EFFECTS OF PHONEMIC AWARENESS INSTRUCTIONAL STRATEGY ON READING ABILITY AND ATTITUDE OF PRIMARY FOUR STRUGGLING READERS IN MINNA, NIGER STATE

BY

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A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS DEGREE IN TEACHING ENGLISH AS A SECOND LANGUAGE (M.ED TESL)

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DECLARATION

I declare that the work in this thesis titled "Effects of Phonemic Awareness Instructional Strategy on Reading Ability and Behaviour of Primary Four Struggling Readers in Minna, Niger State, Nigeria", has been performed by me in the Department of Arts and Social Science Education under the supervision of Dr. (Mrs) R.J. Daura and Prof. I. A. Olaofe. The information in the literature has been duly acknowledged in the text and a list of references provided. To the best of my knowledge and belief, this thesis was not copied from any past research work and the way it is structured and presented; no part of it was previously presented for award of any degree in Ahmadu Bello University Zaria or any other institution of higher learning. I hereby accept responsibility for any mistake or error in this work.

_____ _____

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CERTIFICATION

This thesis titled Effects of Phonemic Awareness Instructional Strategy on Reading Ability and Behaviour of Primary Four Struggling Readers in Minna, Niger State, Nigeria by Abdullahi Muhammad Jibril meets the regulations governing the award of degree of masters of Ahmadu Bello University Zaria and is therefore approved for its contribution to knowledge and literary presentation.

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DEDICATION

This work is dedicated to my caring parents, Alhaji Muhammad Jibril and Malama Salamatu Muhammad Jibril, my beloved wife, Aishah Abdullahi Jibril and my lovely children.

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ABSTRACT

This study looks at the effects of phonemic awareness instructional strategy on the reading ability and behaviour of primary four pupils in Minna, Niger state. The purpose of the study was to examine whether the method had any impact on the reading performance of struggling pupils to identify sounds, decode words, read beyond word level and on their attitude to reading. Some research questions were asked and answered as what is the mean difference in the mean scores of pupils taught reading using phonemic awareness instructional strategy and those taught reading using conventional strategy to identify sounds, decode words read beyond word level and what is the mean reading behaviour score of the pupils taught reading using phonemic awareness instructional strategy and those taught reading using conventional method. Data for the study were generated from both the experiment and interview-checklist. Fundamentally, experiment was conducted using two groups, experimental and control. Adopted EGRA was used to assess the pupils performance at pre-test and post-test, while interview-checklist was used to assess the reading attitude. Data were analysed qualitatively and quantitatively using both descriptive and inferential statistical methods. The descriptive statistical tools adopted include simple percentages, mean, standard deviation and bar chart. The inferential statistical tool employed is the t-test parameter. Indeed, percentage and bar chart were used in analysing the pupils performance in pre-test and post-test, while mean and standard deviation as well as t-test were employed in answering the research questions and testing the hypotheses respectively. Findings of the study indicated that phonemic awareness instructional strategy had significant effect in improving the reading ability and reading behaviours of the pupils. Finally, adoption of the strategy was recommended for teachers teaching reading as an intervention programme for pupils with reading difficulty.

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ABBREVIATIONS

ADD: Auditory Discrimination in Depth Program

DIBELS: Dynamic Indicator of Basic Early Literacy Skills

EAK.: Enhanced Alphabetic Knowledge

EGRA: Early Grade Reading Assessment

IRA: International Reading Association

LAC: Lindamood Auditory Conceptualization Test

LAD: Language Acquisition Device

NCES: National Centre for Education Statistics

NERDC: Nigerian Education Research Development Council

NICHD: National Institute of Child Health and Human Development

NPR: National Reading Panel

NRC: National Research Council

PA: Phonemic Awareness

PDE: Phonetic Decoding Efficiency

PRS: Planning Research and Statistics

RTI: Research Triangle Institute

SWE: Sight Word Efficiency

TAAS: Test of Auditory Analysis Skills

TOWRE: Test Of Word Reading Efficiency

UNESCO: United Nations Education Science and Cultural Organization

OPERATIONAL DEFINITION OF TERMS

Phonemic Awareness: This is the ability to identify, hear and manipulate the individual sounds in spoken words.

Phonemic Awareness Instruction: This means the teaching method using phonemic awareness activities that enables the learners manipulate sounds and decode words.

Reading: This is defined, for the purpose of this research, as decoding (Bloomfield & Barnhart, 1961). That is, relating sounds to symbols. They contended that the alphabetic nature of the English language more or less demands that reading be viewed in this light. Decoding definition of reading indicates that the pupils must develop habit patterns, which permit them to, automatically transform written signals into their oral counterparts.

Reading Ability: simply means the ability to decode written words or sentences.

Struggling Readers: This means those learners with reading disability or those having reading difficulty, in other words, it means dyslexic learners.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Reading disability is one of the common problems experienced among primary four pupils in Minna, Niger state, especially in public schools. Many pupils still struggle to read at a stage they are supposed to have learnt to read and began reading to learn in other aspects of their educational endeavours. Reading is one of the four basic language skills. A receptive skill that is central to academic and intellectual development. The ability to read is essential in learning other subjects and is the cornerstone for children's success in school and indeed, throughout their lives. As children learn to read, they are armed with the keys for unravelling the mysteries of this world and for unlocking the doors of success. In addition, reading can be a fun and imaginative activity for children, which opens doors to all kinds of new worlds for them. On the other hand, if a child could not read well in this contemporary world, he would face many life challenges and opportunities for personal development, success in life and job will be lost. Lack of a consistent and easy instruction in teaching reading is constantly breeding struggling readers in our primary schools. According to a National Adult Literacy Survey (2003) by National Centre for Education Statistics (NCES), U.S. Department of Education, "children who have not developed some basic skills by the time they enter school are 3-4 times more likely to drop out in later years." Similarly, Committee on Preventing Reading Difficulty observed that, "the education of 25 – 40% of American children is imperilled because they don't read well enough, quickly enough or easily enough." Olaofe (20 13:57) captures the importance of reading as follows:

> *Reading is a very important skill relevant for receptive purpose. Reading a book is the most effective weapon against intolerance, under – development and ignorance. It is central to academic and intellectual development of learners at all levels. Reading is basic to literacy and personal ability to attain self - education and self - confidence in tackling problems associated with diverse human experiences.*

Reading is the first step children should take in their move towards literacy. The importance of reading in all learning situations makes it very essential for child to learn it and it forms the basis of all language skills, particularly writing, since the ability to write to some extent is dependent on the ability to read and what is written can only be meaningful if it can be read (Stahl, 2004:57).

Reading skill is very essential in language, but it differs from speaking in the way children learn it. The child's brain is programmed to learn spoken language via an innate mechanism known as Language Acquisition Device (LAD) and it is, therefore, a naturally occurring process (Shaywitz, 2003). Merely exposing a child to spoken language enables the child to acquire and produce speech, except if there is damage to the brain because of a congenital problem or accident. Unlike speaking skill, reading skill is not acquired naturally by just exposing a child to texts and printed materials, though that may help a child to become ready for reading. Fromkin, Rodman & Hyams (2007) state, "reading requires specific instruction and conscious effort". Similarly, Oyetunde, (2009:4) comments that children do not learn to read by chance; they have to be taught to read. Pupils therefore, can learn to read when exposed to meaningful literary or literacy activities constantly. Reading has to be systematically taught using effective methods by teachers and / or parents by preparing the children to be ready to acquire the skill, motivating them, showing and engaging them within a social context, to which the school and teachers are central (Lyon, 2000:14; Cunningham & Allington, 2007: 59). This is where adopting explicit method as phonemic awareness instruction comes in. Phonemic awareness is the ability of the pupils to

hear and understand that words are composed of sounds and the ability to manipulate these sounds.

One of the basic objectives of primary education in Nigeria is to teach pupils to read as stated in the Nigerian policy on education, "to inculcate permanent literacy, numeracy and ability to communicate effectively" (Nigerian Educational Research and Development Council, 2013:21). It is therefore the right of every child in primary school not a privilege to learn to read in order to function effectively in the society. There are different but closely related views as to when a child is supposed to have learnt to read. Fromkin, Rodman and Hyams (2011) are of the view that reading typically begins at the age of five or six mostly when children are school age, but also observe that some are not ready for reading until later. Myers (1999) states that children are ready to begin reading (decoding) at age three or four, while others may not be ready until six. He believes that children should begin to develop decoding skill no later than six years. The U.S. Department of Education has also stated, "Children are expected to learn to read in the primary grades, kindergarten through the third grade when most reading instruction is given. By fourth grade, students are expected to read to learn". Considering the above views, pupils must have learnt to read by the time they are in primary three so that by the time they are transiting to primary four, they should begin to read to learn and become fluent and effective readers in order to meet the demands of 21st century. This explains the relationship there is between reading ability and academic excellence as well as the critical role of reading as a tool for pupils' successful living and functioning in this contemporary complex society (Andzayi & Kwen, 2014:428).

Today, poor reading is one of the major problems among the pupils in public primary schools. It is common to find children of primary four and above who are supposed to have learnt to read still struggling to do so. This is because the Nigerian education system has

failed to develop an efficient literacy acquisition programme, especially for pupils in public primary schools. Observations and experiences by the researcher, teachers, parents as well as some studies conducted reveal that most primary and secondary school leavers are either illiterates or semi – literates (Oyetunde, 2002 & Dahl, 1981). This is evident in the fact that many of such pupils cannot cope with the reading demands of the curriculum and with what the society demands from them as literates. This is because in most cases, government at various levels are not concerned about reading skill training programmes and how effective they are or how they are taught, they base success in the education sector on the number of enrolment recorded, not on pupils abilities or achievements in acquiring basic reading skills. Improvement in enrolment rates, however, has not always translated into high - quality education – or even basic learning (Gove & Wetterberg, 2011). In 2010, UNESCO tracked both enrolment and quality in its Education for All Development Index and the data show that Nicaragua, for instance, has 97% enrolment rate but scores below 50% on the quality indicator, no figure was provided for Nigeria.

The researcher was inspired to conduct this study because of lack of methodology by most teachers to teach phonetic awareness to facilitate teaching reading and motivate learners to develop a positive attitude to reading. Most teachers lack the necessary skills and methodology to teach reading. In the few fortunate cases where teachers are able to teach reading successfully, their focus is always on the cognitive aspect, that is the children's ability to read. Little attention is given to the affective aspect, which deals with children's attitude, interest and motivation in learning to read. This explains the reason why many learners develop reading disability. Oyetunde (2002) identifies three factors that make literacy acquisition in English difficult in Nigerian primary schools. One of them is poor methodology. He observed that most Nigerian primary school teachers do not know how to teach reading. They are ignorant of the necessary methods of teaching reading. Teachers

play a very vital role in helping children acquire the basic reading skill and the right attitude to reading. The International Reading Association (IRA 2005:2) stated that, "Every child deserves an excellent reading teacher, because teachers make a difference in children's reading achievements and motivation to read". Here, the emphasis is placed on the importance of a teacher, but instruction methods or techniques chosen can help or hinder a teacher's mode of teaching. An efficient teacher knows how to modify the available method to conform to the strengths and needs of his learners. In view of all this, the researcher is motivated to carry out this study because he has observed with dismay that many schools in the area of study know little or nothing about Phonemic Awareness and therefore place emphasis on book reading as a way of teaching literacy.

Lastly, this study was inspired because of the encounter with public school pupils who grapple to read, especially in the area of study. This is because they lack the knowledge of how sounds work. This applies to most pupils attending public schools across the country and globally.

1.2 Statement of the Problem

Reading skill is no doubt, a very necessary tool that must be leant by pupils to achieve academic excellence. The better the reading skills children have and the earlier they have them determine rapidly and how well they will achieve in school. Most children begin school with the hope to learn to read. Unfortunately, today in our public primary schools pupils are not developing likeness for reading. A lot of them struggle painstakingly as they try to decode words. Such difficulty pupils encounter in the process affects their interest, motivation, self-confidence and subsequent reading achievement, especially at primary four when they are supposed to start learning to read in other subjects. Gove & Wetterberg (2011) state that teaching young children to read is the cornerstone of improving educational

outcomes and has far-reaching implication. Unless they learn to read at early age, children cannot absorb skills that are more advanced and contents that rely on reading, as they cannot decode printed information or follow written instruction. Assessment data of early grade literacy in low-income countries like Nigeria, according to Gove and Cvelich (2010), even though still limited, reveal that many students are not mastering the basic skills of reading. In some countries most of students at the end of grade two cannot read a single word of a simple paragraph in the language they are taught.

Weakness in PA development has been identified as the commonest cause of reading difficulty. This is because the development of PA in pupils in our public schools has received little or no attention. Most schools have very little idea about PA and they attach more importance to other literacy skills such as verbal and book reading skills. Consequently, children who are delayed in phonological awareness tasks are unable to make sense of phonics or phonemic patterns resulting in a deficiency in critical knowledge skills of reading and comprehension.

In addition, teachers lack required competencies to provide PA instruction to children who are struggling readers. There is the need for teachers to understand the connection between PA and reading disability and understand how to implement successful strategies to develop PA among pupils. It is further observed that there is an obvious lack of teacher knowledge in the area of beginning reading instruction and lack of technical knowledge in the fundamentals of teaching reading.

The question that has always come to mind is what is the best approach to use in teaching reading? Scholars did not agree on a particular method or approach as the best. The researcher, in this study, is going to look at the effect of phonemic awareness instruction on

the reading ability of primary four pupils, especially in remediating reading problem among the struggling readers.

1.3 Objectives of the Study

The main objective of this research work is to find out the effects of phonemic awareness instructional strategy on the reading ability and attitudes of primary four struggling readers in Minna Niger state. Specifically, the objectives of this study are to:

1. determine the effects of phonemic awareness instructional strategy on pupils' ability to identify sounds among primary four struggling readers in Minna, Niger State;

2. determine the effects of phonemic awareness instructional strategy on pupils' ability to decode words among primary four struggling readers in Minna, Niger State;

3. examine the effects of phonemic awareness instructional strategy on pupils' ability to read beyond the word level among primary four struggling readers in Minna, Niger State; and

4. assess the effects of phonemic awareness instructional strategy on pupils' reading attitude among primary four struggling readers in Minna, Niger State.

1.4 Research Questions

The pertinent research questions designed for this study are as follows:

1. What is the difference in the mean ability score for identify sounds between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State?

2. What is the difference in the mean ability score for decoding words between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State?

3. What is the difference in the mean ability score for reading beyond the word level between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State?

4. What is the difference in the mean reading attitude score between the students taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State?

1.5 Hypotheses

The following null hypotheses were generated from the research questions to guide the study and tested at $p \leq 0.05$.

1. There is no significant difference in the mean ability score to identify sounds between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State.

2. There is no significant difference in the mean ability score to decode words between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State.

3. There is no significant difference in the mean ability score to read beyond the word level between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State.

4. There is no significant difference in the mean reading behaviour score between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger State.

1.6 Significance of the Study

This study is important because it focuses on teaching reading. Indeed, teaching reading is an area that has stimulated public interest and generated many controversies over the years. Also, the researcher was motivated to choose phonemic awareness, as he has so far not come across any study in this aspect conducted in the area of study in particular and in Nigeria as a whole. Phonemic awareness is a critical pre-reading skill, which is often overlooked. It involves making children aware that words are made up of individual sounds.

This study is very significant because it will provide the learners/pupils with an easy way of understanding how phonemes are manipulated for easy decoding, through activities such as phoneme identification, phoneme deletion, phoneme addition, phoneme substitution, blending and segmentation. The study, will through phonemic activities, enable learners with reading difficulty develop positive attitude towards reading. It is also significant because it will furnish teachers as well as parents with instructional skills of teaching phoneme manipulation to facilitate reading among struggling readers. Teachers are indeed at the centre stage and therefore play the most vital role in the process of teaching reading to the beginners or struggling readers. Furthermore, it will help school administrators in designing a reading programme in their schools that will include phonemic awareness

activities, which are beneficial in facilitating reading ability and promoting positive reading behaviour. Lastly, it will guide education planners and curriculum developers to include phonemic awareness activities that will facilitate reading instruction to learners generally and to struggling readers in particular.

1.7 Scope and Delimitation of the Study

Reading can be taught to primary school pupils through many means. This study covers all the public primary schools in Minna, but is limited to examining the effects of phonemic awareness instructional strategy on reading ability and attitude of primary four struggling readers in Minna, Niger State, Nigeria. The choice of primary four pupils is not unconnected with the fact that pupils at this stage are in a transition stage where they are supposed to have learnt to read and have started reading to learn.

In terms of substance, this study covers issues related to phonemic awareness instruction, its activities, reading disability and reading behaviour. In terms of time frame, the study covers the period of ten weeks. This is to enable the researcher conduct the experiment and come up with a reasonable conclusion

Finally, since the study is quasi-experimental, using pre-test and post- test, limited number of pupils is used to examine the effect properly. The total number of eighty four (84) participants are selected for this study from two randomly selected schools out of the twenty eight public primary schools in Minna and were divided into experimental and control groups.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter has reviewed the works of scholars in the aspect of language awareness development, phonemic awareness, phonemic awareness instruction, stages of phonemic awareness instruction, phonemic awareness and alphabet and sound knowledge, phoneme segmentation and blending, PA Instruction and struggling readers, PA and learners' attitude to reading, motivation in reading, Matthew effects in reading, literacy assessment instruments, review of empirical studies, theoretical framework, gains from the literature review and summary of literature review.

2.2 Development of Linguistic Awareness

Language or linguistic awareness for a learner of an L1 or an L2 refers to explicit knowledge about language and conscious perception and sensitivity in language learning, as well as sensitivity to the forms and functions of language (Carter, 2003). The "language awareness approach" has been developed in context of both second and foreign language learning, as well as in mother tongue education. More recently, the approach has evolved and includes attention to larger stretches of discourse, such as literary discourse (Carter, 2003). Linguistic awareness has also been strongly advocated as an essential component in teacher education (James & Garrett, 1992). Mattingly (1972), as cited in Oloffson, was one of the first researchers who investigated the relationship between children's awareness of language structure and their progress in reading development. According to Mattingly (1972), reading is a language-based skill dependent upon awareness of the primary linguistic activities of listening and speaking. Children start showing a gradual development towards increasing awareness about the formal aspects of the spoken language with first discovering

the word, then the syllable and last, the smaller phonemic units (Lundberg & Torrens, 1978; Nesdale, Herriman & Turner,1984) in Olofsson (1985). This development tends to show a remarkable spurt at around six years of age when most children become aware of the phonemic units of speech (Liberman, 1973).

Thus, linguistic awareness could be a function of some general cognitive development (Bruce, 1964). The fundamental changes around age six, the development of concrete operations and decentering, may cause the rapid development of PA observed at start of school (Watson, 1974). Different aspects of language awareness …of which PA is one … may be viewed as a function of a more general capability of metacognition (Turner & Bowey, 1984: 151). While it seems possible that a certain minimum level of cognitive development is required for the development of PA, other factors are also needed since the illiterate adults in the study of Morais, Cary Alegria & Bertelson (1979) did not spontaneously acquire phonemic segmentation ability. Several analyses have established that general cognitive development is not an important precursor of language awareness (Content, 1985; Pratt & Grieve, 1984).

The two approaches, a linguistic and a cognitive development to language awareness development are to some extent linked (Donalson, 1978). However, reading instruction and reading activity are perhaps the most prominent factors as a causal agentss behind the rapid development of language awareness at the age of school-start (Alegria, Pignot & Morais, 1982 as cited in Olofsson 1985). Learning to read involves learning about the phonetic structure. The child has to learn about sounds when taught to read and write and most reading methods provide the child with some form of instruction about the speech sounds and their relationship to letters. Type of reading instruction has an effect on the development

of PA, with a more phonics-oriented method leading to an earlier development of PA (Alegria, et al., 1982).

Gough & Hillinger (1980) describe learning to read as a task of breaking the cipher or the code, relating written and spoken language. In order to do this, the child must:

1. Recognize the letters (the units of of the cipher).
2. Know the phonetic segments of the spoken words.
3. Understand that this task is to unravel the correspondence between these types of units and finally,
4. The child must have enough data to solve this problem. They also stress that the rules relating to written and spoken words are very complex and to a great extent unknown, so the teacher simply cannot give the child the cipher but only provide a starting point and data.

