note that as the segmentation moves from word to sentence level, the concept of phonemic awareness changes, as it involves recognizing the sounds of different parts of a word, letter, or sentence.

Phoneme blending and splitting: It refers to the blending and splitting of phonemes to create new words. Once the student learns the sound of each phoneme, the correct blending is required to read the word correctly. So, the concept of onset-riming, which means sounding out the beginning (onset) and end (riming), is learned by splitting and blending the phonemes mentally. When teachers ask to speak and write, they are given the pretext to learn spellings using phoneme splitting and blending.

Phoneme Rhyming and Alliteration: Phoneme rhyming and alliteration involve words that represent a common sound. Rhyming focuses on the commonality of ending sounds, while alliteration focuses on learning words that start with the same sound. When the teacher asks a child to write rhyming words, the answers are mostly those words that have the same letters in rhyming. This means, learning 'pack', 'back', and 'lack' are examples of rhyming. Alliteration practice involves learning tongue twisters. 'She sells seashells on the seashore', and other such phrases give an idea of alliteration. It acquaints a child with various repetitions of the same sound.

Phoneme Comparing and Contrasting: Words change when contrasting phonemes are

used to make the word sound. Means, f, and v are the contrasting phonemes because replaceable changes the meaning of the word entirely. Fan and Van may be rhyming, but phonetic difference leading to different meanings of words puts them in contrasting phoneme categories. Similarly, phonemic comparison can help know if the phonemes sounding similar are different/unique or are allophones of the same phoneme. While allophones are sounds, the phonemes are a set of those sounds. The comparison is helpful in understanding how a particular phoneme of the English language can be used to speak two different words having different sounds. For example, a Spanish person speaking dough and though will not use different phonemes, but allophones of the same phoneme.

Phoneme manipulation: The skill of being able to modify or move individual phonemes while keeping in mind their specific roles in forming the sound of a word is known as phonemic manipulation. When we read, there are various cognitive processes that occur beyond the simple act of recognizing words. To accurately pronounce a word, learners may need to remove, add, substitute, or rearrange sounds in their mind. This ability is necessary for becoming a fluent reader of connected text.

Phoneme manipulation can aid in developing a deeper understanding of phonemic awareness. By adding, deleting, or rearranging phonemes, learners can create new words. For instance, removing the 'b' from 'blast' gives 'last' (subtracting a phoneme), and replacing 'p' with 'e' in 'plastic' generates the word 'elastic'. Early readers can comprehend how these simple processes can help them expand their vocabulary and make it easier for them to read. Therefore, aside from enhancing reading skills, phoneme manipulation also helps in vocabulary development.

Relationship between Phonemic Awareness and Phonics

Phonemic awareness is often confused with phonics. Phonemic awareness focuses on perception and manipulation of individual sounds that make up spoken words whereas phonics heightens the relationships between the letters in written language and the sounds in spoken language. Phonics instruction may not be fully effective for children

who do not possess phonemic awareness. Therefore, phonemic awareness is viewed as a necessary skill for successful phonics instruction. (Bottari, 2022).

The initial stages of phonemic awareness can be developed without the use of letters. It is possible to teach phonemic awareness either with or without letters. Phonemic awareness is a skill that is based on oral and aural abilities. (Hempenstall, 2003) It seems that instruction and practice in phonemic awareness and phonics can work together to support each other, as long as basic phonemic awareness has already been established. These two areas appear to be mutually beneficial and can complement each other well.

Nursery Rhymes and Phonemic Awareness

Preschool children develop an awareness of rhyme through chants, songs, word games, and predominantly, through nursery rhymes. Rhyming words are a common feature of nursery rhymes. Through instruction, Pupils can learn to identify written words with similar endings by hearing and reciting nursery rhymes. Lombardo (2005) observed that children can learn about rhyming words when they listen to and recite nursery rhymes.

An educator suggests that nursery rhymes can be used as a means to teach the beginning sounds (onsets) and word families (rimes) to children. Lessons can also be planned using words from the rhymes to teach beginning sounds as well as common word families, Take the rhyme, "Jack and Jill" (for example). It's perfect for teaching the "/j/" sound and also for making words that sound and are spelled alike: Jill, hill, bill, dill, fill, and Jack, back, lack, pack, rack, tack (Lombardo, 2005).

