THE IMPACT OF SYSTEMATIC PHONICS ON DEVELOPING FOUNDATIONAL READING SKILLS: EVIDENCE FROM PRIMARY THREE PUPILS IN SELECTED KANO PRIMARY SCHOOLS

BY

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SPS/17/MEN/00031

AN M. A DISSERTATION SUBMITTED TO THE DEPARTMENT OF ENGLISH AND LITERARY STUDIES, BAYERO UNIVERSITY, KANO, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN ENGLISH (LANGUAGE)

MAY, 2021

DECLARATION

I hereby declare that this research is the product of my own research efforts, undertaken under the supervision of Professor Aliyu Kamal, and that it has never been presented and will never be presented elsewhere for the award of any other degree or certificate. All sources have been duly acknowledged.

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CERTIFICATION

This is to certify that the research work for this dissertation and the subsequent write-up by Yusuf Tukur Isah (SPS/17/MEN/00031) were carried out under my supervision.

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APPROVAL PAGE

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ACKNOWLEGEMENTS

All praises and thanks are due to the Almighty Allah, the most gracious and the most merciful for granting me the opportunity, ability, courage and determination in the execution of this academic work.

I humbly wish to express my special gratitude and appreciation to my beloved father, AlhajiTukurIsahKaraye (May The Almighty Allah Grant Him a Speedy Recovery, ameen summa ameen), and my beloved mother, Hajiya Halima TukurKaraye, for standing by my side right from the beginning of my life up to this level. It is indeed their persistent moral and financial support and prayers that keep me focused and successful. May Allah SWT bless them abundantly, grant them the best of everything here and thereafter and reward them with the highest ranking jannah, Ameen.

My special thanks, gratitude and appreciation go to my mentor and caring mother, Professor Talatu Musa Garba, for her tireless and consistent concern, guidance, support, advice, motivation and everything throughout my academic career. She has really been doing everything possible to make my life better. May Allah SWT reward her with the highest ranking jannah, ameen.

I am very grateful to my able supervisor, Professor Aliyu Kamal whose immense contribution and academic criticism as well as corrections are the keys to the successful completion of this academic work. May Allah SWT reward him abundantly.

Dr.AminuBalaDanyaro deserves special mention for his immense contribution towards thesuccessful completion of this academic research. His persistent contribution is unqualifiable. Therefore, I say a big thank you, sir. May Allah SWT reward you abundantly, ameen.

Dr. Amina Adamu's contribution to my academic success is also worthy of mentioning. She has been a role model and caring mother since the beginning of this academic journey. May Allah SWA reward her with the highest position in jannah, ameen.

The contribution of the Director, Nigeria Center for Reading Research and Development (NCRRD), Professor Isma'ilAbubakarTsiga, Deputy Directors, Professor Talatu Musa Garba (Administration and Development) and Professor Mansur Saleh Kiyawa (Research), research fellows, Dr.AminaAdamu, Dr. Aisha Umar, Dr.AminuBalaDanyaro and Malam Umar KabirTsiga, is worthy of mentioning.

I am very grateful to all my lecturers in the Department of English and Literary Studies, Bayero University, Kano, for their tireless academic guidance and support, namely: Dr. Rabi Abdulsalam Ibrahim (HOD), Dr.UmmaAbubakar (PG Coordinator), Prof.Aliyu Kamal, Prof. Mustapha Muhammad, Prof.Isma'il A. Tsiga, Prof. S. B. Ahmad, Prof. IBK, Prof. M. O. Bhadmus, Prof. Mustapha Ahmad Isah, Prof.Sadiya Sani Daura, Dr.Aishat Umar, Dr. Amina Adamu (thank you so much for your motherly care, concern, support and guidance), Dr.Ijeoma Paulette Ezuruike, Dr.RaliaMaijama'aAbdullahi, Malam Maikudi A. Zukogi, Malam Muhammad Maikiyari, Malam Adamu Idris, Malam saniAbubakar, Malam Faruk Abdullahi, (Thank you so much, sir, for your support and encouragement) Malam Sani Sa'idu Ibrahim, Malam AdamuIsah Babura, Malam AliyuYakubu, MalamaBilkisuEl_Yakub and Malama Maryam AlhamduJibril. I am also very grateful to my lecturers in the Department of Education, Bayero University, Kano, especially, Professor M. I Yakasai, Dr.AbubakarAbdullahi,Dr. Bello ShehuKarofi, MalamaBinta Abba (thank you very much for your consistent guidance) and Malam Umar KabirTsiga. I am also thankful to my brother Isah Tukur Isah, who never got tired of typing everything I wrote on his dissertation. I also thank Malam YahyaAlasanKaraye of Kashim Ibrahim Library, Ahmadu Bello University, Zaria, for his immense contribution towards the successful completion of this academic work.