In summary, the development of linguistic awareness may be explained in three different ways; (1) as a function of general cognitive development, more specifically, related to metacognitive development, (2) as a continuation of normal language development and (3) as a result of schooling or reading instruction.

2.3 Phonemic Awareness (PA)

In alphabetic languages such as English, words are composed of small units of sounds known as phonemes. These phonemes are the units of speech that are represented by the letters of the alphabetic language. Although there is no one definition of phonemic awareness, it is described as an insight about oral language and in particular about the segmentation of sounds that are used in speech communication (IRA, 1998). In other words, it is the understanding that spoken words consist of a series of individual sounds (Ball & Blachman, 1991; Yopp, 1992) which linguists refer to as phonemes. Phonemes are smallest parts of sound in a spoken word that makes a difference in word's meaning. Phonemic

awareness or PA, as it will occasionally be referred to, is literally "sound" awareness. PA is a cognitive skill which involves three elements – the phonological units known as phoneme, explicit and conscious awareness of these linguistic units and the the ability to explicitly manipulate such units (Hoover, 2002; Chabot, 2008). First and foremost, phonemes are the most basic units of speech "that speakers and listeners unconsciously combine and contrast to produce and perceive words in spoken language" (Richards, Poremba & McGee,1996: p. 633). Then to be phonemically aware requires explicit and reflective knowledge about the linguistic unit underlying language (Hoover, 2002). The last element of PA involves the ability to blend, segment and manipulate sounds in the spoken words. Children who have control over the smallest units of speech are considered phonemically aware (Yopp, 1992). It is primarily an auditory skill of distinguishing and recognizing the sound structure of language (Gagen, 2006; Partnership for Reading, 2015). PA is the aspect of metalinguistic knowledge that has received most attention in relation to literacy acquisition. However, other aspects of metalinguistic awareness can be linked to literacy acquisition, such as syntactic awareness, semantic awareness, morphological awareness and pragmatic awareness.

PA helps children understand and use alphabetic principle – an insight that there are systematic and predictable relationships between letters in printed words (or graphemes) and sounds in spoken words (phonemes) and requires an understanding that spoken words can be analysed into their constituent phonemes. Children who are conscious about phonemes can deliberately separate individual sounds in words and associate them with the written letters of the alphabet whereas children without PA may only memorize isolated letter-sound relationships by rote (Griffith & Oslon, 1992). In addition, PA also serves as an indicator of reading disability (Yopp, 1988). Researches have established the efficacy of phonological awareness in improving reading (Al-Otaiba et al., 2009; Carroll et al.,2003; Phillips et al.,

2008) It appears that lack of PA poses a chief obstacle for learning to read (Juel, 1988; Lyon, 1995; Wagner & Torgesen, 1987).

PA is only one critical skill for reading success. It is important to realize that while PA training provides an essential foundational element of reading success, PA alone does not ensure children will learn to read proficiently. Researchers agree that PA is a strong predictor of reading achievement (Adams, 1990; Juel, 1998; Share, Jorm, Maclean & Matthews, 1984; NRP, 2000; Scallon & Vellutino, 1987). However, researchers also found that learning letters and knowledge of letter-sound correspondence are vital to development of phonemic awareness. Wagner Torgesen and Rashotte (1994) conducted a longitudinal study of 244 children from kindergarten to second grade in an effort to examine the reciprocal influence of phonological processing abilities, decoding and letter knowledge. According to their findings, phonological processing abilities influenced the later development of reading and letter name knowledge. Letter knowledge was a significant longitudinal predictor of phonological analysis and synthesis abilities. Burgess and Lonigan (1998) also examined the relationship between phonological awareness and letter knowledge in pre-reading 4 and 5-year old children. They found evidence of reciprocal relationship between the two abilities, with phonological awareness predicting growth in letter knowledge and letter knowledge predicting growth in phonological awareness once age and general language abilities had been taken into account. Treiman and Bourassa (2000) cited in Carroll, Snowling, Hulme and Stevenson suggested that learning letter sound correspondence helps to develop phoneme-based phonological representation. Before children are able to read, they need to be conscious of how sounds in words work. In a number of researches conducted, findings reveal that children with PA skills are more successful at learning to read than those who have not acquired these skills (Bentin & Leshen, 1993; Stanovich, 1986; Al Otaiba, & Grek, 2005; Torgesen & Mathes, 2000).

Adams (1990) states that, "Faced with an alphabetic script, children's level of phonemic awareness on entering school may be the single most powerful determinant of the success he or she will experience in learning to read." Developing readers therefore need to understand the internal structure of words; that words are made up of discrete sounds. Immediately children understand the fact that words can be separated into individual phonemes and that those phonemes can be blended into words, they can use that knowledge of letter- sound relationships to read and build words (Adams, 1990; Chard & Dickson, 1999). What is obvious is that PA concerns the structure of words rather their meaning. To understand the construct of written code, readers need to be able to reflect upon the spelling-sound correspondence.

Often, phonemic awareness is used interchangeably and sometimes confused with phonological awareness. These two are separate but interrelated terms. Snow, Burns & Griffin (1998) distinguish these two concepts, "The term phonological awareness refers to a general appreciation of the sounds of speech as distinct from their meaning. When that insight includes an understanding that words can be divided into a sequence of phonemes, this finer grain sensitivity is termed phonemic awareness." In other words, phonological awareness encompasses phonemic awareness as well as larger units of sounds, such as syllables.

According to IRA (1998), studies and findings in the area of PA are not new to the field of literacy acquisition as many people may think, although it is only in the recent time that it started gaining wide attention. For over fifty years, discussions have continued regarding the relation between a child's awareness of the sounds of spoken words and his or her ability to read. An on-going discussion in the field of literacy is whether PA is a conceptual understanding about language or whether it is a skill. Phillip & Torgesen (2006) were of the view that it is both an understanding and a skill. For example, in order to identify

the phoneme in a word, students must understand that there are sounds at the beginning, middle and end that must be manipulated. They must also possess some skills to be able to complete PA tasks, such as phoneme isolation, phoneme identification, categorization, blending and segmentation.

According to Rosenberg, Torgesen and Mathes (2000) confirmed, from the studies they conducted, the impact of PA when they tested children on the growth of their sight words (word identification) and word attack (phonemic decoding) skills. When they compared those children who began first grade below that threshold, they found that those with higher PA in first grade tested higher for sight words and word attack skills in every grade. The achievement gap in the scores between these two groups of children grew considerably larger starting in third grade and continued to grow dramatically in fourth and fifth grades. Torgesen and Mathes (2000) concluded that those children with sufficient PA had a better understanding of "how words work" and were therefore able to identify and read words by sounding them out. Those students who did not possess sufficient PA skills had to rely on memorizing words by sight. As these children entered second grade, the text they read grew less patterned and less predictable and as a result, their reading skills began to suffer. The previous result proves that the deficit of PA persists over time. If it is not rectified, it will continue to affect reading performance in middle and high school (Fawcett & Nicolson, 1995) and into adulthood (Pennington et al., 1990).

2.4 Phonemic Awareness (PA) Instruction

According to Adams (1990), research indicates that without direct instruction support, PA eludes roughly 25 percent of middle-class first graders and substantially more of those who come from less literacy-rich backgrounds. In addition, these children exhibit serious difficulty in learning to read and write. That is why PA instruction is necessary. PA

instruction can be integrated successfully within pre-school and kindergarten curriculum (Lonigan, Farver, Menchetti, Phillips & Chamberlain, 2005; Lonigan, Phillips & Menchetti, 2006; Phillips & Lonigan, 2005, Phillips et al., 2008), because PA instruction had the largest impact on PA outcome for children in pre-school and kindergarten. It is imperative to understand that PA skills are a means rather than an end. PA skills are essential for aiding learners understand the alphabetic principle. If children cannot identify sounds (initial, middle or final position) or blend sounds together, they are unlikely to develop later reading skills (Shapiro, 2011).

Teachers are very essential in preparing PA instruction. Teachers need to be trained and competent in all the multiple levels of phonological awareness (National Reading Panel, 2000, Phillips et al., 2008). Although studies indicate that early intervention is beneficial, teachers are not adequately prepared to this task (Cunningham et al., 2004, Hanken et al., 2005; Mather et al., 2001; Parette et al., 2009). Similarly, studies have also shown that teachers are not trained at both pre-service and in-service levels to provide early literacy instruction for "at risk" students (Cunningham, Perry & Stanovich, 2004; Mather et al., 2001; Phillip et al., 2008). Most teachers (especially, pre-school teachers) tend to focus on rhyming activities and identifying initial sounds rather than on more productive strategies such as blending and identifying syllable units (Hawken et al., 2005). Lyon (2003) argues that a challenge, which must be addressed, is bridging the gap between research and the ineffective instruction being provided by teachers in classrooms. This may have been due to lack of pedagogical understanding of relevant constructs, curricular materials and not having the motivation to make changes (McCCutchen & Berminger, 1999), as cited in Phillips et al. (2008) and or perhaps due to ineffective pre-service preparation for prospective teachers and on-going in-service (Cunningham et al., 2004; Lyon, 2003; Mather et al., 2001). Changes in teacher's knowledge through professional development and improvement in their knowledge

can lead to sustainable positive changes in practice (Cunningham, 2004; McCutchen et al., 2002). Diamond and Powell (2011) concur with McCutchen et al., (2002), by indicating that promoting professional development for teachers, including coaching may enhance evidence-based instruction in language and literacy for children at risk of reading failure.

MacGee and Ukrainetz (2009) confirm that a body of research in the past several years indicates that early systematic and explicit PA instruction can jump-start emergent and early reader's performance successfully. Irrespective of which strategy is adopted, there are essential aspects of effective PA skills. Many years of study reveal that reading skills can be taught effectively using direct or explicit instruction. Direct or explicit instruction is active, reflective teaching that connects students with written language. Learners do not infer knowledge but receive clear, instructional targets, precise directions, modelling and feedback (Allor et al., 2006).

In order for effective intervention to be achieved, Mather et al., (2001) suggest that teachers should have positive perception on the role of explicit instruction and believe that struggling readers require direct teaching interventions. They recommend that pre-service and in-service training should include:

- An awareness of phonemes and knowledge of how they are represented in writing;
- knowledge of the alphabetic principle and how speech sound relates to print;
- A thorough understanding of the relationship between poor phonological awareness and reading failure; and
- knowledge on how to implement activities in the curriculum to develop phonological awareness.

In essence, ongoing training programme for teachers to improve phonological awareness is vital for children with reading deficit.

The following guidelines can provide the framework for PA instruction. The guidelines are as follows:

1. Analysis of PA assessment data should drive instruction, as only a small percentage of students need explicit instruction (Ehri & Robert, 2006).
2. PA instruction should be a positive, enriching experience that allows students to engage in language play (Yopp, (1992).
3. Effective PA instruction provides for individual differences in abilities and uses leveled scaffolding to facilitate growth (McGee & Ukrainetz, 2009).
4. Developmentally appropriate PA instruction uses charts, poetry, songs and rhyme to engage students' curiosity about language and to develop metalinguistic awareness (Yopp & Yopp, 2000).
5. Effective PA instruction explicitly labels sounds and demonstrates the process of blending-segmenting of sounds (Ehri et al., 2001).

Gibbon (2002) posits that PA Instruction should be implemented from whole to part, from meaningful to non-meaningful form and from familiar to unfamiliar. Equally, the instruction must be embedded in a meaningful learning context. Similarly, the Freemans (2004) raise some concerns about PA Instruction. They are of the belief that PA activities should be taught in context using games, rhymes and songs. They also observe that decontextualizing the activities will make them very abstract.

2.4.1 Stages of Phonemic Awareness (PA) Instruction

Many scholars have differed in their view regarding the order to teach PA skills. There is a general consensus that learners understand larger units of sounds before they learn the smaller units of sounds. However, there is disagreement regarding the exact order of the

stages (Adams, 1990; Adams et al., 1998; Frederick, 2001; Mc Cormick et al., 2002; O'Connor, Notari-Syverson & Vadasy, 1998; Yopp & Yopp (2000).

Adams (1990) identifies five levels of PA. These are: 1) the ability to hear rhymes and alliterations; 2)the ability to do oddity tasks; 3 the ability to blend separate sounds into words and split syllables orally; 4) the ability to segment words orally into the component phonemes, and 5) the ability to manipulate phonemes by deleting or substituting the initial consonants of words. Blevins (1992) summarizes the five levels of PA as follows: 1) rhyme and alliteration; 2) oddity tasks; 3) oral blending; 4) oral segmentation and 5) phonemic manipulation. These levels also constitute the tasks of PA instruction according to her.

Adams et al., in later years, come up with seven stages of PA starting with first stage with involves instruction in listening, that is, familiarizing the children with the need to listen actively before other more advanced skills are taught. The second stage has to do with rhyming skills. The third stage introduces the children to the concept of that language is made up of words and sentences. The fourth stage is concerned with listening for syllables. The fifth stage involves engaging the children in listening for initial and final sounds in a word. The sixth stage has to do with segmenting words into phonemes, the final stage is introducing letters and spellings, while the children apply the skills they have learnt into reading.

Frederick (2001) also identifies five stages, beginning with a focus on rhyming and alliteration to develop the needed auditory discrimination skills. The children are instructed to listen for similarities. The second stage is where the children are instructed to listen for sound units within words. They begin noticing onsets and rimes as well as syllables. They also begin to understand the concept of blending at this stage. In stage three, the children begin to highlight the positions of sounds within a word (initial, middle and final). They are

yet to be exposed to the names of letters, just sounds. In stage four, children begin segment words into sounds. According to Frederick (2001), this stage is the most challenging. In the final stage, the children start to manipulate sounds by deleting, adding rearranging and substituting sounds to create new words. Frederick (2001) also notes that it is not necessary for children to master one stage before moving to another.

Yopp and Yopp (2000) contrive four stages of PA Instruction. The first stage focuses on rhyme. The second focuses on activities related to syllable units. Third, the focus is on onset and rime. Lastly, the activities direct the children to focus on phonemes. At each of the stages, children are instructed to match, isolate, substitute, blend, segment and delete delete sounds. This is what differentiates Yopp and Yopp (2000) view from othes. Children practice the same skills at each stage instead of waiting until the upper stage to begin matching, isolating, substituting, blending, segmenting and deleting sounds.

Finally, the objective of any PA instruction should be geared towards facilitating children's ability to perceive that their speech is made up of a series of sounds (Yopp, 1992). She further stated that it is manipulation and breaking down of spoken language that is of interest. Hence, the focus of activities should be on sounds in the speech and there are numerous ways to manipulate sounds depending on the nature of the task that must be performed. The activities may require the learner to match words with sounds, isolate a sound in a word, substitute sounds in a word or segment a word into its constituent sounds. Each of these tasks is related to PA (Yopp, 1988). PA instruction involves many activities, but there are two most important activities that are most vital in helping children learn to read. These activities are oral blending and segmentation and are the main formats for teaching PA. They are supported by occasional discrimination activities and general word play (Intervention Guide, 2000: 342). Oral blending encourages learners to combine sounds

to make words. Segmentation requires them to isolate sounds from words. Other activities support either discrimination or recognition of particular sounds. These activities include phoneme isolation, phoneme identification, phoneme substitution and phoneme deletion.

2.5 PA and Alphabet Knowledge

There is considerable evidence from different researches that show some level of PA is a necessary condition for learning to read. This means that even though PA is a very essential factor of literacy acquisition, it is not enough in itself. Findings from studies reveal that PA instruction is more effective when it is combined with alphabetic recognition training (Blachman, 2000). Molfese et al. (2011) states that children who are proficient in identifying letters (naming upper and lower case letters, recognizing beginning and ending words sounds) at the beginning of kindergarten, show stronger skill at the end of kindergarten and in first grade in phonological processing and word reading skills compared to their peers who are not when they enter kindergarten. The correlation between children's writing skills and their knowledge of letter identification and letter sound association was determined (Weaver, 2009). Similarly, Sunseth and Bowers (2003) also found significant relationship between naming speed and PA skills. Learners who are deficient in both aspects performed lower in writing tasks. A study by Read, Zhang, Nie & Ding (1986) showed that explicit PA was limited to children learning languages with alphabetic writing system. According to Piasta & Wagner (2010), a child's knowledge of letter names and sound is the best predictor of reading and spelling abilities. Similarly, Chad, Pikulski & Templeton (2000) express that "letters are the building blocks of print. It seems only reasonable that learning to read depends completely on the ability to accurately and rapidly recognize the letters of alphabet and to discriminate each letter from the other, sometimes referred to as orthographic familiarity."

Alphabet or letter recognition involves letter shape recognition, letter name knowledge and rapid letter naming. Letter recognition, specifically, letter naming has historically been used as an indicator of future reading achievement (Snow et al., 1998). Furthermore, in stating the importance of letter recognition, Scallon & Vellutino (1996) reveal that letter knowledge was as strong a predictor on its own as other predictors combined. In fact, "reading scores in tenth grade can be predicted with surprising accuracy based on child's knowledge of the alphabet in kindergarten" (U.S. Department of Health Services, 2003). The basis of English literacy instruction is knowledge of the alphabet. While it is true that decoding instruction is based on letter-sound instruction, the knowledge of letter names provides a common language to discuss letters (Foulin, 2005.) Many letters have more than one sound that they produce and many sounds are produced by more than one letter. Without a consistent language surrounding the symbols of the alphabet, it is more difficult for students and teachers to discuss these letters consistently. This is particularly important when considering spelling instruction because sounds have to be mapped to letters. Letter names also provide a connection between upper and lowercase letters of the alphabet. Teaching the letter name "A" provides a bridge between the symbols of A and a. These connections are critical to build memory networks in the brain for the alphabet.

Letter name knowledge also facilitates letter sound knowledge. Many letter names provide clues to the most common sounds that begin the letter names. For example, the letter name "T" contains the sound /t/, which begins the name of the sound. In these cases, the letter name knowledge provides important background information for children to learn letter-sound correspondence more easily and quickly. It is most unfortunate that this does not apply to all the 26 letters of alphabet. However, even with this these confusions possible, a study conducted by Piasta and Wagner (2010) revealed that children who were taught

letter names and letter-sounds together actually had better letter sound knowledge than the children who were only taught letter sounds.

In addition, letter recognition is known to facilitate word recognition. Studies, which track eye movement during reading, showed that skilled readers attend to almost every word in a sentence and process the individual letters that comprise each word (McConkie & Zola, 1987). From the above explanation, we can see that reading, as described by Just & Carpenter is a "letter-mediated" process rather than a "whole-word-mediated" process, and this process relies on a reader's attention to each letter in a word. From the discussion so far, it is obvious that letter recognition is a critical factors in learning to read, as letters are the most basic units of written language. Beginning readers cannot become skilled readers without the knowledge and understanding of the alphabet (Ehri, 2003). Letter recognition is especially important. It is vital in understanding phonics. The objective of phonics instruction is to teach the alphabetic principle; that there is a systematic relationship between letters and sounds (Chard & Osborn, 1999).

Research conducted in recent time continues to show that phoneme manipulation and phoneme segmentation skills are closely associated with letter knowledge and letter sound knowledge (Gunning, 2000; Mann & Foy, 2003). Two investigations conducted by Carroll (2004) link between letter knowledge and phonemic awareness. The first study evaluated a group of three-four year old children on letter knowledge, receptive vocabulary and phonemic awareness tasks. Results revealed that no child was successful on PA tasks unless he / she knew at least one letter and those children who scored significantly higher on the phoneme completion or phoneme deletion tasks recognized at least four letters correctly. In the second study, another group of four year-year old were provided twenty minutes training in letter recognition for a total of eighteen sessions. The results from this research indicate

that letter knowledge instruction can improve letter knowledge performance and that such knowledge is strongly correlated to the development of phoneme segmentation skills in preliterate children (Carroll, 2004).

The test of letter name knowledge is the most basic of assessment of student's reading preparedness (and risk). Letter name knowledge is a consistent predictor of reading development for native speakers of English and other alphabetic languages (Chiappe, Siegel & Wade-Woolley, 2002). It has also proven to be a useful indicator for non-native speakers (Chiappe, 2006). In the assessment, students were asked to provide the names (not sounds) of all the letters that they can, within a one-minute period. The full set of letters of the alphabet is listed in a random order, 10 letters to a row, using a clear, large and familiar font in horizontal row with each letter presented multiple times. Randomization is used to prevent students from reciting a memorized alphabet – that is, to test for actual automaticity of letter recognition and translation of print to sound (Gove & Wetterberg, 2009).