READING

According to Tarigan (2009), The act of reading involves a reader using words presented by a writer to gather information. Essentially, reading is the process of extracting meaning from written language or symbols, and it involves the ability to recognize, comprehend, and interpret words.

Overview of Reading: Reading is an essential language skill that plays a fundamental role in education, both formal and informal. It is a receptive skill that involves the ability to decode and interpret written or graphic symbols of language. Reading allows us to

gain knowledge, which empowers us to share and participate in the world's universal culture and civilization. Therefore, it is crucial for everyone, including children, to develop a reading culture so that they can unlock the world's treasure trove of knowledge (Akubילו, 2015).

At the launch of the Reading Promotion Campaign at Mandume Primary School in Windhoek on 30 October 2006, the Deputy Minister of Education, Dr Becky Ndjoze-Ojo, stated that reading is a skill that is important for the learning process, academic performance, research, writing skills and decision making at all levels. Ndjoze-Ojo also mentioned that studies have shown that children who have good reading skills in their early years tend to be more successful in their later years, while those who lag behind in reading often struggle to catch up and achieve academic success. She mentioned that the act of reading not only broadens one's horizon but also facilitates learning across all academic disciplines. Conversely, those who struggle with reading are at risk of quitting school and settling for menial and underpaid jobs for the rest of their lives. (Hartney, 2006).

Reading Risk Indicators

Rockets (2003) Children and teenagers who struggle with reading proficiency may encounter a multitude of difficulties in their daily lives and could potentially be more susceptible to experiencing emotional and behavioral issues. In some cases, behavioral or emotional problems may be triggered by the stress of difficulties in school or to learning difficulties. Some children with reading difficulties (RD) develop physical symptoms such as headaches or stomachaches in their response to the stress of academic work. He listed the following risks of reading difficulties common to almost all learners:

1. Poor letter-name and letter-sound knowledge. Poor spelling.
2. Poor phonological/phonemic awareness (inability to rhyme, identify initial and final sounds of spoken words, or to blend and segment one-syllable spoken words).
3. Basic print concepts, such as the fact that print conveys meaning and that print is

read left to right, may not be familiar.

4. Poor knowledge of common letter-sound relationships.
5. Ongoing difficulties with decoding of unfamiliar words.
6. Slow, labored, diffident reading in grade appropriate text.
7. Poor reading comprehension.
8. Poor letter and word identification,

He further maintains that specifically, children need to learn letters and sounds and how to read for meaning. They also need opportunities to practice reading with many types of books. While some children need more intensive systematic individualized instruction than others, all children need three essential elements, these are to learn letters, to learn how to sound the letters and learn how to read for meaning in order to read well and independently by the end of the third grade. Rockets (2003) is convinced that effective teaching and extra resources can make it possible for many "at-risk" children to become successful readers.

Assessing Reading Skills

Although a classroom may contain many children, the teacher has to be concerned with the successes and failures of individual children, rather than the class as a whole. It is therefore necessary for a teacher to understand why a child fails. The most important clues can be found in the words of the language itself for written words differ in the degree to which they tap particular reading processes. Irregular words such as "have", "was", "print", "bear", require the use of lexical processes if they are to be pronounced correctly, while regular words such as "those", "but", "face", may be read by either lexical or sub lexical means, and non-words require the use of sub lexical procedures.

Grading Children as Readers The first step in achieving this ambition is to hear the child read and then grade him or her accordingly. The teacher will have to observe the type of errors made. The patterns of responses to be taken into consideration while a child reads include: Refusals (unable to respond), addition, (add another word), substitution (replace a word with another one), omission and reversal (avoid reading next word) and

repetition (repeating the same word).