This acknowledgement is incomplete without expressing my profound gratitude to all my coursemates, especially: HarunaInuwa, NuhuLawanAzare, Jamilu Ahmed, Aliyu Muhammad Gadanya, YahyaIsma'ilIsah, Yusuf Salihu Ahmad, AnasKabir Rasheed, Zainab Muhammad Abdulhadi, DalladiDanjuma, Ezekiel Polmi, ArabiAminu, Musa Adamu and Daniel Zakka for their constructive observation and useful suggestion, leading to the success of this academic study.

My four wonderful colleagues and friends deserve special mention: Jamilu Ahmed, NuhuLawan, Aliyu Muhammad Gadanya and YahyaIsma'ilIsah for their persistent observation and constructive criticism on the little I wrote at every stage of writing this dissertation. I hope this friendship and a sense of mutual mentorship would be maintained throughout our academic endeavour. I wish you the best of success in all your life endeavours.

DEDICATION

This research work is dedicated to my beloved Mother, Hajiya Halima TukurKaraye, my caring father, AlhajiTukurIsahKaraye and my wonderful Aunty, Professor Talatu Musa Garbaas well as my beloved wife, Amina TijjaniKarayefor their constant and consistent prayer and support for the success of my study and my entire life.

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ABSTRACT

This study investigates the impact of systematic explicit phonics on developing foundational reading skills, specifically decoding and automatic word recognition in the early primary grades. Ehri's (1992, 1994)model of word Recognition Development and Krashen's (1982) Input Hypothesis are used as the theoretical framework in the study. The researcher used a quasi-experimental research design, non-equivalent pre-test-post-test design. Primary three pupils of two selected Kano metropolis primary schools are used as the subjects of study using convenience sampling technique. Independent samples t-test and Cohen's d effect size are used in analysing the data. The findings of the study reveal that systematic explicit phonics approach is very effective in creating independence with the code and reading automaticity in beginning readers thereby allowing them to easily transit from learning to read to reading to learn by the end of primary three and acquire reading fluency, vocabulary and text comprehension.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This study investigates the impact of systematic phonics instruction on developing foundational reading skills in the lower primary levels. It fundamentally stems out from the prevailing interest among scholars, researchers and theorists to investigate teaching reading in early childhood education with a view to preparing children to succeed in literacy development. Many scholars (e.g., Honig, Diamond and Gutlohn, 2013; Adams, 1990; Yusuf and Enesi, 2012), contend that children's success in literacy development depends on the preparation they receive at their younger ages. Primary three pupils from two selected primary schools in Kano metropolis were used as the primacy sources of data. This chapter presents the research blueprint which culminated into the background to the study, problem statement, research aim and objectives, research questions, research hypotheses, justification for the study and scope and delimitation of the study.

1.1 Background to the Study

Generally speaking, reading according to many scholars (e.g., Honig. Diamond and Gutlohn, 2013; Yusuf and Enesi, 2012; New South Wales Department of Education and Training, 2009; and National Reading Panel, NRP, 2000), is the backbone of any literacy programme across academic levels. This implies that children's success in literacy development depends on how well they have been equipped with the prerequisite reading skills in their early years of education. Scholars like Honig*et al.* (2013), Marima, (2104), and Izuagba, Afurobi, Nwigwe and Amaka, (2016), agree that for children learning to read to succeed in the reading activity, a solid foundation needs to be laid right from the kindergarten through the first three years of primary education. The fact that reading is an important skill in literacy development