Nevertheless, beginning levels of PA do not necessarily involve letters. The instruction on PA can be achieved either with or without any letters. This is because PA is an aural / oral skill (Hempenstall, 2003). Sensibility and awareness of the sound structure of spoken words is enhanced mainly through listening and speaking activities. Therefore, initial levels of PA do not entail written letters or words and are exclusive of phonics (Pointdexter & Oliver, 1998; White, 2000). However, as long as basic PA has been established, instruction in PA and phonics appear to be complementary and mutually reinforcing.

The basis of English literacy instruction is knowledge of the alphabet. While it is true that decoding instruction is based on letter-sound instruction, the knowledge of letter names provides a common language to discuss letters (Foulin, 2005.) Many letters have more than one sound that they produce and many sounds are produced by more than one letter.

Without a consistent language surrounding the symbols of the alphabet, it is more difficult for students and teachers to discuss these letters consistently. This is particularly important when considering spelling instruction because sounds have to be connected to letters. Letter names also provide a connection between upper and lowercase letters of the alphabet. Teaching the letter name "A" provides a bridge between the symbols of A and a. These connections are critical to build memory networks in the brain for the alphabet.

2.6 PA and Letter-Sound Knowledge

Letter names are just the beginning in learning to read (Ehri & Roberts, 2006), but a knowledge of letter-sound is indispensable to developing the alphabetic principles. However, because of traditional practices in most of the countries, including Nigeria, the names of most letters are typically learnt before children begin to learn letter sounds (Ehri, 2005). Teaching letter-sound correspondence is very necessary because English is known for its association of multiple sounds with a letter, otherwise described in linguistic term as high orthographic complexity. There are (26) letters but approximately 42 to 44 phonemes (sounds) in English language this number varies depending on dialect (Chard et al., 2000). Knowledge of how letters correspond to sound is therefore very critical skill learners must master to become successful readers (RTI, 2009). Klein (2012) supports this claim and states "once letter symbols are introduced, students should be able to manipulate the sounds within words by using their knowledge of sound /symbol relationships." This is simply because, according to Ehri (2003), students may be able to decode unfamiliar words by using their knowledge of letter- sound correspondence to recall the sound of each letter and then blend those sounds into words.

Letter sound knowledge is taught using phonics instruction. Phonics instruction as well as other labels, such as graphophonemic relationships, letter-sound associations, letter-

sound correspondences, sound-symbol correspondences, sound spelling are used interchangeably depending on scholars preferences (National Institute of Literacy, 2000). Phonics instruction teaches learners the relationships between the letters (graphemes) and sounds (phonemes) of spoken language. Letter sound knowledge also teaches the learners to use these relationships to read and write words by helping them to learn the use of alphabetic principle – the understanding that there is a systematic and predictable relationship between written letters and spoken sounds. This knowledge will help children recognize familiar words accurately and automatically and "decode" new words (National Institute of Literacy, 2000; Chard, Pikulski & Templeton, 2000).

It is clear that letter name instruction should not be overlooked in favour of letter sound knowledge, but it is also important to remember that the basis of decoding instruction relies on letter sound knowledge. With this in mind, letter naming instruction should not be belaboured to the detriment of letter sound instruction. Jones and Reutzel (2012) developed an instructional technique called Enhanced Alphabet Knowledge (EAK) Instruction. This instructional format teaches letter names and sounds along with the written form for each letter in a quick and efficient format with consistent distributed review cycles. Within an EAK format, all 26 letters and sounds are taught within the first 26 days of school and then reinforcement lessons are taught consistently for students who need more time or on frequently confused letters. This study demonstrated significant increases in students performing at benchmark on measures of letter name fluency and a dramatic decrease in at-risk students after receiving EAK instruction.

PA and and letter sound knowledge (phonics) are inextricable. Sometimes confusion sets in concerning the connection that exists between PA and phonics. For phonics to be taught successfully, phonological awareness must be established. Children must be able to

hear and manipulate sounds before they can relate them to sounds (The Research Basis of Earobics, 1999) as cited in Chabot (2008). PA is not phonics although they develop reciprocally as children learn to read. Improvement in one area generally results in a corresponding improvement in the other (Donoghue,2009). Shanahan (2006) expressed that PA and phonics instruction should not be taught separately. He pointed out that NRP (2000) considering studies in which PA and phonics instruction are taught separately was only to determine if each of these forms of instruction was beneficial. It does not mean that it is best to teach them separately. Some programmes of instruction teach PA and then follow it with phonics while others mix. In buttressing the above assertion, Hu (2002) states that successful phonics instruction depends on the development of PA. Phonic skills require the understanding of alphabetic principles. PA helps children understand the principle underlying the alphabetic code (Griffith & Oslon, 1992). Without PA, phonics makes no sense and spelling is learnt by rote (Pointdexter & Oliver, 1998) because children "do not understand what letters and spellings are supposed to represent" (Griffith & Oslon, 1992). Children who lack PA are unlikely to benefit fully from phonics instruction. Hence, the important point to note is to teach PA until students can easily segment words completely and can easily decode words. Decoding practice should be a part of phonics instruction and art of this practice should take place outside of the context of reading textual reading. The reason is for this is that students need to learn to use the letters and their sounds alone to arrive at word pronunciations. Good readers examine every letter and resolve every word (Rayner & Pollatsek, 1989) as cited by Shanahan (2006).

Phonics instruction performs a very interesting role in facilitating spelling. The value of having students attempting to spell words through dictation was seen in several of the studies examined by the NRP (Blachman, Tangel, Black & McGraw, 1999; Bond, Ross, Smith & Nunnery, 1995). Similarly, NRP concluded that invented-spelling activities, in

which students are encouraged to spell words as they think they should be spelt, was supportive of PA development (NICHD, 2000). Phonics instruction provides children with knowledge of the aural pattern and correspondences, while spelling activities provides practice in applying this knowledge through writing. Encouraging children to attempt to spell words based on their sounds is an effective approach to supporting phonics learning. Letter sound knowledge is very instrumental in helping struggling readers who may be at risk for future academic difficulties. To achieve success in children's learning to read, systematic phonics instruction will help. Chard Pikulski and Templeton (2000) describe systematic phonics instruction as "instruction that follows a carefully planned sequence". They also observe that there is no one "correct" sequence for phonic instruction. However, they provide a logical principles that should guide a scope and sequence for teaching phonics. The principles involve:

1. Moving from easier to more difficult instructional activities. For example, introducing the sounds for letters like *m* and *s* early because their sounds can be elongated and emphasized (it is easy to say mmm) as contrasted with the sounds for *t* or *b*, which cannot be held on to.
2. Teaching in a sequence in which most useful information is taught early and less useful information is taught later. For example, teaching the sounds for *t* and *m* before the sounds for *j* and *y* because many more words contain *t* ad *m*.
3. Introducing consonants and vowels in a sequence that permits children to read words.
4. Introducing consonant diagraphs and blends / clusters after single consonants are taught.
5. Providing blending instruction with words that contain the sound-letter relationships that the children are learning.

6. Providing practice opportunities that include new sound-letter relationship as well as cumulative review of previously taught relationships. It is particularly important that children have opportunities to read texts that contain words use recently taught phonics elements – often referred to as decodable texts.

Connecting and manipulation of sounds to alphabetic symbols reinforces PA. A study by Weiser and Mathes (2011) surveyed the evidence related to encoding instruction. Encoding instruction is not limited to teaching spelling but includes explicitly teaching word writing according to their phoneme-grapheme correspondences, building words using manipulatives, and to learn to manipulate phoneme-grapheme relationships to make new words. Evidence suggests that a combination of decoding and encoding instruction during intervention can support grapheme-phoneme recognition, decoding, fluency and comprehension. Some scholars suggest that, although teaching letter-sound correspondence is not required for children to learn PA skills, it may boost PA instruction (Castles et al., 2011).

2.7 Phoneme Segmentation

Phoneme segmentation is one of the most complex skills of PA and should be emphasized in the early grades (Linan-Thompson & Vaughn, 2007; Yopp, 1988). It is also one of the most predictive of later learning skills. Yopp (1988) suggests that the first activity to begin working towards in segmenting activities is to have children segment just the first sound in a word. When working with the segmentation of the entire word, it is best to use words of no more than three sounds. Segmentation tasks are quite difficult for young children and so teachers should keep them as simple as possible (Yopp, 1992). The teacher can guide the children to break a word into its separate sounds, saying each sound as they tap out or count it. For example, the teacher can ask the children to identify how many

sounds are in the word “bag” or “clap.” The children then can separate the sounds as follows:

/b/, /a/, /g/ or /k /, /l/, /a/, /p/. The teacher can ask them to to count the sounds, write them on the board and ask them to read.

2.8 Phoneme Blending

This is one of the most important activities in PA instruction. It simply means to combine separate sounds to form a word. For example, [f-a-t] is put together to form the word “fat.” Segmentation and oral blending complement each other: while oral blending puts sounds together, segmentation separates words into sounds. Blending will provides valuable support for decoding when children begin to read independently (Intervention Guide, 2000).

In oral blending, the teacher engage the children in activities that are designed to help them hear how sounds are put together to form words, and until they develop an awareness of the component parts of words, they have no tools with which to decode words or put letters together to form words (Intervention Guide, 2000). Blending requires children to manipulate individual sounds by combining them to form a word. It helps children master the component parts of words, from syllables down to individual sounds or phonemes.

Blending focuses on hearing sounds through a sequence that introduces the most easily distinguished word parts, then systematically moves to sound blending that contains all the challenges of phonic decoding. It prepares children for phonics instruction by developing an awareness of the separate sounds that make up speech oral blending activities then continue in concert with phonics instruction to reinforce and extend new learning. This

is because the activities that involve blending and segmenting of sounds facilitate emergent and and early readers' decoding and encoding skills (Manyak, 2008).

2.9 PA Instruction and Struggling Readers or Dyslexic

According to some data from recent research by Planty et, al. (2009), since 1980-81 in the United States a larger percentage of children and youth aged 3 – 21 have received special education services for specific learning disabilities than for any other disability type (e.g. autism or developmental delay). A specific learning disability is defined as "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculation" (Planty et, al., 2009: 20). Among these disorders are conditions such as perceptual disabilities, developmental aphasia and dyslexia. In 2006-2007, about 40% of all children and youth receiving special education services in the U.S. had specific learning disabilities (Planty, et, al., 2009).

Furthermore, statistics have shown that approximately 80% of children with language disorder have reading disabilities (Dollaghan, 2009). This data is of great interest to this study as further evidence of the crucial role played by phonological awareness, together with such phonological skills as verbal memory and naming can be found in experimental studies of English-speaking disabled or poor readers. Though, no specific data regarding the area of study in particular and Nigeria as a whole was available for this study. For many, the relationship between phonological processing skills and phonological awareness in particular and dyslexia has dominated reading research literature in the last few decades. Attempts to understand the role of phonological processing deficits as a cause for reading disability has increased the general interest in phonological awareness as well (Gillon, 2004). One approach to reading disorders has investigated the PA abilities of children

identified as having dyslexia, often by comparing measures of their skills to those of their peers who are good readers. Most studies have been carried out with English-speaking population. Findings from these studies (Catts, Gillipse, Leonard, Kail & Miller, 2002; Joanisse, Manis, Keating & Seidenberg, 2000; Mayringer & Wimmer, 2000;Vellutino & Scanlon, 1987; Yap & Van der Leiji, 1993; Duncan & Johnston, 1997; Fawcett & Nicholson, 1995) have shown that the PA achievement of older children who have specific difficulty in reading and / or spelling is significantly inferior to that of their peers. In general, experimental research conducted with English speaking children has demonstrated weak performance in PA in poor readers on a variety of tasks (Gillon, 2004).

Almost all categories of children can benefit from PA instruction, such as "normally developing readers, children at risk for future reading problems, disabled readers, pre-schoolers, kindergarteners, first graders, children in second through sixth grades, children across various socio-economic levels and children learning to read in English as well as in other languages" (NRP, 2000). However, there is category of children for whom PA instruction is specifically critical. An estimated twenty percent of children are affected by a significant lack of PA skills in kindergarten (Honig, 1997; IRA Board of Directors, 1998). These set of children have difficulty learning to decode because they are completely unaware of the fact that spoken language is segmented into phonemic units that are more or less represented in an alphabetic script – into sentences, into words, into syllables and into phonemes. These children are labelled learning disabled or dyslexic, and continue to fall behind their classmates in reading skills (Snider, 1995; Catts & Kambhi, 2005).

Preschool and kindergarten age children are also capable of learning and distinguishing the sound units of their primary language. PA instruction has proven beneficial for developing readers as early as age four and that instruction can have a lasting

effect three years after. First and second graders as well as other struggling readers have been shown to benefit from PA training (Blachman, et al., 1999; O'Connor, Jenkins & Slocum, 1995).

Reading disability may set in as a result of some children starting school without PA, which may be as a result of lack of exposure to English language or to standard English pronunciation, or perhaps as a result of ear infection, hearing difficulty, learning disabilities or other factors (Shaywitz, 2003). Because of that, when formal reading instruction begins, it may be hard for these children to associate sounds with symbols and blend sounds into words. These children need to be identified early so that steps can be taken to teach them what they have not yet learned.

When teachers or parents do not identify early children who need help, they risk delaying the children learning for years. It may be that some children who are learning disable might have caught up had their problems been identified early. Some estimates suggest that approximately 90 per cent of children identified as having learning disabilities lack PA (Stanovich, 1986).

A well-planned PA Instruction added in a remedial programme would help children with reading difficulty learn to read and spell. However, Shriver (2006) has a contrary view. She argued that some researches have indicated that even with PA instruction, disabled readers have difficulty learning how to spell and therefore PA instruction is not effective for improving spelling in disabled readers. Teachers will need to provide struggling or disabled reader with explicit and systematic instruction in PA for them to make significant gains in reading achievement (Snow, Burns & Griffins, 1998).

2.10 Phonemic Awareness and Learners' Attitude toward Reading

Behaviour is a concept that has been defined by scholar from different perspectives because there is some disagreement on how to precisely define it. Behaviour, according to Minton and Khale (2014), "is the range of actions and mannerism made by individuals, organisms, systems or artificial entities in conjunction with themselves or their environment, which includes the other systems or organisms around as well as the (inanimate) physical environment." In other words, it is the response of an organism to stimuli, whether internal or external, conscious or subconscious, overt or covert and voluntary or involuntary. In a biological concept, "behaviour is the internally co-ordinated responses (actions or inactions) of whole living organisms to internal and / or external stimuli (Levitis, Lidicker & Freund, 2009).

There are many things that influence behaviour ranging from internal to external factors (Swacka-Mockzycka, 2015). Internal factors include attitudes, needs, motives, preferences and perceptual processes. Students' behaviour to learning here refers to their positive or negative feelings and dispositions to learning. According to Lovelace and Brickman (2013), some science educators use attitude measures as well as learning measures to arrive at conclusion they draw about the efficacy of the instructional intervention they use. Most studies conducted in the area of PA concentrated on the effect of its deficiency on the cognitive development of the learners. In other words, their ability to read or decode words. More often, the studies are tacit about the affective aspect – how PA Instruction influences the motivation, interest and attitude to learning to read generally. Similarly, it is argued that interest and engagement should also be considered as a significant outcome in literacy instruction as they are "a powerful determinant of the effectiveness of any given literacy

approach and are vital to students' evolving feeling about reading itself" (Strangman & Dalton, 2006).

National Research Council (2012) noted concerning learning science that most researchers focused greater effort on demonstrating the results of classroom intervention on students' intellectual development rather than on their development of "habit of mind and attitudes". Nevertheless, learners' perceptions and attitudes to learning are significant in enrolment and retention (Seymour & Hewitt, 1997; Gasiewski, etal., 2012). Most reading scientists concur that deficit in core linguistic is responsible for poor reading at all ages (Catts et al. , 1999; Shaywitz, 1997 as cited in Moat). The scientists observed that poor readers, irrespective of age, exhibit deficiency in phonological processing and word recognition speed and accuracy (Stanovich & Siegel, 1994; Shankweiler, et al., 1995). To worsen the situation, learners, especially older learners, do not practice reading and avoid reading because it becomes taxing, slow and frustrating (Ackerman & Dyckman, 1996; Cunningham & Stanovich, 1997). This factor makes teaching reading most challenging. They cannot read so they do not like reading. Reading is laboured and unsatisfying so they have little reading experience and because they have not read much, they are not familiar with the vocabulary, sentence structure, text organization and concept of academic "book" language (Moat, 2002).

Similarly, Lowenstein (1997) as cited in Munro attributes reading problem and lack of understanding of disabled gifted learners to lack of understanding of cognitive and affective influences on their learning. In a compilation of the findings of twenty-six studies, Clark (1992) identifies twenty-four characteristics poor readers exhibit, four are related to broad cognitive factors: the gifted underachievers were seen less versatile intellectually, were less planful, had poorer study habit and were less motivated academically. The rest were associated with interpersonal, affective and self-esteem characteristics. In reviewing the

causes of of underachievement, Clark (1992) refers to sources within the learners' personality, the school and the learners' family. It is therefore obvious that causes of poor reading are not restricted to cognitive factors, but also affective. Learners reading habit can be enhanced by changing their attitude to think positively about reading through motivation and developing their interest in reading. This can be achieved through explicit reading instruction like PA Instruction. This is because motivation has a number of effects on pupils' learning and attitude.

2.10.1 Motivation and Learning to Read

Pintrich and Schunk (1996) describe a fundamental shift in the field of motivation, that is the increasing predisposition of motivational psychologist to add cognitive notion and variables in their theory. They concluded that, "explanations of behaviour have moved from stimuli and reinforcement contingencies and instead emphasize learners' constructive interpretations of events and the role that their beliefs, cognitions, affects and values play in achievement situations." Motivation is no longer seen as a reflection of certain inner forces such as instincts, volition, will and physical energy, neither is it seen in strictly behavioural terms as a function of stimuli and reinforcement. The recent approaches focus on the individual's thoughts, beliefs and emotions that are transformed into actions. Accordingly, Pintrich and Schunk (1996) give a process-oriented definition of motivation as "the process whereby goal-directed activity is instigated and sustained." Similarly, Omrod (2008) explains motivation to be something that energizes, directs and sustains behaviour; it gets learners moving, points them in a particular direction and keeps them going. Motivation also reflects in learners' personal investment in cognitive, emotional and behavioural engagements in school or learning activities (Fredrick, Blumenfeld & Paris, 2004; Mach & Meyer, 2004; Reev, 2006). Motivation is a very important aspect and is central to learning (Fluke et al.,

2015; Crotty, 2013). Teacher's skills in motivating learners should be seen as central to teaching effectiveness. Studies on motivation have indicated that learners who are motivated are less likely to drop out and have a more satisfying and engaging learning experience (Fluke et al., 2015). Motivated learners are enthusiastic, eager to work hard, concentrate on the task given, do not require constant encouragement . They willingly confront challenges, and could even motivate others, facilitating collaborative learning. The early attempt to understand the impact of motivation on English language learning stems from the field of social psychology (Gu, 2009).

The motivation of learners greatly affects their willingness to take part in the process of learning. Numerous studies have reported the importance of viewing the concept of motivation as a multifaceted phenomenon. Oxford and Shearin (1994) have examined a number of motivational theories and six variables that influence motivation in language learning (Al-Bustan and Al-Bustan, 2009):

- Attitudes (i.e. sentiments towards the target language).
- Beliefs about self (i.e. expectations about one's attitudes to succeed, self-efficiency, and anxiety).
- Goals (perceived clarity and relevance of learning goals as reasons for learning).
- Involvement (i.e. extent to which the learner actively and consciously participates in the learning process).
- Environmental support (i.e. extent of teacher and peer support).
- Personnel attribute (i.e. aptitude and language learning experience).

With motivation (especially intrinsic motivation), learners are more likely to begin a task they want to do like in reading and are also more likely to continue working at it until they have completed it, even if they are occasionally interrupted or frustrated in the process(Larsson, 2000; Maehr, 1984; Wigfield, 1994). This is because motivation is a strong factor that enables learners to initiate an activity and persist in it. It directs the behaviour of learner to strive towards his goal. Intrinsic motivation develops as a result of factors attached in the task that a learner performs. Learners who are motivated intrinsically engage in activities because they give them pleasure. Learners are likely to develop liking for reading when they are intrinsically motivated through PA activities. Intrinsically motivated learners face given tasks keenly, are ready to learn, and are more likely to process information in effective manner. In early grades, learners show more eager to learn and are more willing to learn new things. But along the way, between grades 3-9, their intrinsic motivation to learn and master school subjects wane (Convington & Mueller, 2001; Lepper, Corpus & Iyengar, 2005; Otis, Grouzet & Pelletier, 2005).