Reading should form an integral part of all language work and should be related to speaking, listening and writing. Once a child has learnt a few words he or she should be encouraged to write the words in controlled sentences and in free writing. In reading, the teacher should observe three stages: The pre-concrete stage is when the child guesses by story and picture, when he or she can't handle the skills of reading and comprehending together. The second stage follows when a child uses individual letters as clues and at this stage may say "John whenever he or she sees a "J", here he/she must be reminded of the sound or symbol relationship. The third stage is voice pointing already quoted where the child is matching a word already heard with the word, he/she has read. Having observed these stages, the teacher should go on giving the child practice in reading aloud and to him/her. Once contact is established, the teacher can quite easily determine the stage reached by the child by selecting words to be read by the child. While reading, the teacher calculates percentages of words recognized and asks questions to determine comprehension. The stages to be reached by the child are:

The independent stage: whereby a child can do silent reading and assignment work with little help.

The instructional stage: at this stage the child is able to grasp new words and ideas with some prompting, e.g. consonant given by the teacher. At this stage three quarters of ideas are understood.

The frustration stage: this is the level at which the child needs phonics and the look-say method. The child needs to be given easier books, because the child's reading skills break down and fluency disappears.

CONCEPT OF DYSLEXIA/READING DIFFICULTIES

There is some variability in the definition of dyslexia. Some sources, such as the U.S. National Institutes of Health, define it specifically as a learning disorder. Other sources, however, define it simply as an inability to read in the context of normal intelligence, and distinguish between developmental dyslexia (a learning disorder) and acquired dyslexia (loss of the ability to read caused by brain damage). The manual of medical diagnosis used in much of the world, includes separate diagnoses for "developmental dyslexia"

and for "dyslexia and alexia".

The manual of psychiatric diagnosis used in the United States, does not specifically define dyslexia, justifying this decision by stating that "the many definitions of dyslexia and dyscalculia meant those terms would not be useful as disorder names or in the diagnostic criteria". Instead, it includes dyslexia in a category called "specific learning disorders". The National Institute of Neurological Disorders and Stroke definition describes dyslexia as difficulty with phonological processing (the manipulation of sounds), spelling, and/or rapid visual-verbal responding. The British Dyslexia Association definition describes dyslexia as a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling and is characterized by difficulties in phonological awareness, verbal memory and verbal processing speed. Dyslexia, also known as reading disorder, is characterized by trouble with reading despite normal intelligence.

Nwaoney (2018) opined that some individuals are impacted differently than others. Challenges can involve struggles with spelling words, slow reading, difficulty with writing words, inability to mentally sound out words, mispronouncing words while reading aloud, and difficulty comprehending what has been read. These types of difficulties are often first detected in school. If an individual who was previously able to read experiences a loss of this ability, it is referred to as alexia. These challenges are not within the individual's control, and those with this disorder have an innate desire to learn.

Characteristics of Dyslexia/ Signs and Symptoms of Dyslexia

Dyslexia is one of a few specific learning **incapacities**. It may be a particular language-based clutter characterized by troubles in single word interpreting, as a rule reflecting deficiently phonological handling capacities. The troubles in single word translating are frequently unforeseen in connection to age and other cognitive and scholarly capacities; they are not the result of generalized formative inability or tangible impedance. Dyslexia is showed by variable trouble with distinctive shapes of dialect, frequently counting, in

expansion to issues perusing, a obvious issue with obtaining capability in composing and spelling.

Direct Dyslexia: The individual with direct dyslexia can read the words aloud correctly but may not be able to understand the meaning of what they just read.

Dyseidesia Dyslexia: Individuals affected by this condition may have a limited vocabulary of sight words and rely on phonetic decoding skills to read, which can be time-consuming. As a result, their reading may be slow and laborious. It can be difficult for them to accurately decode phonetically irregular words, such as "log" instead of "laugh." Common spelling mistakes may include using phonetic equivalents for irregular words, such as "rede" instead of "ready."

Dyseidetic Dyslexia: Children who have the dyseidetic type of dyslexia can accurately sound out individual letters phonetically, but they struggle with recognizing patterns of letters when they appear in groups. Their spellings are typically phonetic, even when they are incorrect (such as "laf" for "laugh"). Children in this group have challenges with their vision and memory of letters and word shapes, making it difficult for them to develop a sight vocabulary. However, they do have the capacity to acquire adequate phonetic skills.