upon which the future academic success of children and older struggling readers depends remains a topic of interest among scholars, researchers and theorists over a long period of time. In 2000, a research report by a panel of 14 experts, comprising reading researchers, teachers and parents in the United States of America, presents the results of meta-analysis of available researches related to reading instruction conducted since 1960s. The report, notes that in 1960s, the US office of education constituted and funded two reading research projects, Cooperative Research Programme in First Grade Reading (Bond & Dykstra, 1967, 1998, cited in NRP, 2000) and Project Literacy (Levin and Wilhams, 1970, as cited in NRP, 2000), which aimed at finding out the 'best' approach to teaching beginning reading. At almost the same time, the Carnegie Foundation funded Chall's (1967) review *Learning to Read: The Great Debate*, (1967). The major finding of the Chall's review is that early and systematic phonics instruction results in producing better readers than late and less or nonsystematic phonics instruction. This finding has been reaffirmed in a considerable number of subsequent researches conducted since 1967, for example, Adams (1990), Anderson *et at,* (1985), Balmuth, (1982), National Reading Panel, (2000) and National Centre for Education Evaluation and Regional Assistance (2016, 2017).

The National Reading Panel Report (2000), and the report of a panel constituted by the US National Centre for Education Evaluation and Regional Assistance under the US Department of EducaItion, (2016/2017), report that the findings of many researches related to beginning reading which have been conducted since 1960s through 2016 further prove the Chall's 1967 review which notes the inevitable role that systematic phonics instruction plays in beginning reading pedagogy. Honig*el at,* (2013), Armbruster*et al,* (2001), and Adams (2001), share a similar view on what makes phonics instruction systematic and explicit, noting that "systematicity" in phonics instruction implies phonics lesson in which letter-sound correspondences (from simple to complex) are clearly defined, carefully selected, arranged

and presented in a logical instructional sequence. The concept of "explicity" in phonics instruction refers to how well phonics lesson incorporates and presents phonics concepts which are clearly explained, and skills which are clearly modelled without any vagueness or confusion. Phonics instruction according to Honig*et al.*, (2013), Adams (2001) and Marima (2014), is concerned with training beginning readers to know the letter-sound correspondences. Thus, phonics instruction trains beginning readers and older struggling readers to unlock the relationship between letters in the written language (graphemes) and sounds in the spoken language (phonemes) to read and spell words accurately.

Systematic and explicit phonics instruction can therefore be described as beginning reading instruction approach which is characterised by learning activities in which phonics elements are clearly defined, carefully selected and arranged in a logical' "instructional sequence". It is also characterised by phonics concepts which are clearly modelled without any confusion or vagueness. It is based on the foregoing thesis that this study investigates the relationship between systematic explicit phonics instruction and the development of foundational reading skills, specifically decoding and automatic word recognition skills. The implication of developing these two crucial foundational reading skills in early literacy development is also identified. Primary three pupils from two selected primary schools of Kano metropolis are used in the study to provide empirical evidence using quasi-experimental pretest post-test experimental research design. Third graders are chosen for this study because according to the Nigerian National Policy on Education, 2013, as cited in Izuagba et al., (2016), they are expected to have acquired the five major components of beginning reading (phonological awareness, phonics, fluency, vocabulary, and text comprehension) so that they can make a smooth transition from learning to read to reading to learn in the fourth grade when English language becomes the medium of instruction in all subjects.

1.3 Statement of the Problem

Children in the first three years of primary education are expected to learn to read independently. When this independence is retarded, the jeopardy results in devoting more energy to decoding and word recognition, and less energy to meaning making. Thus, any deficit in decoding and automatic word recognition skills retards the children's success in the reading activity. Although many works have been devoted to phonics studies in the current scholarship, for example, Zakari, (2015), Maikaba, (2016)), Hardy, (2014) and Marima, (2015), the problem still persists in the area of teaching and learning of reading which leads to the incessant poor academic performance among students even at the higher levels of learning, hence, the need to investigate the area more. Difficulty in reading, therefore, arises when children cannot successfully acquire the skills of decoding and automatic word recognition. It is in this line of deteriorating effect that this study investigates the impact of systematicity and explicity in phonics instruction on developing decoding and automatic word recognition skills in the lower Primary levels using primaiy three pupils from two selected Kano metropolis primary schools to provide more insights into early primary reading pedagogy and assess the Krashen's Input Hypothesis, (1982) as well as Ehri's model of Phases of Word Recognition Development, (1992, 1994).

1.4 Aim and Objectives of the Study

The aim of this study is to investigate the impact of systematic explicit phonics instruction on developing decoding and automatic word recognition skills. Therefore, the objectives of the study are:

1. To find out the impact of systematic explicit phonics instruction on developing foundational reading skills (decoding and automatic word recognition skills) in the early primary classes.