Convington (2011) designed some strategies to connect learners' interest so that they can come close to their learning goal. Some of the strategies include:

1- Organising learning activities around a problem that the learning materials will enable the learners to accurately explain and solve.

2- Connecting learning materials with the non-academic world.

Taking advantages of events the learners are interested in to explore how the teacher field view the issue involved.

3- Bringing in curiosities that learners can use the learning materials to analyse and explain as curiosity is great for intrinsic interest.

In addition, to increase motivation, self-efficacy as a strategy should be employed. It describes the level to which learners feel capable of achieving a task (Bandura, 1993). Self-efficacy is strongly related to motivation (Pajera, 2006). When people are not confident in their ability to carry out or complete a task, they are likely to be less motivated to engage in a task in the first place. Many methods can be adopted to develop learners, self-efficacy. First, to put a learner in a situation where he can successfully complete a challenging task (Schunk & Pajera, 2009). In doing so, learners' self-efficacy is enhanced naturally, allowing them to attempt another task that is within the range of their skill. It should not be too hard that the learners cannot complete successfully. This may adversely affect their confidence and future motivation (Pajera, 2006).

Furthermore, Huitt (2005) suggests a variety of actions that teachers can adopt to enhance learners motivation. These actions are:

- explaining or showing why learning a particular content or skill is important.

- providing some opportunities for learners to choose learning goals and tasks.

- creating and/ or maintaining curiosity.

- providing a variety of activities and sensory stimulations.

- providing games and simulations.

- setting goals for learning.

- relating learning to students' needs.

- helping students develop action plan.

Huitt (2011) emphasized that as a rule, teachers should provide as much of the intrinsic suggestions mentioned above as possible, while recognizing that not all learners will be

appropriately motivated by them. Lack of motivation in reading is likely to cause what Stanovich (1986) termed, “Matthew effects”.

2.10.2 Matthew Effects in Reading

Matthew effects in education was first coined by Walberg and Tsai in (1983), it was Stanovich (1986) who used it in reading. It describes how those who start to read well tend to continue to do so, while those who do not are likely to lag behind. Not only will they not catch-up, but there will also be a widening gap between those who can read well and those who cannot. He cited appropriate evidences that learners who do not make initial progress in learning to read find it more difficult to ever master the process. Stanovich (1986, 1988, & 1993) sketched a model that shows problem with early phonological skill can lead to a downward spiral where even higher cognitive skills are finally affected by slow reading development. Children with a good understanding of phonemic awareness (how words consist of phonemes) are in a better position to understand alphabetic system. Their prompt development of letter-sound correspondence allows them to develop independent reading ability, high level of practice and fluency afterward. On the other hand, children without good phonemic awareness are likely to fall into a downward spiral of achievement in which initial lack of success in reading can develop into a widespread language and cognitive deficits (Ceci, 1991). Large difference in reading practice occurs consequence upon initially low phonological skills and failure to master the alphabetic principle. Worsening this problem of gap experience is the finding that struggling readers are often presented with reading materials that are too difficult for them (Stanovich, 1986). Slow, halting error-prone reading of difficult material, unsurprisingly, affects comprehension, and usually leads to evading reading activities and further disadvantage. Language skills such as vocabulary knowledge, general knowledge, syntactic skills, and possibly even memory, rely heavily on reading for

their development (Stanovich, 1988). These skills affect most areas of the curriculum and hence what began as a narrow deficit becomes progressively larger, amplified by the negative motivational consequences of failure.

While there has been some subsequent support for the Matthew Effect (McNamara, Scissons, & Gutknecth, 2011; Sideridis, 2011), it should be noted that not all researchers support its existence. For example, Protopapas, Sideridis,Mouzaki, and Simos (2011), in their study of reading comprehension, found that whereas the initial gap did not narrow nor did it widen over time. Shaywitz et al. in the 1995 Connecticut Longitudinal Study over 7 years found evidence of a Matthew effect for IQ, but none for decoding skills. Phillips, Norris, Osmond, and Maynard (2002) found considerable fluidity over the six years of elementary school, with 30% of students changing categories (below average, average, or above average) over that period. Morgan, Farkas, and Wu (2011) found a Matthew Effect for maths but not for reading.

2.11 Literacy Assessment Instruments

Many instruments have been designed to measure literacy over time. Different scholars have used most of these instruments for different purposes. Some of these instruments include Dynamic Indicator of Basic Early Literacy Skills (DIBELS), Early Grade Readind Assessment (EGRA) and Test of Word Reading Efficiency (TOWRE). This study will review the above instruments.

2.11.1 Dynamic Indicator of Early Literacy Skills (DIBELS)

Dynamic Indicator of Basic Early Literacy Skills (DIBELS) are a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through sixth grade. They are designed to be short (one minute) fluency measures used to regularly monitor the development early literacy and early reading skills.

DIBELS were developed to measure recognized and empirically validated skills relaed to reading outcomes. Each measure has been thoroughly researched and and demonstrated to to be reliable and valid indicator of early literacy development and predictive of later reading proficiency to aid in the identification of students who are not progressing as expected. When used as recommended, the results can be used to evaluate individual student development as well as provide grade-level feedback towards validated instructional objective.

The DIBELS measures were specifically designed to assess the core components of reading: phonological awareness, alphabetic principle, accuracy and fluency with connected text, vocabulary and comprehension. The measures are linked to one another, both psychometrically and theoretically and have been found to be predictive of later reading proficiency (University of Oregon Center for Teaching and Learning, 2008). Combined, the measures form an assessment system of early literacy development that allows educators to, readily and reliably, determine student progress.

The role of DIBELS as indicators is described in Kaminski, Cummings, Powell-Smith and Good (2008) as follows:

> *DIBELS measures, by design, are indicators of each of the Basic Early Literacy Skills. For example, DIBELS do not measure all possible phonemic awareness skills such as rhyming ,alliteration, blending and segmenting. Instead, DIBELS measure of phonemic awareness, Phoneme Segmentation Fluency (PSF), is designed to be an indicator of a student's progress toward the long-term phonemic awareness outcome of segmenting word. The notion of DIBELS as indicators is a critical one. It is this feature of DIBELS that distinguishes it from other assessments and puts it in a class of assessments known as General Outcome Measures.*

DIBELS were developed based on measurement procedures used for Curriculum-Based Measurement (CBM) by Deno et al. through the institute of Research on Learning Disabilities at the University of Minnesota in the 1970s – 80s (Deno & Mirkin, 1977; Deno, 1985; Deno & Fuchs, 1987; Shin, 1989). Like CBM, DIBELS were developed to be economical and efficient indicators of a student's progress toward achieving an important outcome. Although DIBELS materials were initially developed to be linked to the local curriculum like CBM (Kaminski & Good, 1996), current DIBELS measures were generic and draw content from sources other than any specific school's curriculum.

Finally, DIBELS is an assessment system-designed to assess all students' progress (kindergarten through sixth grade) on the "big idea" of early literacy development in a standardized, time efficient manner. University of Oregon Centre for Teaching and Learning (2008) recommends assessing students at the beginning, middle and end of academic year to allow for timely instructional feedback.

2.11.2 Early Grade Reading Assessment (EGRA)

Early Grade Reading Assessment (EGRA) was developed as a response to the call by international donor agencies and other institutions for the creation of simple, effective and low-cost measure of students learning outcomes (Abadzi, 2006;Chabboti, 2006; World Bank: independent Evaluation Group, 2006). Some analysts even advocated for the establishment of

a global learning standard or goal, in addition to the existing Education for All and the defunct Millennium Development Goals (MDGs) (Filmer, Hasan & Pritchett, 2006).

EGRA is a simple instrument that assesses foundation levels of students learning, including assessment of the first steps students take in learning to read: recognizing letters of the alphabet, reading simple words and understanding sentences and paragraphs. The importance of early is emphasized because of the evidence from several countries indicates the presence of what Stanovich (1986) refers to as a "Matthew effect" in reading acquisition. That is, if strong foundation is not laid and reading skills are not acquired early on, gaps in learning outcomes (between the "haves" and the "have nots" grows larger over time. EGRA is a method-independent approach to assessment: it does not matter how reading is being taught. The measure in EGRA could also be adapted for teachers use in screening of individual students, and with multiple forms that are equated. In addition, EGRA could be used to monitor progress of students within a given instructional programme (Research Triangle Institute [RTI], World Bank & United States Agency for International Development [USAID], 2009; Nigeria Northern Education Initiative [NEI], 2011).

The EGRA subtest measures – including letter recognition, nonsense word decoding and oral reading fluency – have been used to fulfill a diverse range of assessment needs, including screening, diagnostic and progress monitoring purposes. In each case of assessment, the instrument must be adapted to reflect the purpose of the assessment (a critical aspect to consider in constructing and using any assessment tool) (Hasbruck & Tindal, 2006; Kame'unui et al., 2006; Kaminski et al., 2006).

Like all assessments whose goal is to diagnose difficulties and improve learning outcomes, the following points should be considered in order for a measure to be useful:

1) The assessment should be related to existing performance expectations and benchmarks;

2) The assessment should correlate with later desired skills; and

3) It must be possible to modify or improve upon the skills through additional instruction (Linan-Thhompson & Vaughn, 2007). EGRA meets these requirements.

In addition, EGRA is valuable as diagnostic tool precisely because it includes measures of those skills that can be improved (accompanied by teacher support for instruction). The interventions to be evaluated should be related to reading and learning outcomes; it would make little sense to evaluate a programme that cannot be theorized to be related to improving reading outcomes in the primary grades. A complete EGRA was developed for application in English. The resulting instrument contains eight tasks or subtasks, as follows:

1. Letter name knowledge.
2. Phonemic awareness.
3. Letter sound knowledge.
4. Familiar word reading.
5. Unfamiliar word reading.
6. Oral reading fluency with comprehension.
7. Listening comprehension.
8. Dictation.

Six out of the eight sub-tasks are timed. It is also important to note that the instrument and procedures presented in this review have been demonstrated to be reasonable starting point or assessing early grade reading. The instrument should not be viewed as sacred in terms of its component parts. However, it is recommended that variation, whether in the task components or to the procedures, be justified and documented (RTI, World Bank & USAID, 2009). While RTI, World Bank and USAID acknowledged that they understand that different

donor agencies and countries would adapt the instrument to their own needs, it is important that such changes be justified and explained in terms of the purpose and use of the assessment.

2.11.3 Test of Word Reading Efficiency (TOWRE)

Test of Word Reading Efficiency (TOWRE), according to Torgesen, Wagner and Rashotte (1991), is a measure of an individual's ability to pronounce printed words (Sight Word Efficiency) and phonemically regular nonwords (Phonemic Decoding Efficiency) accurately and fluently. Because it can be administered very quickly, the test provides an efficient means of monitoring growth of two kinds of word reading skills that are critical in the development of overall reading ability.

Sight Word Efficiency (SWE) assesses the number of printed words that can be accurately identified within 45 seconds. Phonetic Decoding Efficiency (PDE) on the other hand measures the number of pronounceable printed nonwords that can be accurately decoded within 45 seconds. Each of the two subtests of TOWRE 2 has four alternate forms. The four forms of each subset are of equivalent difficulty and any of the forms of each subtest may be given depending on the purpose of the assessment. If only one of the forms each test is used, the test can be administered in appropriately 5 minutes, including time for directions and practice items.

The TOWRE 2 was normed on over 1,700 subjects ranging in age from 6 – 24 years and residing in 12 states and Washington DC. Over 700 children in the norming sample attended elementary school (through Grade 5), where TOWRE 2 is expected to have its widest use. The average alternate form reliability coefficient (content sampling) for the subtests exceeds .90. The average test-retest (time sampling) coefficient for the same form exceeds .90. The average test-retest (time sampling) coefficient for different forms of the

subtests are .87. The magnitude of the coefficient reported from all the reliability and validity studies presented in the manual provide the examiner with strong evidence concerning the strengths and limitations of the score provided by the test. The TOWRE 2 can be used either as a replacement for or as a supplement to standard diagnostic tests of context-free word reading ability in use. Since its publication in 1999, TOWRE 2 has been widely used in research as a quick and reliable assessment of word-level reading skills in both large and small research populations.

2.12 Review of Related Empirical Studies

According to Yopp (1992), Lundberg et al. (1988) conducted a study where they trained 235 kindergarteners in Denmark. All the children were sampled from a lower socioeconomic background and were six years of age. The training consisted of 15 to 20 minutes daily sessions that lasted the entire kindergarten year from September to May. The aim of the training was to guide the children to discover and attend to the phonological structure of language using exercises and games. A control group of 155 children from different kindergarten class but from the same socioeconomic background was drawn. The control group participated in the typical kindergarten curriculum in Denmark in which social and aesthetic aspects of development are emphasized and formal cognitive and linguistic training are avoided.

All children from both groups were pretested on a series of PA tasks at the beginning of their kindergarten year. Post-tests test given at the end of the year revealed that there was a substantial training effect: Children who had receive PA training progressed in PA significantly more children who had not received such training. Furthermore, this effect was maintained over time. When the children were tested again several months later at the

beginning of first grade, the trained children still performed significantly better than the children in the control group.

What is most interesting is the effect that this training had on the reading acquisition. When these children entered first grade, formal reading instruction was introduced. Eight months into the school year, all children were given a reading achievement test. Those children who had received PA training in kindergarten significantly outperformed those who had not participated in training. In addition, the trained children were superior spellers.

This study is related to the present study because both of them look at the effect of PA on reading acquisition. However, while Lundgerg et al.'s study was carried out using kindergarten pupils as the subjects for the research, the present study uses primary pupils. This study also uses PA as an intervention programme to remediate reading problems. Another study conducted by Berminger, Proctor, De Bruyn and Smith (1988) assessed the validity of a series of tests involving three oral language skills and how they relate to reading skills. The aim of the study was to see if there was a functional relationship between phonemic skills and word decoding. The subjects comprise of fourteen girls and fourteen boys who were randomly selected from a sample of nineteen boys and twenty six girls from a longitudinal study involving reading acquisition. All the children came from a local suburban school in middle-class neighbourhoods in the North-eastern part of the United States. These twenty eight students were given six tasks of oral language at the end of the kindergarten and second time at the end of first grade. Two of these tasks, the Phonemic Level-Receptive Task and the Phonemic Level-Expressive Task, were measures of phonemic analysis. In one test, two words were pronounced and the child identifies whether the initial sound or the final sound of the two words was the same or different. The other test was similar to Rosner's Test

of Auditory Analysis Skills (TAAS) where the child is tasked to pronounce a word (e.g., play) and then asked to repeat it without saying a specific phoneme (e.g., /p/). The other four language tests assessed lexical level and text level. In addition, to test for decoding and comprehension skills, the vocabulary subtests and the comprehension test of the Gates-MacGinite Reading Test were given at the end of kindergarten and at the end of first grade. All the raw scores from the six oral language tests and two reading tests were entered into correlational analysis to see how performance on the variables predicted performance on another variable.

The result showed that the children strong in phonemic analysis at the end of kindergarten did better in word decoding. However, when formal reading instruction was introduced, these same children tended to gain little in phonemic analysis. On the other hand, those children who were average or low in phonemic analysis at the end of kindergarten gained more in word decoding once formal reading instruction began.

In general, this study indicated that a multiple of oral language skills might help in developing learning to read. However, more specifically, Berminger found that the phonemic level of oral language was an extremely important part of acquiring decoding skills in beginning reading. Berminger et al. (1988), in their study discovered that children who were strong in phonemic analysis (e.g., segmenting words into phonemes and into onset / rimes) at the end of kindergarten made great gains in word decoding in first grade. However, once formal reading instruction began, these children improved very little in phonemic analysis skills. On the other hand, children who were low to average in these phonemic skills at the end of kindergarten, made modest gains in word decoding and large gains in phonemic analysis immediately formal reading instruction began. Therefore, PA skills not only played an important role in acquiring decoding skills, but also the results suggested an optimal time

when phonemic analysis skills should be learned and would be most effective in learning to read.

Berming et al.'s study is also related to the present study in the sense that it looks at the relationship between PA skills and word decoding ability. But in Berminger et al.'s, they use multiple oral test to assess the pupils. The study equally used kindergarten children as the subjects for their experiment.

Similarly, Alexander Andersen, Hulman, Voeller and Torgesen (1991) in their study looked at the possibility that phonological awareness training could be useful part in educational intervention programme for dyslexic children. This clinical training study assessed the effects of extended training in phonological aware as part of an intervention programme for dyslexic children with word identification problems. The subjects included ten Caucasian children picked from a general clinic population who had discrepancies between their general intelligence and their word reading and phonological awareness skills. The children had average age of 129 month (10-11 years) and were from middle to upper-middle socio-economic backgrounds. All the children had achieved a Full Scale Intelligence Score above 85. The Lindamood Auditory Conceptualization Test (LAC) (Lindamood & Lindamood, 1979) was used as a pre-test and post-test to assess the children's PA skills before and after the intervention programme. The pre-test and post-test measure of reading skills included the word identification and word attack subtests from the Woodcock Reading Mastery Test (1973). After administering the pre-test, the children were trained by Lindamood and Lindamood. The training sessions were an hour long, four times a week for seven students and four hour per day for six weeks for three of the students. The training ended when the children had completed all the levels of the programme. The ADD programme is a highly structured sequential programme that trains children first in oral

awareness, then in phonological awareness and finally in generalization of these skills to reading and spelling.

At the conclusion of the programme, the scores on the LAC posttest indicated that the ADD programme had been very effective in teaching all ten children phonological awareness skills. Also, the students had made significant gains on both measurements of reading (word identification, $t(9) = 7.5$, $p < .001$, word attack, $t(9) = 5.4$, $p < .001$). Furthermore, these final reading scores were clearly in the normal / average range for children of this age group.

This study particularly looked at the PA intervention programmes for older children with reading problem. Alexander et al. (1991) found that ten-year old dyslexic children made significant gains in word attack and word identification skills after being trained in phonological awareness. This study also relates to the present study, but the present study, despite using PA instruction as a remediating programme, uses a larger number of pupils and a shorter duration to carry out the experiment to see the possibility of making impact within that period.

2.13 Theoretical Framework

This study revolves around scaffolding as teaching process, the theory that develops out of a view of language learning influenced by the work of Vygotsky and Bruner. Vygotsky (1962, 1978) focuses on language as a social and communicative activity. He argues that higher-level skills are the result of the child's learning of social / functional relationships; in becoming literate, children learn the structures and processes inherent in socially meaningful literary activities. In this way, processes that are initially mediated socially become resources available to the individual language user. Interactive events are therefore necessary in learning to read; they involve the child to as an active learner in settings where an adult

provides a systematic structure and sometimes, direct guidance that governs the child's participation in initial reading activities. Children develop their own self-regulatory abilities. Thus, approaches that are at first socially mediated, are eventually internalized and become part of the repertoire of the learner. Similarly, Wood, Bruner & Ross (1976) see the adult / child tutorial relationship as critical to language learning. They use the term "scaffolding" to describe the tutorial assistance provided by the adult who "knows how" to control those elements that is beyond the child's capabilities.

Scaffolding has been defined by Wood, Bruner & Ross (1976) as an "adult controlling those elements of the tasks that are essentially beyond the learner's capability, thus permitting him to concentrate upon and complete only those elements that are within his range of competence." According to Stone (1998), Vygotsky never used the term scaffolding, but emphasized the role of social interaction as being crucial to cognitive development, so that learning first occur at the social or inter individual level. Therefore, when a child learns with an adult or a more competent peer, the learning occurs within the child's Zone of Proximal Development (ZPD). ZPD is defined as the "distance between the child's actual developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance and in collaboration with more capable peers" (Vygotsky, 1978:86). Enabling the learner to bridge this gap, between the actual and the potential, depends on the resources or the kind of support that is provided to the learner.