Dyslexia with Dysgraphia (Deep Dyslexia): With this condition, a person has a problem in writing letters and words, grasping word-meanings, integrating the sounds of letters, and in pronouncing unfamiliar and, sometimes, even familiar words. People in this category face the biggest challenge and need our closest attention for educational and career planning.

Dyslexia without Dysgraphia (Pure Dyslexia): A condition called pure dyslexia affects a person's ability to read but not write. Pupils with this condition may struggle with written arithmetic due to the need to read both the text and numbers, but may not have difficulty with spoken arithmetic. It can be challenging to diagnose dyslexia without dysgraphia, as a person's oral language may appear normal, and their writing and oral

spelling may be mostly unaffected.

Dysnemkinesia Dyslexia: Minimal dysfunction of the motor cortex area responsible for letter formation is involved in dysnemkinesia. Those who have this disorder are known to frequently reverse letters, such as writing "doy" instead of "boy", which is a characteristic way of distinguishing them.

Dysnomia: There is a specific kind of dyslexia that is associated with challenges in naming and naming speed.

Dysphonetic Dyslexia: Individuals with dysphonic reading abilities struggle to connect letters with corresponding sounds, resulting in disordered spelling. Although they may recognize familiar words, they are unable to decipher new words phonetically. While their reading levels may be close to grade level, their spelling abilities are poor. Dysphonetic dyslexia is considered a disability in language symbol association, resulting in phonetically inaccurate misspellings. The reading errors are often due to small hints and semantic substitutions.

Literal Dyslexia (Letter Blindness): Someone who has this particular condition may face challenges in recognizing letters, relating capital letters to lowercase ones, naming letters, or relating sounds to their corresponding letters. When dealing with this condition, an individual may succeed in reading individual letters of a word but may not have the ability to read the entire word itself.. They may be able to recognize a word but struggle to understand its meaning.. Some individuals who have this condition may face these challenges.

Mixed Reading Disability Dyslexia (Alexic Reading Disability): Children who experience mixed reading disabilities exhibit both the dyseidetic and dysphonic types of reading disorder. This subtype is characterized by a combination of the deficits found in the first two groups. For these individuals, they may experience difficulties in both sight vocabulary and phonetic skills. Such people with this form of dyslexia typically struggle to read or spell.

Neglect Dyslexia: This disorder happens when an individual disregards either the left or

the right side of words, which becomes more apparent when reading lengthy words. For instance, if someone is asked to read "strong", they might read it as "trong". In cases like "alphabetically", those with this type of dyslexia may miss the first few letters and read it as "betically". Compound words can also be problematic. For instance, someone with this disorder might partially read a compound word like "cowboy" as "cow" or "boy".

Phonological Dyslexia: An individual suffering from this condition experiences difficulty in converting letters into their corresponding sounds. They are able to read words that they already know, but they struggle when reading new or unfamiliar words. Additionally, they find it hard to read a non-word such as "tord," and may misinterpret it as a real word that looks similar. They sometimes also misread actual words as other words that look similar, such as confusing "shut" with a different word. This can be frustrating for the listener.

Primary Dyslexia: This type of dyslexia is not caused by damage to the cerebral cortex on the left side of the brain and remains unchanged throughout one's life. Adults with this condition may experience difficulties with reading, spelling, and writing, and are often unable to read beyond a fourth-grade level. Primary dyslexia is typically inherited and is more commonly observed in boys than girls.

Semantic Dyslexia: Some individuals have difficulty reading accurately and may mistake words that are similar in spelling or pronunciation, such as confusing dog with cat or fox. They may also misread words that have different forms, such as twist and twisted, or buy and bought. In addition, some people may find it challenging to read words such as: of, an, not, and other function words.

Spelling Dyslexia: A person who has difficulty reading all kinds of words and identifying individual letters may be experiencing this condition. Their reading is often slow and hesitant, particularly when it comes to longer words. While it takes an average reader about 30 milliseconds to read each additional letter, a person with spelling dyslexia might take up to a second. Even short and familiar words may be read letter by letter by some dyslexics. Surface dyslexia is a type of dyslexia where the person can read words phonetically but has trouble recognizing whole words, such as reading "yacht" as

"yachet."