2. To determine the extent to which the pupils acquire the phases of word recognition development as outlined in Ehri's (1992, 1994) model of Word Recognition development in the early grades.

3. To determine the extent to which the words on the testing instrument are decodable and comprehensible as outlined in Krashen's (1982) Input Hypothesis.

4. To determine the implication of developing decoding and automatic word recognition skills through systematic and explicit phonics instruction in the lower primary levels.

1.5 Research Questions

This study is aimed at answering the following research questions:

1. How systematic explicit phonics instruction impact on developing foundational reading skills (decoding and automatic word recognition skills) in the lower primary levels?

2. To what extent do the pupils acquire the phases of word recognition development as outlined in Ehri's (1992, 1994) model of Word Recognition Development in the early primary levels?

3. To what extent are the words on the testing instrument decodable and comprehensible as outlined in Krashen's (1982) Input Hypothesis?

4. What is the implication of developing decoding and automatic word recognition skills through systematic explicit phonics instructions in the lower primary levels?

1.6 Research Hypotheses

This research tends to be quantitative, as such experimental. The first research question is transformed into eight (8) hypotheses, resulting into four (4) hypothetical statements at the

pretest level and four other at the post test level. These hypotheses are tested using the collected and analysed data, the result of which provides the basis for answering the research questions under investigation. The research hypotheses are:

1. There is no statistically significant difference in the performance of decoding skill between pupils in the experimental group and those in the control group before the treatment period.

2. There is no statistically significant difference in the performance of decoding skill between pupils in the experimental group (Phonics School) and those in the experimental group two (nonphonics School) before the treatment period.

3. There is no statistically significant difference in the performance of automatic word recognition skill between pupils in the experimental group and those in the control group before the treatment period.

4. There is no statistically significant difference in the performance of test of automatic word recognition skill between pupils in the experimental group (phonics school) and those in the experimental group 2 (non- phonics school) before the treatment period.

5. There is no statistically significant difference in the performance of decoding skill between pupils who receive instruction in systematic explicit phonics approach and those who do not.

6. There is no statistically significant difference in the performance of decoding skill between pupils in the experimental group 1. (phonics school) and those in the experimental group 2 (non-phonics school) after the treatment period.

7. There is no statistically significant difference in the performance of automatic word recognition skill between pupils who receive systematic explicit phonics instruction and those who do not.

8. There is no statistically significant difference in the performance of automatic word recognition skill between pupils in the experimental group I and those in the experimental group 2 after the treatment period.

1.7 Significance of the Study

This study investigated how systematic phonics instruction impacts on developing foundational reading skills in the early grades, preferably, decoding and automatic word recognition skills. Evidences were generated using primary three pupils of two selected primary schools. Although many researches have been conducted in relation to the teaching of reading in the early primary levels, the insight is still inadequate as the syndrome of the teaching of reading of early primary school reading persists and negatively affects the performance of our students in their later years of academic pursuit. Among these researches, also, very few specifically investigated the systematic and explicit nature of phonics instruction. Also, a few of them investigated how systematic explicit phonics instruction impacts on developing foundational reading skills, specifically decoding and automatic word recognition, hence, the need to investigate the area more. Primary three pupils from two selected primary schools in Kano metropolis were used as the sources of data for this study. As such, the study provides more insights into the teaching of early literacy. The relationship between instructions in grapheme-phoneme correspondences (phonics) and developing decoding ability in the early readers is part of what this study establishes. The study, also, provides more insights into how systematic and explicit instruction in phonics results in developing automatic word recognition skill in children learning to read. It also determines the extent to which pupils' decoding and automatic word recognition skills differ between those who receive systematic explicit phonics instruction and those who do not. It, then, assesses the.Ehri's (1992, 1994) model of Word Recognition Development and Krashen's (1982) Input Hypothesis to determine the extent to which early grade readers acquire the

phases of word recognition development and are able to decode and comprehend the words on the testing instrument before and after the treatment period. It further determines the implication of developing the skills of decoding and automatic word recognition through systematic and explicit instruction in phonics and how it prepares children for later literacy development.