Phonemic awareness instruction activities could be used as the guide or support that an adult or teacher can use to bridge the gap that exists between the actual level of learner's capability until the learner can read on his or her own. Measures of phonemic awareness instruction are among the best, if not the best predictors of success in learning to read (Adam,

1990; NRC, 1998; Learning First Alliance 1998 & NRP, 2000). PA activities, such as blending and segmenting help the child to decode and spell words. Once the children begin reading, this experience with manipulating sounds will help them use what they know about sounds and letter to pronounce and spell unfamiliar words when they read and write.

One of the most critical aspects of scaffolding is the role of the adult or expert (teacher). The adult not only helps motivate learners by providing enough support to enable the learners accomplish their goals, but also provides support in the form of modelling, highlighting the critical features of the task and providing hints and questions that might help learners to reflect (Wood et al., 1976). In this conception then, the adult's role has perceptual, cognitive as well as affective components (Stone, 1998). A part from the critical role of an adult, the notion of scaffolding involves other important elements of scaffolded instruction (Langer &Applebee, 1986; Palinscar, 1998; Reid, 1998; Stone,1998). These other important elements of scaffolded instruction are:

1.Common goal that is shared. Understanding described as inter-subjectivity (Rogoff, 1990), is of critical importance in scaffolded instruction. Inter- subjectivity refers to the combined ownership of the task between the adult and the child and setting a common goal.

2. Ongoing and adaptive support. Perhaps, the most important feature of scaffolding is the fact that the adult is constantly evaluating the child's progress and providing support that is appropriate for learner (Wood et al., 1976:97). This results in interactions that are different in "content and form from individual to individual" (Hogan & Tudge, 1991) and for the same individual at different times.

3. Dialogue and interaction. A critical factor is the dialogic nature of scaffolding inssteractions, so that the learner isan active participant and a partner in deciding the

direction of the interaction and not a passive recipient. This is evident in PA instruction where learners are engaged in identifying sounds as well as segmenting and blending exercises.

4. Fading and transfer of responsibility is the final feature of scaffolding. This means reducing or shading the support provided to learners so that they are in control and take responsibility for their learning. The best scaffolding will eventually lead learners to internalize the processes they are being helped to accomplish (Rogoff, 1990).

The scaffolds provided are activities and tasks that:

1. Motivate the learner's interest related to the task;

2. Simplify the task to make it more manageable and achievable for the learner;

3. Provide direction to help the learner focus on achieving the goal;

4. Clearly indicate differences between the learner's work and the standard or desired solution;

5. Reduce frustration and risk; and

6. Model and clearly define the expectation of the activity to be performed (National Research Council, 2004).

In the classroom instruction, scaffolds that may be used comprises the use of models, hints, cues, prompts, partial solutions, think-aloud modelling and direct instruction (Hartman, 2002).

Before providing scaffolding, teachers must confirm whether students are cognitively prepared to acquire the new knowledge or skill (Rosenshine & Meister, 1992). Effective scaffolding requires teachers to identify each student's zone of proximal development and then to provide instruction with the appropriate amount of scaffolding (Roehler & Cantlon, 1997). There are many types of scaffolding strategies and various ways they can be

implemented. While investigating the role of scaffolding, Roehler and Cantlon (1997) identified five types of scaffolding. First, they found that teachers provided explanations to enhance what was being learned and when, why, and how the new knowledge could be used. Second, teachers invited the learners to participate. Third, the teachers confirmed and clarified the students' developing knowledge. Fourth, modelling (e.g., think-aloud and talk-aloud) was provided by the teachers. The teachers modelled the thought processes as well as explicitly talking through the steps during an activity. The fifth type of scaffolding was to invite learners to become active learners by having them suggest ideas to help complete the activity. In summary, the teachers invited the learners to participate and contribute ideas, while modelling, providing explanations, verifying and clarifying information when needed, and ultimately reducing the scaffolding, as students were able to take on more responsibility (Roehler & Cantlon, 1997).

The need to use scaffold as mentioned above, arises when a teacher realises that a learner is having difficulty in understanding a task or concept. Scaffolding is usually employed between the instructor and the learner, but could as well effectively used by a whole dlass. Ellin and Larkin (1998) as cited in Larkin recommend a simple structure of scaffolded instruction as follows:

1. The instructor models how to carry out a difficult learning task. For example, the instructor may identify and model the pronunciation of some sounds he desires the learners to learn.

2. The instructor and the whole class work together to perform the task. After modelling the pronunciation or identifying the sounds, the instructor together with the whole class pronounce the sounds or identify them.

3. The teacher pairs the learners or divide them into small groups to work together, for example, like the task of identifying and pronouncing sounds.

4. This is the stage where the learners practice independently. The individual learners can demonstrate their mastery of the task. For example, by identifying and pronouncing sounds alone. This can be demonstrated in a diagrammatical form:

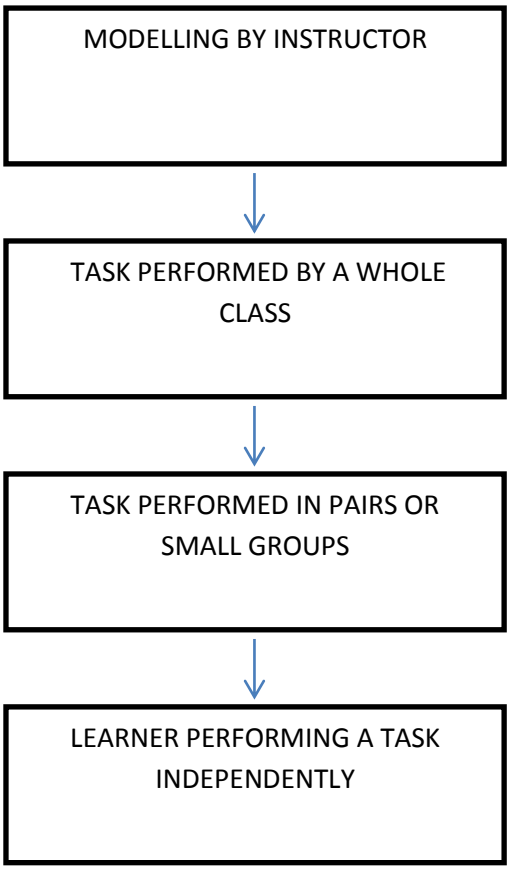


Figure 2.1 Structure of Scaffolded Instruction as suggested by Ellis and Larkin 1998

In conclusion, support by an adult or teacher becomes scaffolding only when it is adaptive, based on an ongoing diagnosis of children's learning and helps them to eventually, internalize the knowledge and skills when the adult remove the scaffolds. PA instruction activities enable both the teacher and students to set and work towards achieving a common goal. The teacher also has the opportunity to regularly assess the progress of the children and

provide them with the necessary supports they may require. PA instruction is interactive in nature and engages the learners actively in various activities, such as segmenting and blending sounds and at the end of the activities, the learners are able to read or decode words without teacher's support.

2.13.1 Scaffolding and Phonemic Awareness (PA)

Scaffolding is a process that has been adopted by many scholars as instructional method in many aspects, particularly those related to related to literacy instruction, including reading (Graves et al., 1996), writing (Wollman-Bonilla & Werchadlo,1999), oral language (Hadaway, Vardll & Young,2001) and even when choosing appropriate text for students (Brown, 1999/2000) as cited by Wicklund (2004).

A study conducted by Ukrainetz, Cooney, Dyer, Kysar and Harrison (2000) shows that scaffolding could be used in PA Instruction successfully (Wicklund, 2004). They examined the effects of teaching PA Instruction based on shared reading and writing. Children with lower levels of literacy participated in seven weeks of small group "sound talks" where books were read, writing activities carried out and students discussed about sound segmentation and deletion as well as initial and final sounds and rhyming, all using appropriate scaffolding. Physical scaffolding was provided in form of printed letters and manipulative. Social scaffolding in form of teacher modeling and imitation was also provided. The scaffolding technique was adopted depending on the needs of the students. Ukrainetz et al. (2000) observed that treatment group showed significant improvement in all four tasks (initial, final sounds, segmentation and deletion). It is therefore obvious that effective use of scaffolding methods can facilitate PA Instruction (Ukrainetz et al., 2000).

2.14 Gains from the Literature Review

A lot of sources and authors have been consulted in collecting relevant information that is related to the present study. Most of the data gathered have been borrowed for the present study and duly cited. Below is at a glance gains from the literature reviewed presented in Table 2.1.

Table 2.1 The Gains from the Literature Review

S/no	Authors reviewed	Aspect reviewed	Aspect applicable to this study
1.	Alegria et al., as cited in Oloffson, 1985	Agents of the rapid development of language	Reading instruction and reading activity as causal agents of language development
2.	Ball & Blachman, 1991; Yopp, 1992	Decoding	Steps in breaking the cipher
3.	Bentin & Leshen, 1993; Stanovich, 1986; Torgesen & Mathes, 2000; Adams, 1990, Chard & Dickson, 1990	PA and sound	Relationship between PA and letter sound knowledge
4.	Blachman, 2000; Molfese, 2011; Weaver, 2009; Piasta & Wagner, 2010	Letter Knowledge	Relationship between PA and letter knowledge
5.	Carter, 2003	Linguistic awareness	Advocating linguistic awareness in teacher awareness
6.	Catt et al., 2002; Joanisse et al., 2000; Mayringer & Wimmer, 2000, Vellutino & Scallon, 1987; Manis et al, 2000;Yopp & Van der Leiji, 1997; Fawcett & Nicholson, 1995	PA and reading disability	Findings from studies showing that PA achievement of older children having reading difficulty is inferior to that of their peers
7.	Dollaghan, 2009	Language disorder	Connection between language disorder and reading disability

8.	Ehri & Robert, 2006; Yopp, 1992; Ukrainetz, 2009; Yopp & Yopp, 2002; Ehri et al., 2001	Framework for PA instruction	Guidelines for providing PA instruction framework
9.	Fawcett & Nicolson, 1995; Pennington et al., 1990	Deficit in PA	Deficit in PA adversely affect children even into adulthood
10.	Gough & Hillinger, 1980	Breaking the cipher	Steps in breaking the cipher
11.	Griffith & Oslon, 1992; Pointdexter & Oliver, 1998	PA and phonics instruction	Relationship between PA and phonics instruction
12.	Griffith & Oslon, 1992; Adams, 1990; Juel, 1998; Share et al., 1984; NPR, 2000; Scallon & Vellutino, 1987	Phonemic awareness	PA as predictor of reading ability
13.	Gunning, 2000; Mann & Foy, 2003	Study conducted on letter knowledge	Letter identification and letter sound knowledge enhance phoneme manipulation and phoneme segmentation skills
14.	Henpenstall, 2003; Pointdexter & Oliver, 1998; White, 2000	PA as oral skill	PA skill can be taught with or without teaching letters
15.	Hoover, 2002	PA as a cognitive skill	Elements of PA as a cognitive skill
16.	International Reading Association, 1998	Phonemic awareness	Definition of phonemic awareness
17.	International Reading Association, 1998	Studies in the field of PA	Findings in the area of PA are not new to literacy acquisition
18.	Intervention Guide, 2000; Manyak, 2008	Blending	Blending provides valuable support for decoding
19.	Langer & Applebee, 1986; Palinscar, 1998, Stone, 1998	Features of scaffolding	Role of adult in scaffolding
20.	Linan-Thompson & Vaughn, 2007, Yopp, 1998	Phoneme segmentation	Predictive power of phoneme segmentation skill in later learning skill
21.	Lonigan et al., 2005; Lonigan et al., 2006; Phillip & Lonigan, 2005; Phillip et al., 2008	PA instruction	Integrating PA instruction into school curriculum

22.	Mattingly, 1972 as cited in Oloffson, 1985	Developing language awareness	Relationship between children's awareness of language structure and reading success
23.	McGee & Ukrainetz, 2009	Pre-service and in-service training of teachers	Certain aspects of PA to be included in pre-service and in-service teachers training
24.	National Institute of Literacy, 2000; Chard et al., 2000; Shanahan2006	Phonics instruction	Relationship between letters and sounds
25.	National Reading Panel, 2000; Phillip et al., 2008	Role of teachers in PA instruction	Need to train teachers on PA instruction
26.	Rayner & Pollatsek, 1998 as cited in Shanahan, 2006; Blachman et al., 1999; Bond et al., 1995; NICHD, 2000	Phonics instruction and spelling	Phonics facilitates spelling
27.	Richard et al., 1996; Partnership for Reading, 2015, Gagen, 2006	Phoneme	Meaning of phoneme
28.	Rogoff, 1990	Elements of scaffolding	Importance of sharing a common goal between adult and learner
29.	RTI, 2009; Klein, 2012; Ehri, 2003	Letter sound knowledge	Significance of letter-sound correspondence
30.	Snow et al., 1998, Scallon & Vellutino, 1996; US Department of Health Services, 2003	Significance of letter knowledge	Letter knowledge is as strong a predictor of reading success as other predictors
31.	Stone, 1998	Zone of Proximal Development (ZPD)	Meaning of Zone of Proximal Development (ZPD)
32.	Treiman & Bourassa, 2000 as cited in Carrol et al.,	PA and sound knowledge	Relationship between PA and letter-sound knowledge
33.	Wagner et al., 1994; Burgess & Lonigan, 1998	Longitudinal study	Reciprocal influence of PA, decoding and letter knowledge
34.	Wood et al, 1976; Hogan & Tudge, 1991	Features of scaffolding	Evaluating child's progress and providing appropriate support
35.	Yopp, 1988	PA activities	PA instruction involves

			many activities
36.	Yopp, 1992	Objectives of PA activities	What children's ability should be geared towards
37.	Yopp, 1992	Phonemic aware children	To be phonemic aware children must have control over the smallest unit of speech

2.15 Summary of Literature Review

In this chapter, the researcher has reviewed various literatures, looking at scholars different perspectives and views on phonemic awareness PA and other related aspects such as: PA instruction, stages of phonemic awareness instruction, phonemic awareness and alphabet and sound knowledge, phoneme segmentation and blending, PA Instruction and struggling readers, PA and learners' attitude to reading, motivation in reading, Matthew effects in reading, literacy assessment instruments, review of empirical studies, theoretical framework. Throughout the period of compiling this literature review, the researcher has not come across any study on PA conducted in Nigeria. This is the gap this study intends to fill.

CHAPTER THREE

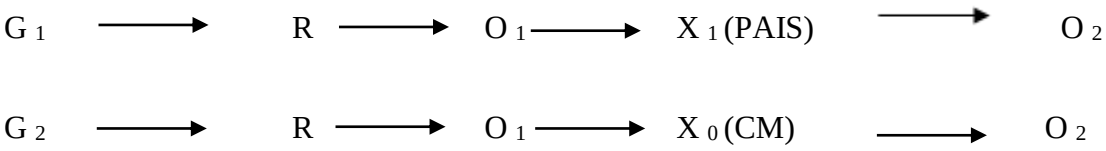
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology for conducting this study. The study examines the effect of phonemic awareness instruction on the reading ability of primary four pupils in Minna, Niger State. The procedures followed include the research design, the population of the study, sample and sampling technique, instrument used for data collection, pilot study, validity and reliability of the instrument, data collection procedure and statistical data analysis procedure.

3.2 Research Design

In this study, the researcher adopted quasi-experimental design using non-equivalent control groups measures of pre-test and post-test. The experimental group was compared with the control group. Test was administered to the two groups before the treatment (pretest) and after the treatment (posttest) to determine the same entry point. The experimental group was given treatment using phonemic awareness tasks, while the control group was taught using the conventional method of instruction to see whether the treatment has any effect on the reading ability of the pupils or not. This is diagrammatically presented below:



G 1: Experimental group

G 2: Control group

R: Randomly assigned to groups

O 1: Pre-test

O 2: Post-test

X 1: Treatment using PA Instruction tasks

X 0: Treatment using the Traditional Instruction method

Figure 3.1 Research Design as Adapted from Heffner, (2014)

3.3 Population of the Study

All the primary four pupils enrolled for 2014/2015 academic session in public primary schools in Minna town constitute the population for this study. According to the Planning, Research and Statistics (PRS) section of the Department of Education, Chanchaga Local Government Area Minna, the total enrolment for primary school for 2014/2015 session was 33,236 across all the twenty eight (28) public primary schools in Minna. The total population of primary four pupils across the 28 schools is 5,139. The total number of male is 2,536, while the total number of female is 2,603. Table 3.1 shows the total number of male and female primary four pupils in the area of study and the grand total.

Table 3.1 Population Distribution of the Study

Total no. of Boys	2,536
Total no. of Girls	2,603
Grand Total	5,139

PRS Section of Education Department of Chanchaga LGA (2015).

3.4 Sample and Sampling Techniques

This study sampled two classes from the two selected primary schools that were randomly selected. The two schools are 123 Primary school and IBB Primary school. Purposive sampling was adopted to select the two classes from each school, since students were assigned to classes based on their performance and these two classes were the ones considered to have reading problems. Primary four pupils were used because in that grade, any pupil who could not read well enough or fast enough is considered to be a struggling reader. Another reason is because at that level, they are not supposed to be learning to read. 123 Primary school was assigned to the Experimental Group, while IBB Primary school was assigned to the Control Group through random sampling.

The experimental group has a total number of 39 participants and the control group has 45 participants. In total, there are 84 participants out of 5,139 pupils. The difference in the number of participants in the two groups was because these are the numbers of pupils in each class and the researcher wishes to use a whole class in each of the selected schools. This number is justified going by Central Limit Theorem (CLT). Smith and Wells (2006)

opine that, "a sample of 30 will produce an approximately normal sampling distribution for the sample mean from a non-normal parent distribution." In addition, they buttress this claim stating that for large samples (n > 30)× is approximately normally distributed. This is also in accordance with the view of Wallen and Fraenkel (2000) who suggested that thirty (30) participants are ideal for experimental design. Equally, Borg and Gall (1979) opine that in a causal comparative and experimental research, it is desirable to have a minimum of fifteen (15) participants in each group to be compared. Table 3.2 shows the sample of the study.

Table 3.2 Samples Size of the Study

Groups	NO
Experimental Group	39
Control Group	45
Total Samples	84

Head Teachers' Records of the Various Schools, 2015.

3.5 Research Instruments

The instruments for data collection in this research are adapted of Early Grade Reading Assessment (EGRA) to test some of the cognitive components of PA and interview checklist to measure the attitudinal aspect. EGRA is a tool used to measure pupils' progress towards learning to read and has been used to examine the gaps in reading competencies among the students and is a well-known example of reading assessment in developing countries like Nigeria (Wagner, 2011). It also has reasonably common approach grounded in core skills while at the same time it is flexible in its design… (Gove & Wetterberg, 2011).

EGRA is suitable for students of kindergarten through grade 3 and could as well be used to cater for struggling readers above these grades as in the case of this study.

EGRA has developed eight (8) subtasks out of which this study has adapted five for the purpose of this research. The original EGRA subtasks are concept about prints, phonemic awareness, oral vocabulary, letter identification (letter name and sound), syllable reading, familiar word reading, oral reading fluency with comprehension, listening comprehension and dictation. This study adapted tests in sound identification and word decoding as well as expanded it by introducing phrase-reading test, sentence-reading test and passage reading test (which was termed reading beyond word level). This is to examine the pupils' ability to read connected texts and not only isolated words.

The second instrument is interview checklist. This tool allows the study to gather information and to make judgements about what pupils know and can do in relation to the outcomes. Checklist and other assessment tools such as rating scales and rubrics offer systematic ways of collecting data about specific attitudes, knowledge and skills. The purpose of this instrument is to provide samples of criteria for pupils prior to collecting and evaluating data on their work, record the development of specific skills, strategies, attitudes and behaviours necessary for demonstrating learning and clarifying pupils' instructional needs by presenting a record of current accomplishment.

3.6 Scoring Procedure

The scoring procedure adopted in scoring EGRA adapted test is in line with the procedure employed by Nigeria Northern Education Initiative [NEI] (2011). The assessment was able to determine the number of letters and words children were able to read correctly per minute. The scores were classified as 0, for those who were unable to read any letter, then 1-35 correct letters per minute (CLPM), 36-50 CLPM and above 50. In decoding words, it is

also classified as 0 correct word per minute (CWPM), 1-25 CWPM, 26-50 CWPM and above 50 for those who finished before 60 seconds.