Trauma Dyslexia: After experiencing a brain trauma or damage to the region of the brain responsible for reading and writing, this condition can typically occur. In today's school-age population, this form of dyslexia is seldom diagnosed, since they usually receive a special education classification of Traumatic Brain Injury (TBI) rather than LD.

Visual Dyslexia: Individuals with this particular condition often struggle with learning words as a complete unit. They may experience difficulties with visual differentiation, combining stored information to form a complete memory, and organizing words in a particular sequence. It is common for those with this condition to reverse the order of letters or words when reading, writing, or spelling. Early identification of Pupils with dyslexia or other severe reading disabilities is crucial to prevent them from falling behind their peers in word-recognition skills. Children who struggle to learn letter-names, sounds, and sight words at a significantly slower pace than their classmates are at risk of developing reading difficulties later on. Despite the significant challenges faced by children with dyslexia, researchers generally agree that there is room for improvement. Finally, It's important to keep in mind that dyslexia isn't the only learning disability that children may have. The term dyslexia is often overused in the media, leading to the misconception that all individuals with reading or literacy challenges are dyslexic (Antonietti, 2019).

EMPIRICAL REVIEW

Yen (2004) conducted a study on the effect of English nursery rhyme and chant instruction on rhyme awareness of Taiwanese EFL beginners. The purpose of the study was to compare the effectiveness of song versus chant instruction against a combination of these on word decoding (word reading or sounding out words) and rhyme production among four groups of Taiwanese EFL fourth graders. The research questions were as follows: Can each of three types of instruction (song, chant, and song + chant) significantly enhance Taiwanese EFL fourth graders' word decoding? Is there a significant difference among the three types of instruction in terms of effect on

Taiwanese EFL fourth graders' word decoding? Can each of the three types of instruction significantly enhance Taiwanese EFL fourth graders' rhyme production? Is there a significant difference among the three types of instruction in terms of effect on Taiwanese EFL fourth graders' rhyme production?

There were no stated hypotheses, however, the researcher developed word decoding and rhyme production tests which were served as pretests and posttests as his design; during intervention, each experimental group received either song, chant, or combined song-chant instruction for two forty-minute sessions (80 minutes) per week. The song instruction group focused on familiarizing participants with word decoding and rhyme production by stressing melodies, while chant instruction group emphasized beat or rhythm. The combined song-chant instruction group mixed melodies and beats but devoted half the time to song instruction and half to chant instruction. The control group received only pretest, posttest and regular instruction without song or chant treatment. The population consisted of 112 fourth graders from four intact classes; all participants, aging from 10 to 11 years old. Started formal English education from the third grade: two periods of English per week in both third and fourth grades. Three classes were randomly assigned as experimental groups: song instruction ($n_1 = 26$), chant instruction ($n_2 = 27$) and combination instruction of song and chant ($n_3 = 30$). The fourth class was the control group receiving no song or chant treatment ($n_4 = 29$), and the sampling technique was not stated. One-way ANCOVA was implemented to accommodate significant differences on pretests and explore significant differences (if any) among three types of instruction regarding effects on word decoding (Research Question 2) and rhyme production (Research Question 4). The results showed significant pre- to post- test improvements on rime awareness for the experimental group, but no significant difference for the control group.

Stuart and David (2008) evaluated the effects of training in phoneme segmentation on early reading ability of Taiwanese EFL first-graders. The purpose of this study was to explore the influence of letter name and letter sound knowledge on the acquisition of phoneme segmentation, and effects of segmentation training in kindergarten on reading

readiness ability. There were no research questions nor hypotheses stated; nevertheless, Children were selected from the total enrollment of six kindergarten classrooms (N = 151) in three schools in the Syracuse Public School District. The Peabody Picture Vocabulary Test-Revised (PPVT-R) and the Word Identification Subtest of the Woodcock Reading Mastery Test (WRMT) were administered to all children. Pupils whose PPVT-R scores were more than 1.5 standard deviations below the mean (M = 100, SD = 15) were not included in the study. Additionally, all Pupils who were reported to be readers by their classroom teachers, or who obtained raw scores greater than 3 on the WRMT Word Identification Subtest, were also eliminated from the study. In each of the three schools, 30 Pupils (total N = 90) from the remaining pool were randomly selected to participate in the study. The findings of the study stated that the experimental group significantly outperformed the control group which received training only on letter-sound correspondences. Moreover, comparison of within group performance between the pretest and posttest indicated that the experimental group also improved significantly in their phoneme segmentation and word recognition abilities.