1.8 Scope and Delimitation of the Study

This research determines the impact of systematic phonics instruction on developing foundational reading skills, specifically decoding and automatic word recognition only. The study uses primary three pupils of BabbanGiji and Darmanawa Special Primary Schools only. However, the study is delimited to other reading skills like phonological awareness, fluency, vocabulary and text comprehension. It also delineates itself from any other primary pupils other than primary three pupils.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews the frontiers of knowledge on the early primary reading pedagogy which is structured in general background to beginning reading pedagogy, the concept of reading, reading pedagogy in the early primary grades, the concept of phonics, systematic and explicit phonics instruction, general sequence for teaching phonics elements, foundational reading skills, decoding and automatic word recognition skills as well as decodable texts. Equally important, previous studies in phonics instruction are reviewed. A pilot study conducted in some Kano metropolis primary schools at the research proposal level and before the fieldwork is also presented. The chapter ends with an overview of the theoretical framework employed in carrying out the study.

2.1 General Background

The prevailing interest among scholars, researchers, and theorists to investigate teaching reading in early childhood education with a view to preparing children to succeed in literacy development paves way to diversified, academically viable, and non-exhaustible areas of academic research. Many scholars (e.g., Honig et al., 2013; Adams, 1990; Yusuf and Enesi, 2012), contend that children's success in literacy development depends on the preparation they receive earlier. Literacy, here, as defined by the United Nations Education, Scientific and Cultural Organization, UNESCO (2006), cited in Izuagba*et al.* (2016), means the ability of readers to identify, understand, interpret, create, communicate, compute and use printed as well as written materials associated with varying contexts. In the Nigerian educational system, the early years of primary education are crucial to the educational development of children because it is the period in which they learn to read independently. Yusuf and Enesi

(2012), argue that, literacy, which provides the foundation upon which the required skills for an individual to participate in the society fully and meaningfully are built, could be better taught using the phonics methodology.

2.2 Reading

Reading receives a wide range of scholarly attention. Stoffelsma (2014), notes that the act of defining reading is somewhat a controversial phenomenon, claiming that there are too many processes, knowledge bases, and skills involved in the act of reading. A group of scholars (e.g., Grabe, 2009; Grabe and Stoller 2010, cited in Stoffelsma, 2014), argue that the concept of reading is far too broad to be captured in one definition. They further argue that the act of defining reading may be altered by many factors like LI and L2 discrepancies, the social context in which the reading takes place, the different goals of reading, and the type of texts that are used. In effect, such scholars propose a set of necessary processes that, together, seems to provide a good picture of the processes required for efficient reading. Grabe and Stoller (2010), cited in Stoffelsma (2014), for instance, note that "fluent reading is a rapid, efficient, interactive, strategic, flexible, evaluating, purposeful, comprehending, learning and linguistic process". Arguably, this definition seems to ignore the inevitable role of the cognitive processes involved in the act of reading.

However, some scholars suggest a variety of definitions of reading. Anderson (1999), defines reading as a process in which the reader is an active agent in the course of making meaning from the reading material. Koda (2007), has a similar view, seeing reading as a process which aims at constructing meaning based on the information encoded in a given text by the reader. Similarly, Nuttal (2005), notes that reading primarily aims at getting meaning from a text. These definitions also seem to ignore the cognitive processes involved in the act of reading. Goodman (1982), cited in Marima (2014), offers a more comprehensive definition, seeing reading as a process in which the reader attempts to make meaning of a given text. He regards

reading as a receptive language skill, wherein the reader perceives information from the text, a process parallel to listening. Goodman, further, contends that reading involves certain psychological and linguistic processes in which thought and language interact as the reader tries to make the meaning of a given text, (Marima, 2014). Given these views, reading can be described as a psycholinguistic, cognitive, purposeful, contextual, cultural, interactive, strategic and active process in which the reader brings in to the act of reading a number of skills in his/her attempt to make meaning from the written, printed or digital text.