The scoring for the atttude scale was graded into two: positive and negative. On the interview checklist, there are four responses: strongly agreed (SA), agreed (A), disagree(D) and strongly disagreed (SD) which were numbered 4-1 accordingly. Those who choose strongly agreed and agreed are grouped as responding positively and those who choose disagreed and strongly disagreed are termed negative responders. The responders with the average score of 3.50-4.00 are strongly agreed, 2.50-3.49 as agreed, 1.50-2.49 as disagreed and 0.00-1-49 as strongly disagreed. This is shown in the table below:

Table 3.3 Scoring for Pupils' Reading Attitude

RESPONSE	SCORE	RANGE
SA	4	3.50-4.00
A	3	2.50-3.49
D	2	1.50-2.49
SD	1	0.00-1.49

The table above shows the scale for scoring reading attitude test on the interview-checklist for the pupils.

3.6 Data Collection Procedure

The following procedures were followed in collecting data for the study:

1. The researcher interacted with the two research assistants and trained them on the use of phonemic awareness instructional strategy and interview checklist. The teacher for the control group was to use the conventional method. The two research assistants were judged comparable in teaching ability on the bases their qualification, which is Nigeria Certificate in Education and that both of them teach primary four pupils.

2. The participants in both control and experimental groups were given pre-test to ensure they are at the same level of reading ability.

3. The reading attitude of participants in both groups were examined before the treatment using the interview checklist.

4. The two research assistants commenced the treatment of the groups using their respective methods.

5. The teachers conducted the treatment three days in a week – Mondays to Wednesdays, for at least forty minutes per each session.

6. The treatment lasted for eight weeks. During the period of the treatment, the participants in experimental group were engaged in activities such as letter naming and identification, sound identification and pronunciation, phoneme isolation, phoneme substitution, phoneme deletion and addition, phoneme segmenting and blending. The participants in the control group were engaged in the traditional reading activities such as text reading.

7. After the treatment, the pupils were given a post-test and re-evaluated about their reading attitude using interview checklist to determine whether there is improvement in their reading attitude or not.

3.7 Pilot Study

A pilot study was conducted at Centre for Islamic Studies Kpakungu, Minna using ten pupils, both boys and girls. This is done in order to determine the reliability of the research instrument. Though EGRA instrument has been confirmed to be reliable, the adjustment done to it for this study requires that it is pilot tested to ascertain whether it is reliable or not. William and Stephen (2005) stated that a pilot study is important in a research design and it is a normal practice before an actual study.

In the pilot study, the pupils were given pre-test on sound identification, word decoding, reading beyond word level, which involves phrase reading, sentence reading and passage reading exercises. Interview-checklist was also used to determine its reliability to measure the pupils attitude to reading. After five weeks of treatment using phonemic awareness instructional strategy, the same test was given to the same group of pupils to determine the reliability and validity of the instruments. The test-retest method was adopted to determine the stability of co-efficient of the instruments. Test-retest method was used to analyse the data using SPSS. Pearson Product Moment Co-efficient reliability score of 0.74 and 0.47 respectively were obtained for EGRA and interview-checklist. The pilot test revealed the need to teach the pupil activities on sounds and blending for a longer period. This explains the reason why the duration for the experiment was extended from the eight weeks that was proposed initially to ten weeks.

3.8 Validity

The instruments used in this study, the adapted EGRA and the interview-checklist for measuring attitude were tested and found to be valid in both face and content validity. The face validity of the instruments was certified by two senior lecturers of the Department of Arts and Social Science Education at Ahmadu Bello University, Zaria, as well as the two teachers used in conducting the research after scrutinizing them. Of the two lecturers, one was the supervisor of the researcher and the other, a statistician. They both studied the instruments and certified that the instruments can measure what is required. As for content validity, the aspects adopted in the EGRA instrument are part of the original EGRA, while the interview-checklist examined the interest and motivation of the respondents.

3.9 Reliability of the Instruments

The data collected from the respondents of the pilot study was collated and subjected to the statistical analysis using Pearson Product Moment Coefficient (PPMC) for the purpose of establishing the reliability of the instruments. Test –retest method was used to determine the reliability index of the instruments. The test-retest were conducted at five weeks interval, though atleast two weeks was recommended by Rubin and Babbie (2005). Based on the data obtained from the pilot testing, the reliability coefficient for EGRA was r= 0.74, while reliability coefficient for behaviour scale questionnaire was r = 0.47. This indicated that the instruments were reliable and thus could be used for the study. This coefficient is closer to 1.0, which conforms to the reliability specification for test instrument which states that if a reliability coefficient is between 0.5 and 1, the instrument is considered reliable and fit for study (Spiegel, 1992; Stevens, 1986).

3.10 Data Analysis Procedures

Data for this study were analysed qualitatively and quantitatively. Both the descriptive and inferential methods of data analysis were employed. The descriptive statistical tools used include frequency table, simple percentages, mean, standard deviation and bar charts. The inferential statistical tool used is the t-test. To this end, the data gathered from this research was analysed to answer the research questions and test the research hypotheses. Analysis of the research question was conducted using descriptive statistics while the hypotheses were tested using independent sample of students't-test at significance level of $P \leq 0.05$.

3.11 Summary

This chapter discussed the methodology of the study among the things discussed were the research design, population of the study, sample and the sampling technique, instrument of the study, scoring procedure, data collection procedure, pilot study, validation and reliability of the instrument.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the data analyses, interpretations and discussions of the findings of the study. The research questions and hypotheses were analysed using descriptive and inferential statistics respectively. In addition, the findings from the study were presented and discussed under the following headings: Descriptive Data Presentation; Answering the Research Questions; Null Hypotheses Testing; Summary of the Major Findings; and Discussion.

4.2 Descriptive Data Presentation

This section uses descriptive statistics to present primary four struggling readers' scores and performances in tasks tested in both the experimental and control groups during pre-test and post-test. The tasks are sound identification, decoding words, reading beyond word level and the learners reading behaviour. Tables and bar chart were used to present the results.

4.2.1 Pupils' Performance in Pre-Test and Post-Test

Here pupils' scores in identifying sounds, decoding words and reading beyond word level tests in pre-test and post-test were discussed. The scores are presented in Table 4.1 below:

Table 4.1 Performance of Pupils in Pre-test and Post-test for Control and Experimental Groups.

Score	SI Test (%)				WD Test (%)				RBWL Test (%)				Remark
	Control		Exp.		Control		Exp.		Control		Exp.		
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
0	100.0	15.5	100.0	5.0	73.3	31.0	69.2	7.7	66.7	26.7	74.3	10.2	Low
1-25	0.0	55.5	0.0	35.8	26.7	48.9	25.7	33.3	33.3	51.1	20.5	38.4	Low
26-50	0.0	28.9	0.0	30.7	0.0	20.0	5.1	46.0	0.0	22.2	5.1	38.4	Average
50above	0.0	0.0	0.0	28.0	0.0	0.0	0.0	12.8	0.0	0.0	0.0	12.9	High

Source: Statistical Package for the Social Sciences output as indicated in Appendix G

The result reported in Table 4.1 showed that during pre-test, both experimental and control groups scored zero in sound identification test. In the post-test among the control group, 15.5% still scored zero, 55.5% identified 1-35 sounds, 28.9% identified 36-50 sounds and none identified above 50 sound, while in the experimental group at post-test, 5.0% were unable to identify a single sound, 35.8% identified 1-35 sounds, 30.7% identified 36-50 and 28.0% identified above 50 sounds. This indicated that more than half of the pupils in the control group were low achievers in sound identification where in the experimental group, there was a remarkable improvement among the pupils. This is as a result of instructions the pupils received in sound pronunciation and identification. Their poor performance in the pre-test was because they lacked knowledge of sounds. This is necessary because nothing seems to be happening at the the pre-test level.

In word decoding test, in pre-test, 73.3% of pupils in control group scored zero, 26.7% read 1-25 words, and none could read 26-50 words and above, while in post-test, 31.0% could not decode any word among the pupils in control group, 48.9 decoded 1-25 words, 20.0% decoded 26-50 words and none scored above 50 words. The experimental

group in the pre-test, 69.2% scored zero, 25.7% scored 1-25, 5.1% read 26-50 words and none read above 50 words. However, in the post-test, 7.7% scored zero, 33.3 read 1-25, 46.0% read 26-50 words and 12.8% read above 50 words. This indicated that only about 20% scored average in this test among the pupils in the control group after the treatment and about 50% of pupils in the experimental group scored average and above. This is as a result of instructions they received in sound manipulation activities, such as segmenting, blending, isolation and deletion.

The result of the test for reading beyond word level or connected text as shown in Table 4.1 indicated that the scores of pre-test for control group revealed that 66.7% scored zero, 33.3% scored 1-25 and none scored 26-50 and above, while in post-test, 26.7% scored zero, 51.1% scored 1-25, 22.2% scored 26-50 and 0% scored above 50. The result of experimental group in pre-test shows that 74.3% could not read a single word correctly, 20.5% read 1-25 words, 5.1% read 26-50 and 0% scored above 50. The post-test result shows improvement as 10.2% scored zero, 38.4 scored 1-25, 38.4% also scored 26-50 and 12.9% scored above 50. This result sshows that about 22% of pupils in the control group performed average in reading connected text while more than half of the pupils in the experimental group have an average performance. The result in Table 4.1 is also shown in the figure 4.1 below.

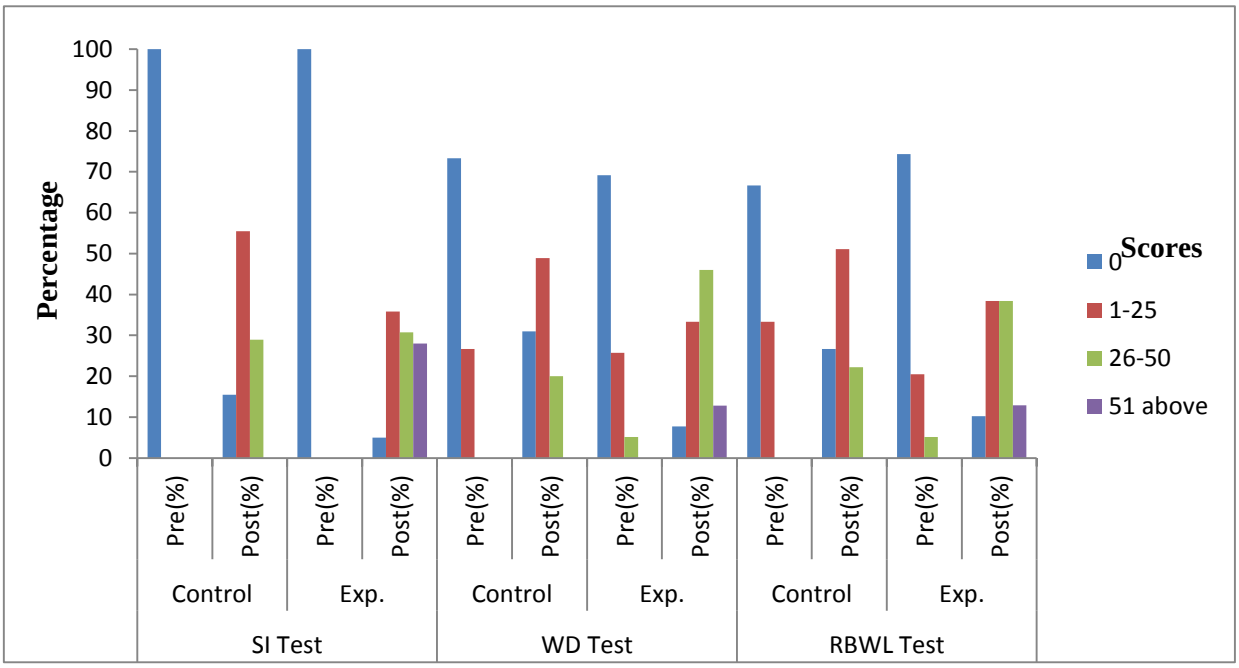


Figure 4.1 Pupils' Performance in Pre-test and Post-test Source: Statistical Package for the Social Sciences output as indicated in Appendix G

4.2.2 Pupils' Reading Behaviour

This section presented and discussed the reading behaviour scores of primary four struggling readers in Minna, Niger state. The result is reported in Table 4.2 below.

Table 4.2 ***Pupils' Reading Behaviour***

	Positive Pre	%	Positive post	%	Negative pre	%	Negative post	%
EXP.	6	30	10	50	14	70	10	50
CTRL	7	35	10	50	13	65	10	50

Source: Statistical Package for the Social Sciences output as indicated in Appendix G

The result reported in Table 4.2 indicated that at pre treatment, 30% of the pupils in the experimental group had shown positive reading behaviour score, while 70% demonstrated negative reading behaviour. In the control group, 35% of pupils exhibited a positive reading behaviour and 65% showed a negative reading behaviour. At post treatment, among the experimental group, 50% displayed a positive reading behaviour, and 50% revealed a

negative behaviour towards reading. The control group also in post treatment showed that 50% of pupils have demonstrated positive reading behaviour while 50% also showed negative behaviour. This has shown that there is a remarkable improvement in pupils' reading behaviour after treatment from both experimental and control groups. Irrespective of the improvement, half of the pupils still exhibit negative behaviour toward reading in both groups. This is also presented in Figure 4.2 below:

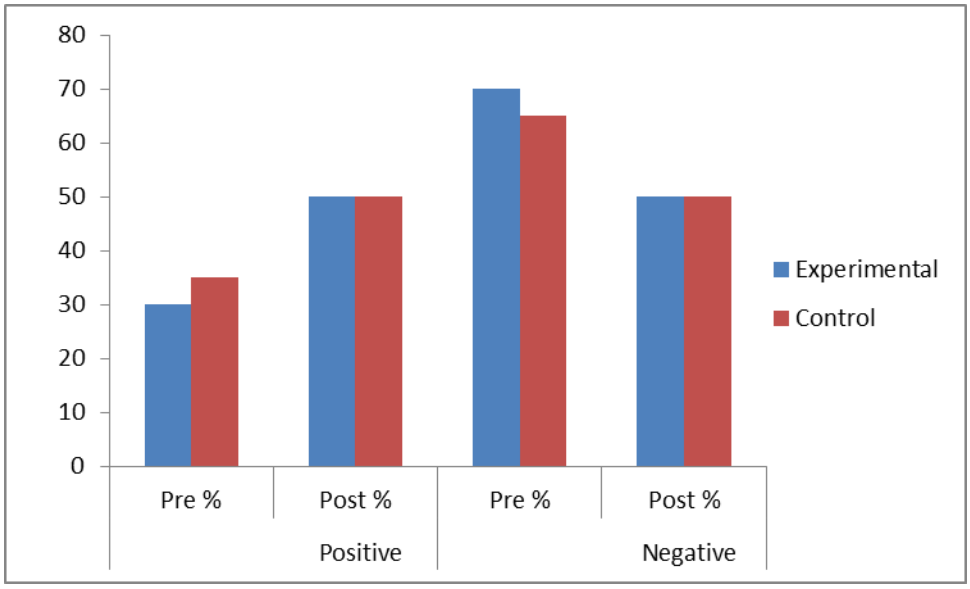


Figure 4.2 Scores of Pupils' Reading Behaviour

4.3 Answering the Research Questions

The main objective of this research work was to find the effects of phonemic awareness instructional strategy on the reading ability and behaviour of primary four struggling readers in Minna Niger state. Specifically, the following research questions were answered:

Research Question One: What is the difference in the mean ability score to identify sounds between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Niger state? Means and standard deviations on the mean ability score to identify sounds were presented in Table 4.3 below:

Table 4.3 ***Means and Standard Deviations on Ability Scores to Identify Sounds for Experimental and Control Groups***

treatment group	N	Mean	SD	Std. Error Mean	Mean difference
1 experimental	39	51.03	33.400	5.348	30.292
2 control	45	20.73	14.162	2.111	
Total	**84**				

Source: Statistical Package for the Social Sciences output as indicated in Appendix G

Result presented in Table 4.8 showed that the mean ability score to identify sounds for experimental group was (M=51.03, SD=33.400) and that of control group was (M=20.73, SD=14.162). The mean difference between the groups was 30.292 in favour of experimental group. Therefore, it is evident that there is a difference between the mean ability scores to identify sounds between pupils at the experimental and control groups in Minna, Niger state.

Research Question Two: What is the difference in the mean ability score to decode words between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger state? Means and standard deviations on the mean ability score to identify sounds are presented in Table 4.4 below:

Table 4.4 ***Means and Standard Deviations on Ability Scores to Decode Words for Experimental and Control Groups***

treatment group	N	Mean	SD	Std. Error Mean	Mean difference
1 experimental	39	28.23	17.530	2.807	18.075
2 control	45	10.16	11.119	1.658	
Total	**84**				

Source: Statistical Package for the Social Sciences output as indicated in Appendix H

Result indicated in Table 4.4 showed that the mean ability score to decode words for experimental group was (M=28.23, SD=17.530) and that of control group was (M=10.16, SD=11.119). The mean difference between the groups was 18.075 in favour of experimental group. Therefore, it is demonstrated that there is a difference between the mean ability scores to decode words between pupils at the experimental and control groups in Minna, Niger state.

Research Question Three: What is the difference in the mean ability score to read beyond word level between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger state? Means and standard deviations on the mean ability score to identify sounds are presented in Table 4.5 below:

Table 4.5 Means *and Standard Deviations on Ability Scores to Read Beyond Word Level for Experimental and Control Groups*

treatment group	N	Mean	SD	Std. Error Mean	Mean difference
1 experimental	39	27.95	17.720	2.837	15.393
2 control	45	12.56	12.144	1.810	
Total	**84**				

Source: Statistical Package for the Social Sciences output as indicated in Appendix I

The result presented in Table 4.5 showed that the mean ability score to read beyond word level for experimental group was (M=27.95, SD=12.56) and that of control group was (M=12.56, SD=12.144). The mean difference between the groups was 30.292 in favour of experimental group. Therefore, it is shown that there is a difference between the mean ability scores to read beyond word level between pupils at the experimental and control groups in Minna, Niger state.

Research Question Four: What is the difference in the mean reading behaviour score between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Niger state? Means and standard deviations on the mean ability score to identify sounds are presented in Table 4.6 below:

Table 4.6 Means *and Standard Deviations on Reading Behaviour for Experimental and Control Groups*

treatment group	N	Mean	SD	Std. Error Mean	Mean difference
1 experimental	39	44.6154	14.30976	2.29140	-15.85128
2 control	45	60.4667	6.84437	1.02030	
Total	**84**				

Source: Statistical Package for the Social Sciences output as indicated in Appendix J

The result presented in Table 4.6 showed that the mean ability score in reading behaviour for experimental group was (M=44.6154, SD=14.30976) and that of control group was (M=60.4667, SD=6.84437). The mean difference between the groups was -15.85128 in favour of experimental group. Therefore, it is proven that there is a difference between the mean reading behaviour scores between pupils at the experimental and control groups in Minna, Niger state.

4.4 Testing Null Hypotheses

Null Hypothesis One: There is no significant difference in the mean ability score to identify sounds between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger state. The independent samples t-test result analysis are presented in Table 4.7 below:

Table 4.7 Independent *Samples t-Test on Mean Ability Score to Identify Sounds Between Experimental and Control Groups*

treatment group	N	Mean	SD	T	df	p-value	Remark
1 Experimental	39	51.03	33.400	5.540	82	.000	Significant
2 Control	45	20.73	14.162				
Total	**84**						

Source: Statistical Package for the Social Sciences output as indicated in Appendix G

The results shown in Table 4.7 indicated that there was a significant difference in the mean ability score to identify sounds between the experimental and control groups. The result

was supported by t_{82}=5.540, p=.001, which showed a statistically significant difference between the mean scores of experimental and control groups in ability to identify sounds. Therefore, the null hypothesis which stated no significant difference was rejected.

Null Hypothesis Two: There is no significant difference in the mean ability score to decode words between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Niger state. The independent samples t-test result analysis is presented in Table 4.8 below:

Table 4.8 Independent *Samples t-Test on Mean Ability Score to Decode Words Between Experimental and Control Groups*

treatment group	N	Mean	SD	T	Df	p-value	Remark
1 Experimental	39	28.23	17.530	5.718	82	.001	Significant
2 Control	45	10.16	11.119				
Total	**84**						

Source: Statistical Package for the Social Sciences output as indicated in Appendix H

The results presented in Table 4.8 indicated that there was a significant difference in the mean ability score to decode words between the experimental and control groups. The result was supported by t_{82}=5.718, p=.001, which showed a statistically significant difference between the mean scores of experimental and control groups in ability to decode words. Therefore, the null hypothesis which stated no significant difference was rejected.