Van Boden (2011) conducted a study on the effects of phoneme awareness instruction on student in small group and whole class settings. The purpose of this study was to determine the impact of Small Group Instruction (SGI) compared to Whole Class Instruction (WCI) on phoneme awareness outcomes from phoneme awareness with letter sound instruction provided to 66 kindergarten children from a low-income, urban district in upstate New York. There were no hypothesis, research question, validity and reliability. ANOVA and ANCOVA results from this pre-test post-test quasi-experimental study revealed significant learning across 10-weeks for both group sizes. However, the findings indicated that participants did not improve in the phoneme awareness skill of blending, regardless of whether the participants were in a small group or whole class instructional setting.

Osuorji (2006) examined the empirical validation of beginning reading skills for Nigerian primary schools using three structured methodologies. Specifically, the study was

designed to find out whether there would be reading gains on the part of the pupils following the application of the three methods of teaching reading and their levels of effectiveness including which one would be discovered most effective following the pupil's performance on test. There were no research questions, however, the hypotheses were used. The researcher adopted a pre-experimental-post-experimental test design, and the population of the study were all the primary school children situated in Jos North Local Government Area; with a sample made up of two hundred and seventy pupils of primary four classes from three primary schools in Jos metropolis, Plateau State. The sample was divided into three major groups of ninety pupils each. The groups named A, B, and C, were assigned the experimental methods (phonic, whole language, and interactive) respectively, and were given instruction using the structured methodologies simultaneously. The Reading Achievement Assessment Instrument was used for data collection. The instruction using the three structured methodologies took fourteen weeks simultaneously for the three groups. Statistical tools which included: t - test, analysis of variance (ANOVA), and post hoc tests were used for data analyses. The findings revealed that the three structured methodologies were effective in the development and acquisition of beginning. The finding of the study submitted that, the three structured methodologies namely: phonics, whole language and interactive methods were found to be effective in helping the children develop the beginning reading skills, although with some variety in the methods' level of effectiveness. The phonics method was found the most effective, followed by interactive method before the whole language method, and the acquisition of the basic reading skills was predicted on the structured methodologies.

Olubusola (2014) conducted research to investigate the potential of synthetic phonics method in enhancing reading abilities of primary school children in Nigeria. The research was conducted using a case study action design, which was guided by the socio-cultural theory of the Zone of Proximal Development (ZPD). The study's goal was to look into the impact of using the synthetic phonics approach in conjunction with the necessary teacher training on the acquisition of reading abilities among primary school Pupils in Nigeria. All subjects took the pre-experimental test before the experiment

began and the post-experimental test at its conclusion. In this regard, methods of data collection within groups followed the format of the design of study. Data were therefore collected based on the segments of tests (pre and post experimental tests) administered. The tests were individually administered to the subjects by the researcher assisted by the trained teachers. Adequate consideration was given to the hypotheses advanced for this study as data were arranged in respect of pre and post experimental test scores for the three experimental groups. The finding of the study submitted that, the three structured methodologies namely: phonics, whole language and interactive methods were found to be effective in helping the children develop the beginning reading skills, although with some variety in the methods' level of effectiveness. The phonics method was found the most effective, followed by interactive method before the whole language method, and the acquisition of the basic reading skills was predicted on the structured methodologies.

METHODOLOGY

The study adopted the quasi-experimental research type using pre-test and post-test design. This design was adopted because the research was carried out in intact classes to avoid disruption of normal classes. Thus, there was no randomization of pupils into the treatment and control groups. The population of this study included 58 primary two pupils with dyslexia drawn from primary schools in Jos South, Plateau State. This group is preferred because of their unique nature in the area of reading, and the choice for this is because primary school level is the foundation for every child to acquire basic literacy skills. Ten schools known to have children with dyslexia were selected; out of these ten schools. Two schools were purposively selected as the sample for the study.