2.3 Reading Pedagogy in Nigerian Early Primary Levels

According to the National Policy on Education (2013), the mother tongue of children or the language of the immediate community should be the medium of instruction from the pre-primary stage through the first three years of primary education, while English should be taught as a subject. From the fourth year in the primary school through the tertiary level, English remains the language of instruction and a core subject. This points to the imperative need of laying a solid foundation in the four skills of English language acquisition and learning (Listening, Speaking, Reading and Writing). Reading, as one and the most important skill of developing emergent literacy, as argued by Izuagba et al. (2016), has received a considerable amount of scholars', researchers' and theorists' attention over a long period of time. The American National Reading Panel (1997), assesses the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read. The panel comprises fourteen individuals including leading scientists in reading research, representatives of Colleges of Education, reading researchers, educational administrators, and parents. Basing their investigation on specific areas including alphabetic (phonemic awareness instruction and phonics instruction), fluency and comprehension (vocabulary instruction, text comprehension instruction, and teacher preparation and comprehension strategies instruction), teacher education and reading instruction, computer technology and

reading instruction, the research participants concluded that children learning to read in the early grades should be properly, systematically and explicitly trained in five major components of developing reading ability: phonological awareness, phonics, fluency, vocabulary and text comprehension. The panel also concluded that teacher education should receive proper attention to equip reading instructors in the early grades with the knowledge of what best works for the development of reading skills in children (National Reading Panel, 2000). This is similar to the finding of Chall's (1967) review, and that of the panelists of the American National Centre of Education Evaluation and Regional Assistance, (2016, 2017).

Phonological awareness equips children with the understanding that spoken words are composed of sounds. For example, the word 'mat' has three phonemes: /m/, /a/, /t/. Phonemic awareness instruction prepares students for the task of making a link between letters and sounds, which is the focus of the second component, phonics. Phonics means sound/letter relationship, and phonics instruction equips children with the ability to use the relationship between letters and sounds to translate printed text into pronunciation. It includes the teaching of letter sounds, how complex spelling patterns are pronounced and how to use this information to decode or sound out words. Fluency is the ability to read text aloud with accuracy, speed and proper expression. Vocabulary refers to words' meanings, and vocabulary instruction is about the teaching of words' meanings. Reading comprehension instruction refers to the act of teaching the students to understand and interpret the information within a text, (National Reading Panel, 2000).

2.4 Phonics

Phonics, according to Honig et al, (2013), is a method of instruction that sensitises students with the knowledge of the systematic relationship between letters and letter combinations (graphemes) in written language and the individual sounds (phonemes) in spoken language and how to use this relationship to read and spell words. Thus, phonics instruction is about

teaching students that written language containing letters (e.g., t, d, 1, r, a, o) and letter combination (e.g., ch, th, dg, sh), graphemes, are represented by individual sounds, phonemes, and that this, understanding allows learers to read out (decode) and spell words correctly. The National Teaching Panel (2000), notes that phonics which is intended for beginning readers in the primary grades and for older students who are struggling to read, can help students learn how to convert the printed word into its spoken form, known as decoding. Similarly, Honig*et al*., (2013), argue that decoding involves looking at a word and connecting the letters and sounds, and then blending those sounds together to read words.

2.5 Systematic and Explicit Phonics Instruction

According to the National Reading Panel (2000), the act of learning to read can be described as a complex task for beginners which requires them to coordinate many cognitive processes in order for them to read accurately and fluently, including recognising words, constructing the meanings of sentences and text, and retaining the information read in memory. A crucial part of the process for beginning readers relates to the learning of alphabetic system, that is, letter-sound correspondences, and spelling patterns, and learning how to apply this knowledge in the course of reading. Harris and Hodges (1995), cited in National Reading Panel (2000), note that systematic phonics instruction is a way of teaching reading that stresses the acquisition of letter-sound correspondences and their use to read and spell words. Many scholars (e.g., Ehri, 2006; Armbruster, Lehr and Osborn 2001; cited in Honig*et al,* 2013;), report that the findings of the National Reading Panel (2000), reveal that students who receive systematic and explicit phonics instruction tend to be better readers at the end of instruction than those who receive nonsystematic or no phonics instruction. Systematic phonics instruction, as defined by Armbruster*et al,* (2001), cited in Honig*et al.* (2013), connotes teaching a set of useful sound-spelling relationships in a clearly defined and carefully selected logical instructional sequence. The goal of systematic instruction is one of

maximizing the likelihood that whenever children are asked to learn something new, they already possess the appropriate prior knowledge and understanding to see its value and to learn it effectively (Adams, 2001). Explicit instruction incorporates lessons in which concepts are clearly explained and skills are clearly modelled, without vagueness or ambiguity (Honig*et al,* 2013). Similarly, Chall and Popp (1996), assert that learning phonics through explicit process requires less inference and discovery on the part of the students and is therefore more within their grasp. Systematic and explicit phonics can therefore be seen as instruction in phonics in which letter-sound correspondences are clearly defined and carefully selected, and exhibited in lessons in which letter-sound relationships are clearly explained and skills to practice decoding are clearly modelled, without vagueness or ambiguity. The National Reading Panel (2000), reports that for systematic and explicit phonics instruction to be effective, several different instructional approaches can be used. This may include synthetic phonics, analytic phonics, embedded phonics, analogy phonics, onset-rime phonics, and phonicsthrough spelling.