Null Hypothesis Three: There is no significant difference in the mean ability score to read beyond word level between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger state. The independent samples t-test result analysis is presented in Table 4.9 below:

Table 4.9 Independent Samples t-Test on Mean Ability Score to Read Beyond Word Level Between Experimental and Control Groups

treatment group	N	Mean	SD	T	Df	p-value	Remark
1 experimental	39	27.95	17.720	4.694	82	.001	Significant
2 control	45	12.56	12.144				
Total	**84**						

Source: Statistical Package for the Social Sciences output as indicated in Appendix I

The result indicated in Table 4.9 showed that there was a significant difference in the mean ability score to read beyond word level between the experimental and control groups. The result was supported by t_{82}=4.694, p=.000, which showed a statistically significant difference between the mean scores of experimental and control groups in ability to read beyond word level. Therefore, the null hypothesis which stated no significant difference was rejected.

Null Hypothesis Four: There is no significant difference in the mean reading behaviour score between the pupils taught reading using phonemic awareness instructional strategy and those taught using the conventional teaching method among primary four struggling readers in Minna, Niger state. The independent samples t-test result analysis is presented in Table 4.10 below:

Table 4.10 Independent Samples t-Test on Mean Reading Behaviour Between Experimental and Control Groups

treatment group	N	Mean	SD	T	Df	p-value	Remark
1 experimental	39	44.6154	14.30976	-6.613	82	.000	Significant
2 control	45	60.4667	6.84437				
Total	**84**						

Source: Statistical Package for the Social Sciences output as indicated in Appendix J

The result indicated in Table 4.10 showed that there was a significant difference in the mean reading behaviour score between the experimental and control groups. The result was supported by t_{82}=-6.613, p=.001, which showed a statistically significant difference between

the mean scores of experimental and control groups in reading behaviour. Therefore, the null hypothesis which stated no significant difference was rejected.

4.5 Summary of Major Findings

The following are the major findings of this study:

1. Phonemic awareness instructional strategy had made a remarkable impact on the ability of struggling readers to identify sounds. The strategy had enabled pupils realise that sounds are associated with each letter, otherwise known as alphabetic principle in alphabetic language like English language.

2. The result had also shown that phonemic awareness instructional strategy has helped struggling readers recognise familiar words and decode new words through activities such as phoneme blending and phoneme segmenting.

3. In the aspect of reading connected text, the study had established a direct impact of phonemic awareness instructional strategy in enhancing the performance of struggling readers to read not just isolated words, but also connected texts, such as phrases, sentences and passages through constantly engaging them in reading drills.

4. This study had also revealed that pupils taught reading using phonemic awareness instructional strategy had demonstrated more positive attitude to reading than those taught reading using conventional method.

4.6. Discussion of the Findings

The major concern of this study is to examine the effects of phonemic awareness instructional strategy on the reading ability and behaviour of primary four struggling readers in Minna, Niger state. The findings from this study indicated that the participants/pupils, especially those in the experimental group showed development and improvement in all assessment areas during the post-test. The greatest improvement was recorded in sound identification task. This is consistent with scholars' view that sound identification is the basic

phonemic awareness skill to develop. This is in consonant with the view of RTI (2009) and Klein (2012) that knowledge of sounds, especially how they correspond with letters is very critical skill learners must master to become successful readers. This is because skills related to phonemes are more difficult to acquire and key to reading success. The amount of time spent on teaching sounds during the experiment appears to have yielded a positive effect on the performance of the pupils and consequently on their scores. Additionally, sounds were practised during instruction in other segments or tasks. Therefore, it is obvious that the duration spent in teaching sounds was directly proportionate to their ability to identify sounds.

During the pre-test, it was obvious that the participants were not familiar with the concept of sounds. Each time the participants were asked to identify a sound, they name the letter instead. For example, instead of identifying the sounds: /p/, /l/, /d/, /i/, and /a/, they pronounce the name of the letters as “p”, “l”, “d”, “i” and “a”. This problem was observed by Ehri (2005) where she states that in most countries, names of letters are learnt before learners even begin to learn sounds if they learn the sounds at all. In most places including the area of the research, sounds are not taught. Though, Scallon and Vellutino (1996) state the importance of letter knowledge, many scholars are of the view that for letter knowledge to be effective, it must be combined with knowledge of sounds (Piaster & Wagner, 2010; Foulin, 2005; Weaver, 2009). This problem was observed from both the participants in the experimental and control groups. At the post-test, after the pupils were taught sounds, the experimental group had shown improvement in sounds identification. This is because the result shown on table 4.1 and the graph has indicated the development by the pupils in identifying sounds. However, even after learning the sounds, some pupils still pronounced some sounds wrongly by adding vowels to them. For example, pa for /p/, la for /l/, di for /d/,

ma for /m/ and ha for /h/. The pupils also found it difficult to pronounce some sounds, such as the glottal sound /h/ and the semi-vowels /w/ and /y/.

The result from research question two signifies that the pupils in the experimental group have performed higher with mean score of 28.23 and the standard deviation of 17.530 than the pupils in the control group who had mean score of 10.16 and standard deviation of 12.144 respectively in decoding words. Before the introduction of the phonemic awareness instructional strategy, most of the pupils lacked the knowledge of how sounds work. They were ignorant of the alphabetic principles, the relationship between the letters and sounds. Fact remains that sounds must be blended to form words. After a series of activities in sound manipulation, such as, phoneme addition, phoneme deletion, phoneme substitution, blending and phoneme segmenting, the pupils started to realize how sounds work. They began using blending strategy to decode words. This was successful to some extent, because most of the words used were monosyllabic and regular words. This improvement supports the assertion made by Ehri (2003) that learners may be able to decode unfamiliar words by using their knowledge of letter-sound correspondence to recall the sounds of each letter and then blend them into words. This enables the leaners recognize familiar words accurately and "decode" new words (National Institute of Literacy, 2000; Chard, Pikulski & Templeton, 2000). Nevertheless, the pupils find it difficult whenever they come across longer or irregular words. The sound blending activity was more difficult and more challenging for the pupils. The pupils always found it easier to segment sounds than blend them.

Given the high percentage of pupils who scored zero in decoding task, especially among the control group, the results indicate a clear gap between children who are not learning to read at all and those who are emergent readers.

The results from research question three also indicated the effectiveness of using phonemic awareness instructional strategy on the ability of primary four struggling readers to

read beyond word level. Reading could not be said to be successful when it stops at the ability to decode words in isolation. A successful reading activity should go beyond reading words in isolation. However, it is not the objective of this study to look at the reading fluency and proficiency of the pupils, they have however, demonstrated certain level of gain in this aspect. This is the test where the pupils had scored lowest. The pupils were assessed on their ability to read phrases, sentences and a passage. The mean score of the pupils in this aspect for the experimental group was 27.95 and standard deviation of 17.720. This also showed that the experimental group still performed better than the control group who had the mean score of 12.56 and standard deviation of 12.144. This study discovered that learners find it easier to read words in isolation than in connected texts, as when the words are used in phrases, sentences or in a passage. Another reason that could explain for a relatively low performance of the pupils in the test on reading beyond word level was the use of mixture of irregular words to assess them in this aspect. Since they were emergent readers, they had not yet mastered reading the irregular words, which will require more time and constant practice. This finding is noteworthy since at primary four, according to language of instruction policy, pupils need to be able to read with sufficient fluency to learn. Though, a group of emergent readers were developed in the experimental group and fewer in the control group.

The findings on research question four showed that phonemic awareness instructional strategy impacted positively on the attitudes of pupil toward reading. This is evidenced in the mean behaviour score of the pupils in the experimental group as shown in Table 4.2 and represented in Figure 4.1. This is because children in the experimental group were motivated through phonemic awareness activities and the teacher's support. The learners, through a gradual and systematic procedure, were made to understand how sounds work, how to manipulate them and how to decode words. This ignited the pupils' interest and made them participate in more learning activities, thereby making them confident to read. The situations

where learners successfully complete a task develop their self-efficacy (Schunk & Pajera, 2009). This was made possible during the treatment. Another factor for the positive change of behaviour was the autonomy given to children to consolidate what they have learnt. Children need opportunity to practice what they have learnt about sounds with their peers and on their own and this method had afforded them that. These opportunities have made them more enthusiastic to learn to read. Some learners in this study were motivated by seeing their peers succeed at a task. These peers are people the learners identify with. Therefore, in trying to belong or relate, they developed intrinsic motivation and confidence to read. Another factor that promoted the pupils interest in reading was the teacher's friendliness, warmth and encouragement for the pupils to participate. This has helped in developing the learners interest towards reading as suggested by Freeman, Anderman and Jensen (2007). The pupils in the control group had shown little interest in learning to read because prior to conducting this study, there was no any attempt to teach them how to read. Perhaps, if the conventional method adopted to teach them reading had been more interesting, they could also have developed a more positive attitude and interest to reading.

Finally, while the data on findings of this study does not look too positive, the researcher observed that after the instruction in PA, pupils engaged more with reading activities during free time, their attitudinal change toward reading and their improvement in understanding alphabetic principle. It is from this perspective that the researcher notice significant development. Most of the pupils especially from experimental group showed excitement about reading and exhibited positive disposition toward reading.

4.7 Summary

This chapter explains scores from pre-test and post-test represented in tables and graphs. Research questions were answered using mean and standard deviation, while hypotheses were tested using t-test. The summary of the findings and discussion of the findings were presented. Findings of this study as analysed in this chapter revealed that phonemic awareness instructional strategy had made a significant impact on the ability of struggling readers to identify sounds, decode words and read connected texts. Phonemic awareness instructional strategy was also found to be effective in changing pupils' attitude positively towards reading.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of this research work, conclusion, recommendations and implications. Some areas for further research were also suggested.

5.2 Summary

The major concerns of this study was to examine the effects of phonemic awareness instructional strategy on the ability of primary four struggling readers to identify sounds, decode words read beyond word level and their behaviour towards reading in Minna, Niger State. The problem of this study was presented by asking four questions and four null hypotheses to guide the study. The study also sought to achieve the followings:

1. determine the effects of phonemic awareness instructional strategy on the students' ability to identify sounds among primary four struggling readers in Minna, Niger state;

2. determine the effects of phonemic awareness instructional strategy on the students' ability to decode words among primary four struggling readers in Minna, Niger state;

3. examine the effects of phonemic awareness instructional strategy on the students' ability to read beyond word level among primary four struggling readers in Minna, Niger state;

4. assess the effects of phonemic awareness instructional strategy on the students' reading behaviour among primary four struggling readers in Minna, Niger state.

The data for the study were collected using two instruments, test (adopted EGRA) and questionnaire. The test was administered to assess the pupils reading achievement, while questionnaire was used to assess their reading behaviour. The pre-test was administered before the treatment and the post-test after.

Frequency and percentage tables were used to describe the pupils' performances at pre-test and post-test stages. Descriptive statistics of means and standard deviation were used to analyse the research questions and t-test was used reject or accept the null hypotheses stated earlier.

The findings of the study have shown the following:

1. Phonemic awareness instructional strategy has made a significant effect on the ability of struggling readers to identify sounds. This method had enabled the pupils learnt and identified English sounds which are the working tools and are indispensable in learning to read.

2. Phonemic awareness instructional strategy has made a great impact on the ability of struggling readers to decode words. This result upholds the opinion of Ehri (2003) that learners may be able to decode unfamiliar words by using letter-sound correspondence to recall the sound of each letter and and then blend those sounds into words. This is proven because of the disparity in the performance of the pupils in the experimental group and those in control group.

3. The struggling readers taught reading using phonemic awareness instructional strategy have shown better improvement in reading connected texts.

4. The struggling readers in the experimental group who were taught reading using phonemic awareness instructional strategy have demonstrated a more positive attitude to reading than those in the control group. They have shown more interest, zeal and readiness to read more.

5.3 Conclusion

As a result of the results obtained from this study, certain conclusions can be drawn. The results have shown that phonemic awareness instructional strategy has a significant effect on struggling readers' ability to read. This conclusion was arrived at based on the improvement in the post-test result of the experimental group that showed better progress compare to the control group. This is because the method helped the struggling readers to understand letter-sounds correspondence, how sounds work and how sound are manipulated and blended. This method also engageed the struggling readers in different activities at class, small groups and individual levels. This aided the pupils to become motivated and participated actively in all the activities. This also helped to develop confidence in them by trying out each activity.

This research has shown that, in order to help implement this method, teachers should show empathy to the pupils, be friendly, helpful and allow for the pupils' autonomy. The

teacher should start the reading activities with more familiar, simpler, shorter and regular words. This study also showed that even the pupils in the control group demonstrated some level of improvement, though not as much as that of the experimental group.

5.4 Recommendations

The researcher would like to suggest the following recommendations:

1. This study recommends teaching of sounds to struggling readers. As learners are learning letter names, the sounds should be taught alongside through pronunciation and teaching of the sounds that represent each letter. This is to enable the learners understand the alphabetic principle which is very vital in learning to read in an alphabetic language like English. Understanding sounds is very crucial in learning to read.

2. This study also suggests teaching learners how to decode words methodically through segmenting word and sound blending. Teaching the learners to segment words into sounds improves their spelling skills while blending sounds into words increases their reading ability. Teachers should spend enough time on this activity until learners are able to decode words without blending the sounds. Teaching reading should be done consciously starting with reading words in isolation to allow learners to get used to and understand words shape and form.

3. It is very crucial that teachers introduce reading connected text to pupils after they are able to identify words in isolation, starting with simple phrases, then clauses, sentences and passages. It is important that teachers introduce the pupils to carefully selected reading texts or materials. The teacher should grade the texts judiciously and introduce to pupils, starting with grade one which should contain more familiar and simpler words. The texts should be upgraded as the pupils develop and progress. The grading should be tagged as simple, average, hard.

4. It is also very necessary that reading activities are made more interesting through interaction, participation and cooperation. This will motivate and develop the interest of the pupils to like reading. It will also enhance their self-efficacy and makes them more confident to tackle reading tasks independently.

5.5 Implications

This study has certain implication for different set of individuals, ranging from teachers, school administrators, government and curriculum planners.

This study has established the need to adopt phonemic awareness instructional strategy to teach reading to learners. This method helps teachers to deliberately and effectively teach pupils how to read. It is necessary for teachers to understand the need to engage leaners in tasks that will enable them identify, pronounce, manipulate sounds and understand how sounds combine and work, such as phoneme addition, deletion, identification and substitution. This method also involves activities such as phoneme segmentation and phoneme blending which are vital in helping learners to master spelling and reading when painstakingly taught. The findings have important implications, especially for teachers who need to adopt a reading method that allows learners to interact, participate and cooperate. This method allows pupils to strive to break the code on their own with little or no help from the teacher. The teacher should serve as a facilitator when adopting this method, while the pupils fully interact and participate in all activities, which in turn makes them more enthusiastic about reading and autonomous.

There is the urgent requirement for school administrators to adopt remedial or intervention programmes for pupils with reading problem. Phonemic awareness strategy is very suitable in this regard. In the course of this study, the researcher observes that most schools do not have any literacy programme and therefore do not teach reading. The findings in this study will provide school administrators with an insight on how to design a suitable reading programme, brand it and place it in the curriculum to assist with reading problems.

This research will put government at all levels in the proper perspective to see the need to formulate policies that will include literacy programme such as phonemic awareness instructional strategy in school programmes to take care of those having reading problems.

The findings of this study also indicate the necessity for curriculum planners to include literacy and reading programmes like phonemic awareness instruction in the curriculum of primary school, which is conspicuously absent. They can adopt the findings of this study and where necessary make adjustment or expansion to include other categories of learners who when the results are implemented, can benefit from it. For example, adult disabled readers who may be interested in learning to read. This is very vital because there

are many conservatives among teachers or school administrators who would not embrace or allow the teaching of what is not found in the curriculum. This explains why reading is not taught in most of our public and even private schools.

5.6 Areas for Further Researches

As a result of the availability of different variables that come into consideration, other researchers can conduct their research using other categories of learners, such as nursery pupils or adult learners. Other instruments can be used to to measure pupils reading ability and behaviour such as DIBELS, TOWRE or use interview or observation to assess pupils' learning behaviour. The same study can be conducted using a larger sample or covering a wider area. The following topics are suggested for further research:

1. Influence of Phonemic awareness and Phonics on the Reading performance of Primary one Pupils.

2. Impact of Phonemic Awareness method on the Writing Competence of Primary School Pupils.

3. Using Phonemic Awareness Method to Improve Primary School Children's Spelling Ability.

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APPENDIX A

Names of public schools in Minna Town

S/No	Names of Schools	No.of Boys	No. of girls	Total
1.	Limawa Model Primary School	321	295	616
2.	Barikin Sale Primary School	246	253	499
3.	IBB Primary School	191	197	388
4.	Anguwan Kaje Primary School	136	207	393
5.	123 Primary School	191	145	336
6.	Anguwan Zakka Primary School	139	133	272
7.	Kuyanbana Primary School	77	87	164
8.	New Tunga Primary School	120	123	243
9.	Ali Muazu Sarkin Yaki Primary School	115	141	256
10.	Kwasau Primary School	124	136	260
11.	Umaru Audi Memorial Primary School	107	125	232
12.	Tunga North Primary School	113	105	218
13.	Gbangbapi Primary School	109	118	227
14.	Nikamgbe Primary School	103	105	208
15.	Sankin Zango Primary School	98	185	283
16.	Waziri Primary School	60	61	121
17.	Dutsen Kura Primary School	52	47	99
18.	Dr. Umar Farouk Bahago Primary School	69	74	143
19	UBE Tayi Primary School	42	42	84

20	MI Wushishi Estate Primary School	23	29	52
21	Kwarakota Primary School	22	18	40
22	Talba Estate Primary School	19	24	43
23	Gidan Allura Nomadic Primary School	13	06	19
24	Jatau Butu Primary School	18	14	32
25	Barikin Sale Nomadic Primary School	10	25	35
26.	Dibbo Primary School	14	13	27
27.	Albishir Primary School	_	_	_
28.	Ahmadu Bahago Gurusu Primary School	04	05	09
	TOTAL	2,536	2,603	5,139

Source: Education Department (PRS Unit) Chanchaga Local Government Area (2015)

APPENDIX B1

INSTRUMENT FOR THE ASSESSMENT OF PUPILS SOUND KNOWLEDGE AND READING ABILITY (ADAPTED EGRA)

Letter Sound Knowledge Exercise

EXAMPLE A V L

1	2	3	4	5	6	7	8	9	10	No of Sounds
L	I	H	R	S	Y	E	O	n	T	10
i	E	T	D	A	T	a	D	e	W	20
h	O	E	m	U	R	L	G	R	U	30
g	R	B	E	i	F	m	T	s	R	40
S	T	C	N	p	A	F	C	a	E	50
y	S	Q	A	M	C	O	T	n	P	60
e	A	E	s	O	F	H	U	A	T	70
R	Q	H	b	s	I	G	M	i	L	80
L	I	N	O	e	O	E	R	p	X	90
N	A	C	D	d	I	O	J	k	V	100

Time left on stopwatch if student completes in LESS than 60 seconds_____

Exercise was discontinued, as child had no correct answer in the first time

APPENDIX B2

WORD READING EXERCISE

1	2	3	4	5	NO of Words
Map	wet	Hill	Hug	frog	5
Cross	suck	That	The	feel	10
She	they	Long	Three	jump	15
Are	His	Fox	Shot	drop	20
Mill	fond	Grass	Back	this	25
Yes	nest	What	Egg	ant	30
For	Be	Up	And	do	35
Band	swim	Gong	Sack	by	40
Or	Go	Call	Mend	fish	45
Stop	pup	Its	Also	in	50

Time left on stopwatch if student completes in LESS than 60 seconds_____

Exercise was discontinued, as child had no correct answer in the first time.