Twenty (20) primary two pupils with dyslexia were picked from the two schools in Jos south; Ten (10) pupils with dyslexia were drawn from each of the selected school. These two schools were preferred because they have more number of dyslexic pupils in primary two. The pupils were selected using personological variables like age, degree of problem, and class. The pupils were all primary two pupils, within the age range of 7-9 years and are all dyslexic. The technique adopted for this study is purposive sampling; it

was used to select the 20 Pupils with dyslexia for the study. The reason for purposive sampling technique is due to the fact that only pupils who are confirmed to be dyslexic would be used. Word Recognition Test (WRT) and Teacher made Maze Text test (TMTT) were the instruments used for data collection. The study employed the mean and standard deviation to analyze the research questions while t-test of related sample was employed to test the hypothesis.

RESULTS

Data collected for this study were presented, interpreted, analyzed and discussed. The finding of Research Question One showed the extent to which phonemic awareness instruction influence the reading skill performance of pupils with dyslexia in the experimental and control group after intervention Experimental group had a pretest mean scores of 0.80 and standard deviation of 1.69, post-test mean scores of 62.80 and standard deviation of 25.23, with a mean score gain of 62.00. While control group had a pretest mean score of 6.60 and standard deviation of 4.47, post-test mean score of 12.80 and standard deviation of 4.02, with a mean score gain of 6.20.

Before intervention, pretest mean score of -5.80 existed between pupils with dyslexia in experimental and control groups, but after intervention, a post-test mean score difference of 50.00 exists between experimental and control groups, in favor of the experimental group.

The finding of Hypothesis One showed that Pupils with dyslexia in experimental group had a mean score difference of 57.20 and standard deviation of 25.11, while Pupils with dyslexia in control group had a mean score difference of 13.20 and standard deviation of 3.43, t-value of 5.49 with p-value of 0.00. Since the p-value was less than 0.05; therefore, there was a significant mean score difference in the reading skills of pupils with dyslexia in the control and experimental groups after intervention. The null hypothesis was rejected and the alternative hypothesis accepted.

The finding of Research Question Two showed that Experimental group had a pretest mean scores of 0.00 and standard deviation of 0.00, post-test mean scores of 40.00 and standard deviation of 14.91, with a mean score gain of 40.00. While control group had a pretest mean scores of 3.00 and standard deviation of 4.22, a post-test mean score difference of 14.00, with a mean score gain of 12.00. Before intervention, pretest mean score of -3.00 existed between Pupils with Dyslexia in experimental and control group, but after intervention a post-test mean score difference of 26.00 exists between experimental and control groups, in favor of the experimental group.

The finding of Hypothesis Two that Pupils with dyslexia in experimental group had a mean score difference of 40.00 and standard deviation of 14.91, while Pupils with dyslexia in control group had a mean score difference of 14.00 and standard deviation of 5.16, t-value of 5.212 with p-value of 0.00. Since the p-value was less than 0.05; therefore, there was a significant mean score difference in the comprehension skills of pupils with dyslexia in the control and experimental groups after intervention. The null hypothesis was rejected and alternative hypothesis accepted.

CONCLUSION

It was concluded based on the findings that phonemic awareness instruction influences the reading, comprehension, word-rhyming, word-blending, and word recognition skills of pupils with dyslexia. Also, the pupils learn faster and master these skills better when appropriate teaching methods are used for instruction.

RECOMMENDATIONS

Based on the findings and conclusions, the following recommendations were made:

- 1) Education authorities such as 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 dyslexia, and deploy them to primary and secondary schools.

- 2) Stakeholders in the Education industry such as the Federal Ministry of Education, State Ministries of Education, Teaching Service Board, Local Education Authorities, and Universal Basic Education (UBE) and proprietors of schools should organize routine workshops, seminars or conferences to inform and educate teachers and parents on the need for early identification and intervention for pupils at risks of dyslexia.

- 3) The instruction in phonemic awareness has revealed that it is significant in improving the reading performance of the dyslexics, Universities and colleges of Education should give Pupils specializing in English Language training in handling children with move towards inclusive education.

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