APPENDIX B3

Phrase Reading Exercise

S/No	Phrases	No of Words
1	In the tin dish	4
2	In a net in the well	10
3	At the ball	13
4	To the mill on the hill	19
5	On the grass	22
6	By the wood last night	27
7	On the back of the ass on a sack	36
8	From the cup of glass	41
9	Into the well at night	46
10	In the tall trees	50

Time left on stopwatch if student completes in LESS than 60 seconds_____

Exercise was discontinued as child had no correct answer in the first time

APPENDIX B4

Sentenced Reading Exercise

S/No	Sentences	No of Words
1	I can run and play in the hay	8
2	Hit the ball to the wall	14
3	On a mat sat a cat	20
4	Let us go to the kid	26
5	The rat is in the box	32
6	The sun is up	36
7	Rub in a tub	40
8	Go to the mill	44
9	That is the nest	48
10	Go on	50

Time left on stopwatch if student completes in LESS than 60 seconds_____

Exercise was discontinued, as child had no correct answer in the first time

APPENDIX B5

Paragraph Reading Exercise

SUN AND MOON

At noon we can see the sun in the sky. We do not see the moon at noon. The sun gives us light by day, and the moon by night. The Sun is bright and the moon is bright. The sun and the moon are far up in the sky.

Time left on stopwatch if student completes in LESS than 60 seconds_____

Exercise was discontinued, as child had no correct answer in the first time

APPENDIX C

INTERVIEW-CHECKLIST FOR PUPILS READING ATTITUDE

Age: 1-6 ---------- **7-12** ---------- **12-ABOVE** ----------

Gender: Male---------- **Female**----------

S/No	Questions	SA	A	D	SD
1.	This method of teaching reading has motivated me to learn the English sounds.				
2.	This method has helped me understand letter-sound relationship and how to manipulate sounds.				
3.	I find reading words very easy and interesting by Blending and manipulating sounds.				
4.	I can read words easily without blending the sounds.				
5.	Ability to read words encourages me to read beyond word level, like phrases and sentences.				
6.	I feel very excited to be able to read beyond word level				
7.	This method has helped me to develop confidence to read sentences on my own without help.				
8.	With this method, I find reading sentences enjoyable.				
9.	I can now read a passage fluently.				
10.	Instruction using this method to teach read reading has helped me to read successfully in other subject areas.				
11.	This method of teaching reading did not motivate me to learn the English sounds.				
12.	This method did not help me to understand the letter-sound relationship and how to manipulate sounds.				
13.	I don't find reading words very easy and interesting by blending and manipulating sounds.				
14.	I cannot read words easily without blending sounds.				
15.	Ability to read words does not encourage me to read beyond word level, like phrases and sentences.				
16.	I do not feel excited to be able to read beyond word level.				
17.	This method did help me develop confidence to read on my own without help.				
18.	With this method, I still don't find reading sentences enjoyable				
19.	I can now reaSd a passage fluently.				
20.	Instruction using this method did not help me to read successfully in other subject areas				

APPENDIX D

PROCEDURE FOR PHONEMIC AWARENESS INSTRUCTION

PA instruction has many tasks that the researcher will use in training the pupils in the experimental group. The researcher will also adopt "Queen Primer, Parts One and Two" as one of the materials for the treatment. The control group would receive treatment using the conventional method of teaching. The activities the pupils in the experimental group would be exposed to are: letter naming, sound identification and pronunciation, phoneme isolation, phoneme categorization, phoneme substitution, phoneme segmentation and phoneme blending. The treatment will last for the period of eight weeks excluding the teacher training period, the pre-test and post-test. Overall, the experiment will last for ten weeks. The following procedure would be followed in conducting the study:

Week One: Training

The researcher meets with the teachers that will assist in teaching the pupils and train them on the use of phonemic awareness instructional strategy, but the teacher for the control group will use the conventional method to teach the pupils in the group. The research assistants help in conducting the pre-test.

Week Two:

Day One: Interaction session

The teacher will interact with the pupils and explain to them the purpose of conducting the test, the task ahead, what will be expected from them and the gains they stand to gain from the programme.

Day Two: Letter Recognition Session

The teacher revises the alphabet reading and recognition exercise. At this stage, the pupils are expected to have been fluent at reading and recognizing letters at both lower and upper cases, but due to some reasons, some pupils cannot do so.

Day Three: Matching Upper case Letters with Lower Case Letters.

To test the pupils fluency in letter recognition, they should be able to match the upper case letters with their corresponding lower case counterparts. Recognition of lower

case letters has always proved to be more problematic for learners and it is what is used more often.

Week Three

The teacher introduces the pupils to the sounds of the letters. The learners learn to pronounce the sounds, not the names of letters. For example, the letter f is pronounced as /f/ or /fff/, t as /t/, b as /b/. Teacher should take note so that the learners do not pronounce the sounds by adding (a) to the sound, not to say fah or tah or bah. At the end of the the exercise, the pupils should be able to match the sounds with the letters.

Week Four:

Day one: Phoneme Isolation

In this exercise, the children recognize individual sounds in a word. The teacher asks the learners to identify either the first, middle or the final sound in a word. For example:

Teacher: “what is the first sound in fan?”

Pupils: “the first sound in fan is /f/.”

Day Two: Phoneme Identification

Here, the children recognize the same sound in different words. For example:

Teacher: “What sound is the same in hill, hut and have?”

Pupils: “The first sound /h/ is the same.”

Day Three: Phoneme Deletion and Addition

Learners recognize the word that remains when a phoneme is removed from a word (delete). For example:

Teacher: “pronounce smile without /s/.”

Pupils: “Smile without /s/ is mile.”

In phoneme addition, the children make a new word by adding a phoneme to the existing word. For example:

Teacher: “What word do you have if you add /s/ to the beginning of park?”

Pupils: “Spark.”

Weeks Five and Six: Phoneme Blending and Phoneme Segmentation

Children listen to separately spoken phonemes and then combine the phonemes to form a word. Then they read the word. For example:

Teacher: “What word is /p/ /oo/ /l/?”

Pupils: “ /p/ /oo/ /l/ is pool.”

In segmentation, children break sounds into its separate sounds, saying each sound as they tap out or count it. For example,

Teacher: “How many sounds are in class?”

Pupils: “/c/ /l/ /a/ /ss/. Four sounds.

Week Seven: Blending Word into Phrases, then into Sentences and into Passage

The pupils should be able read words to form phrases, then sentences and finally a paragraph.

Weeks Eight and Nine: Introducing the Reading of Queen Primer Parts one and two.

The pupils would be introduced to reading Queen Primer as beginning readers.

Week Ten: **Test**

Post-test, that is assessing the pupils after successfully completing the treatment or experiment. The same set of tests will be presented to the pupils.

APPENDIX E1

Lesson One

Class Primary Four (Special Class)

Topic Letter Identification

Behavioural Objectives At the end of the lesson, the pupils should be able to;

(i) distinguish between capital letters and small letters;

(ii) identify diagraphs; and

(iii) be able to match capital letters with their corresponding small letters.

Previous Knowledge The pupils have already learnt to read English alphabets.

Introduction The teacher introduces the lesson by asking the pupils to read the English alphabets.

Presentation The teacher presents the lesson by the following steps:

Step I The teacher writes capital letters and small letters on the board and ask pupils to read them.

Step II The teacher calls out some and asks the pupils to identify them.

Step III The teacher asks the pupils to match capital letters with their corresponding small letters.

Student Activities The teacher engages the pupils in the following activities:

(i) Identifying and naming confusing letters C-G, O-Q, M-N, K-X, P-R, M-W.

(ii) “e, a, s, c, o b, d, p, q, g," n, m, u, h," "f, t, l, i"

Evaluation The teacher evaluates the lesson by asking the following questions:

1. identify the following letters:

a. B, D, E, F, M, N, P, Q, U, V, W

b. b, d, g, q, p, i, l, m, n, w, s, z

2. Match the following letters:

B D H Q P

h b d p q

Conclusion: The teacher concludes the lesson by summarizing the lesson on capital letters and small letter.

APPENDIX E2

Lesson Two

Class:	Primary four (special class)
Topic	Letter sounds
Behavioural Objective:	At the end of the lesson, the pupil should be able to:
(i) pronounce letter sounds.	
Previous knowledge	The students have learnt to identify capital letters and small letters.
Introduction:	The teacher introduces the lesson by asking the pupils the difference between letter name and letter sounds.
Presentation:	The teacher presents the lesson as follows:
Step I	The teacher writes the letters and pronounces the sounds while the pupils listen. He explains to them the difference between letter names and letter sounds. For the letters with more than one sound, the teacher concentrates on the dominant sounds first. Such as "A, C, E, G, I, O, U".
Step II	The teacher then reads the sounds for pupils while they repeat after him.
Step III	The teacher drills the pupils pronunciation of the sounds, not maintain the letter names. First, the whole class, then in groups and finally, in divisionally.
Students' Activities	The teacher allows the pupils to work in groups the pupils also practice in matching letters with their sounds.
Evaluation	The teacher evaluates the lesson by asking the pupils on the following questions. (i) Pronounce the sounds of English alphabet A-Z, not the names of the letters. (ii) Identify the letters that have similar sounds.
Conclusion	The teacher concludes the lesson by summarizing the lesson and grouping the pupils for further practice after the lesson.

APPENDIX E3

Lesson Three

Class:	Primary four
Topic:	Phone Manipulation
Behavioural Objective:	At the end of the lesson, the pupils should be able to manipulate the sounds through the following: i- phoneme isolation ii- phoneme identification iii- phoneme deletion and iv- phoneme addition
Previous knowledge	The pupils have learnt the sounds of English alphabets.
Introduction:	The teacher introduces the lesson by asking the pupils to pronounce the sounds of some letters he will name. Example, what are the sounds for these letters: "A, C, H, M, Y"
Presentation	The teacher presents the lesson as follows:
Step 1	Phonemic Isolation- The teacher pronounces a word or words and asks the pupils to identify the initial middle or final sounds in the word(s). For example: - "What is the first sound in Bag?" The first sound is /b/ - "What is the last sound in fan?" The last sound in fan is /n/.
Step II	Phoneme identification. Here, the teacher pronounces two or three words and asks the pupils to identify the same sound in the different words. For example: - What sound is the same in these words: cat, cup and class? The sound is /k/. - What sound is the same in fan, phone and fed? The sound is /f/.
Step III	Phoneme deletion. Here, the teacher removes a phoneme in the initial or final of a word and asks the pupils to identify the word that remains. For Example: - Pronounce smile without /s/. The word will be "mile" - Pronounce track without /t/. The word will be "rack" - Pronounce cart without /t/. The word will be "car".

Step IV	Phoneme Addition. In this case, the teacher drills the pupils to learn making a new word by adding a phoneme to the existing word. For example - When you add /s/ to “park”, you get another word, “spark” - When you add /d/ to “ban”, you get another word, “band”. - When you add /t/ to “rain”, you get “train”.
Students Activities:	The teacher engages the pupils to come up with different words and asks the other pupils to isolate the sounds, (initial, middle or final), identify the same sounds in different words. He also drills them on phoneme addition or deletion, that is, they should come up with words and form new words from them by adding or removing sounds.
Evaluation	The teacher evaluates the lesson by asking the pupils the following questions 1. Identify the sounds at the beginning and at the end of the following words, “slang”, drink”, “blend”, “group” “crop”. 2. What sound is the same in the following words: house, hen and hill? 3. What words do you get when you remove the initial sounds of the following words: band, ground, skill, gland, farm? 4.What new words do you form when you add /s/ to the following words: tar, mall, lack, mart, pit?
Conclusion	The teacher summarizes the lesson and groups the pupils to practice sounds manipulation after the lesson, during free period.

APPENDIX E4

Lesson Four

Class:	Primary four
Topic:	Phoneme blending
Behavioural Objective:	At the end of the lesson, the pupils should be able to put sounds together (blend) to form a word.
Previous knowledge	The pupils have learnt how to manipulate sounds (isolate, identify, add and deletion).
Introduction	The teacher introduces the lesson by re-emphasizing that words comprises different sounds. It is the sounds that are used as building blocks to form words.
Presentation Step I	The teacher starts the lesson by pronouncing separate sounds, then asks the whole class to listen to the separate phonemes and combine them to form a word. Then they read the word. For example /s/, /a/, /t/ = sat /m/, /i/, /d/ = mid /s/, /t/, /o/, /p/= stop /f/, /l/, /e/, /d/ = fled /p/, /oo/, /l/ = pool
Step II :	The teacher divides the pupils into groups and Q asks them to blend sounds together.
Step III:	The teacher calls on individual pupils to blend some sound to form words
Student Activities:	The pupils are paired, while one pupil say the sounds, the other will blend to form a word and vice versa.
Evaluation:	The teacher evaluates the lesson by calling q on as many pupils as possible to blend some sounds to form words.
Conclusion:	The teacher concludes the lesson by reviewing the lesson and pairing the pupils to practice during free period.

APPENDIX E5

Lesson Five

Class:	Primary four
Topic:	Phoneme segmentation
Behavioural Objective	At the end of the lesson, the pupils should be able to break words into separate sounds.
Previous knowledge	The pupils have learnt how to blend sounds to form words.
Introduction	The teacher introduces the lesson by citing the previous lesson before. Presently the new one. For example in our last lesson, we've learnt how to put sounds together to form words. Today, we are going to see how we can break words into separate sounds.
Presentation	The teacher presents the lesson by introducing a word and asking the pupils to identify the mummer of sounds in the words and saying each sound as they tap out or count. For example: Teacher: How many sounds are in dress? Pupil: "/d/, /r/, /e/, /ss/. Four sounds Teacher: "How many sounds are in gland?" Pupils: "/g/, /l/, /a/, /m/, /n/, /d/. five sounds Teacher: "How many sounds are in cold? Pupil: "/d/, /o/, /l/, /d/,. Four sounds
Step II	The teacher groups the pupils while one asks the question, the others identify the sounds and they will be rotating.
Step III	The individual pupils are all upon to identify the sounds in a word following the same procedure as explained above.
Students' Activities	The pupils will be drilled on sounds segmentation during the group discussion and practice.
Evaluation	The teacher evaluates the lesson by calling an individual pupils to identify the sounds in words.
Conclusion	The teacher concludes the lesson by pairing the pupils for practice after the lesson, at free periods.

APPENDIX E6

Lesson Six

Class:	Primary four (Special Class)
Topic: Word Decoding	
Behavioural Objective	At the end of the lesson, the pupils should be able to: i- read two letter words ii- read three letter words iii- read four letter words and above
Previous knowledge	The pupils have learnt how to blend and segment sounds.
Introduction	The teacher introduces the lesson by revising the blending lesson.
Presentation Step I	The teacher starts the lesson by saying the phoneme separately, then combining them. For example /i/, /t/ = it /o/, /n/ = on /a/, /m/ = am /u/, /s/ = us /m/, /e/ = me
Step II	The teacher then asks the pupils to pronounce the sounds without saying them separately before combining. E.g

at	it	or	lo	be	up
an	in	on	no	me	us
am	if	of	go	we	by
as	is	ox	so	he	my

Step III — The teacher introduces three letters words

cat	beg	bid	lot	mud
man	led	gig	fog	hut
tap	pet	him	hot	cup

Step III	The teacher gives further to introduce four letter words and above but mostly, monosyllabic words: grass dress clot drink sung star mend frog think drunk flag blend bond ping glut.
Students' Activities	pupils practice reading different sounds the teacher provided for them on the board.
Evaluation	The teacher evaluates the lesson by calling on individual pupils to read as many words as they could.
Conclusion	The teacher concludes the lesson by summarizing the lesson and asking the pupils to read more material they could get at home.

APPENDIX E7

Lesson Seven

Class: Primary four

Topic:	Reading (Introducing Queen Primer)
Behavioural Objective	At the end of the lesson, the pupils should be able to read passages from the book, Queen Primer
Previous knowledge	The pupils have learnt word decoding.
Introduction	The teacher introduces the lesson by explaining the difference between reading words in isolation and words in phrases, sentences and passages.
Presentation	The teacher presents the lesson by reading
Step I	The first passage so that the pupils will listen to the different intonations while reading a declarative sentences and interrogative sentences.
Step II	The whole class read the passages, while the teacher corrects them as they use the wrong intonation.
Step III	The teacher calls on the pupils to read the passage one after the other.
Students' Activities	The teacher allows the pupils to read in groups supporting one another.
Evaluation	The teacher calls on the pupils to read the passage one after the other.
Conclusion	The teacher concludes the lesson by encouraging the students to read extensively at home.

APPENDIX F
Remediation table for Phonemic Awareness Instruction

S/no	Problem	Remedy
1.	Inability to identify sound	1. Teach letter names before children learn the sounds with which they are associated. 2. Teach the child the letters of her or his name. 3. Teach and practice letter-sound association in two directions(1) Teach the pupils to produce the sound when shown the letter/s and (2) teach the pupils to write or select the letter when given the sound. 4. Provide cues to facilitate retrieval of letter-sound associations. Cues must be provided that will enable the pupils to retrieve and produce the letter name or sound that is being taught. Cues can include association with pictures, mnemonic devices such as rhymes, songs and stories.
2.	Inability to decode words	1. The teacher should help pupils understand the sound- letter relationships by teaching letters and their respective sounds. 1. Review the two types of sounds, vowels and consonants: vowels are open sounds while consonants are closed sounds. 2. Teach the link between the two types of sounds (vowels and consonants) through blending and segmenting activities. 3. Practice these associations using cues until the links are automatic. Below are some agreed sequence of decoding skills that must be followed: a. Teach single consonants before consonant combinations or diagraphs. b. Teach short vowels before long vowels. c. closed syllables are taught as the first syllable type. d. Syllable patterns are taught in single syllable words before words with two or more syllables. e. Teach syllabication division strategies after multisyllabic words are introduced.

		f. spelling generalizations are taught in relation to syllable type. g. Prefixes, suffixes, root words and combining forms are introduced after some basic syllable patterns are taught. h. Practice for fluency and automaticity is a part of each step of instruction after accuracy has been established.

Adapted from Felton and Reading-Tutors. Com (2015)

APPENDIX G
NULL HYPOTHESES 1

```
T-TEST GROUPS=group(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=is
  /CRITERIA=CI(.95).
```

T-Test

```
[DataSet0] C:\Users\umar\Documents\AMJ Coded Data.sav
```

Group Statistics

	treatment group	N	Mean	Std. Deviation	Std. Error Mean
Identify Sounds	1 experimental	39	51.03	33.400	5.348
	2 control	45	20.73	14.162	2.111

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Identify Sounds	Equal variances assumed	27.130	.000	5.540	82	.000	30.292	5.468	19.416	41.169
	Equal variances not assumed			5.268	49.722	.000	30.292	5.750	18.742	41.843

APPENDIX H
NULL HYPOTHESES 2

```
T-TEST GROUPS=group(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=dw
  /CRITERIA=CI(.95).
```

T-Test

```
[DataSet0] C:\Users\umar\Documents\AMJ Coded Data.sav
```

Group Statistics

	treatment group	N	Mean	Std. Deviation	Std. Error Mean
Decode Words	1 experimental	39	28.23	17.530	2.807
	2 control	45	10.16	11.119	1.658

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Decode Words	Equal variances assumed	21.368	.000	5.718	82	.000	18.075	3.161	11.787	24.363
	Equal variances not assumed			5.545	62.553	.000	18.075	3.260	11.560	24.590

APPENDIX I
NULL HYPOTHESES 3

```
T-TEST GROUPS=group(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=rbwl
  /CRITERIA=CI(.95).
```

T-Test

```
[DataSet0] C:\Users\umar\Documents\AMJ Coded Data.sav
```

Group Statistics

	treatment group	N	Mean	Std. Deviation	Std. Error Mean
Reading beyond word level	1 experimental	39	27.95	17.720	2.837
	2 control	45	12.56	12.144	1.810

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Reading beyond word level	Equal variances assumed	12.465	.001	4.694	82	.000	15.393	3.279	8.870	21.916
	Equal variances not assumed			4.573	65.815	.000	15.393	3.366	8.673	22.114

APPENDIX J
NULL HYPOTHESES 4

```
T-TEST GROUPS=group(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=trbehavior
  /CRITERIA=CI(.95).
```

T-Test

```
[DataSet0] C:\Users\umar\Documents\AMJ Coded Data.sav
```

Group Statistics

	treatment group	N	Mean	Std. Deviation	Std. Error Mean
total reading behaviour	1 experimental	39	44.6154	14.30976	2.29140
	2 control	45	60.4667	6.84437	1.02030

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
total reading behaviour	Equal variances assumed	30.044	.000	-6.613	82	.000	-15.85128	2.39687	-20.61943	-11.08313
	Equal variances not assumed			-6.320	52.771	.000	-15.85128	2.50829	-20.88278	-10.81979

APPENDIX K

EXPERIMENTAL SCHOOL







APPENDIX L

CONTROL SCHOOL