a. Synthetic Phonics: This approach, according to Honig*et al*, (2013) and New South Wales Department of Education (2009), is an approach to systematic and explicit phonics instruction in which children learn to transform letters and letter combinations into sounds, and then blend (synthesise) the sounds together and produce recognisable word. To achieve this, students are given "practice materials in the form of short decodable books or stories" which contain words with sound/spelling relationships that students have already learned or are learning.

b. Analogy Phonics: In this approach, according to Honig*et al*, (2013), students are trained to use what they learned about phonogram or rime, in a familiar word to read and/or decode sounds of the unfamiliar words having the same rime. To do so, students first, understand that "the rime of the familiar words, e.g. `ick' as in 'kick' is identical to the rime of the unfamiliar

word 'brick'. This allows them to decode the unfamiliar word by first pronouncing the rime under question and then blending it with the new onset.

c. Analytic phonics: Here, the teacher introduces a familiar word to the students. He/she then explicitly tells them that the medial sound in the word 'mat' is /a/, for example. He then introduces other words having the same medial sound as 'mat', e.g. 'fat', 'bag' and 'tap', and then asks the students to read the whole words aloud, without blending the individual sounds.

d. Embedded phonics: In this approach, phonics elements are not explicitly taught, rather embedded in the context of 'authentic' reading and writing experiences. The teacher informally introduces some phonics elements when he perceives that the students need to know them. Instruction, thus, in this approach, focuses on teaching the students to predict the identities of words using a variety of "word-solving skills" (Honig*et al*., 2013).

2.6 General Sequence for Teaching Phonics Elements

Although, scholars are not in agreement about a fixed order or sequence for teaching letter-sound correspondences (Honig et al., 2013), Chall and Popp (1996), suggest the following general sequence based on utility as well as ease of learning:

i. Single consonants and short vowels

ii. Consonant digraphs

iii. Long vowels with silent e (CVC pattern)

iv. 'Long vowels at the end of syllables or words

v. ’y’ as a vowel

vi. r-controlled vowels

vii. Silent consonants

viii. Vowel digraphs (vowel teams)

ix. Variant vowel digraphs and diphthongs

The above sequence seems somewhat implicit, hence, the New South Wales Department of Education's (2009) sequence of teaching phonics elements might be useful here. The following sequence will support the systematic teaching and learning of all 44 phonemes represented in the following order:

i. Teach students to recognise and write single letter sound (grapheme/phoneme) correspondences. Following is a possible order for introducing letter-sound correspondences a, m, t, s, I, f, d, r, o, g, l, h, u, e, b, n, k, v, e, w, j, p, y, x, q, z (Carnine, Silbert and Kamccnui, 1997, cited in NSW Department of Education, 2009). So that students can begin blending and segmenting words as soon as possible, teachers are encouraged to introduce:

a. small, groups of letters in quick succession (e.g. a, m, t, s, i, f, d)

b. the most common sound for each of the new letters.

ii. Teach students to recognise and write letter combinations (grapheme/phoneme correspondences) beginning with combinations that are easier. Examples would include consonant digraphs: sh, ch, th, ch..

iii. Explore different ways a phoneme can be represented e.g. /sh/ as in ship, mission, chef, segment words into onset (the part of the word before the vowel) and rime (the part of the word that includes the vowel), as in slip: sl (onset) and ip (rime).

2.7 Foundational Reading Skills

Globally, achieving high level of literacy among young readers continues to be a great challenge. This motivates researchers, theorists, and scholars to devote a considerable amount of researches to reshape the direction of a more meaningful literacy development in children.

The American National Centre for Education Evaluation and Regional Assistance (2016, 2017), states that in the course of developing literacy, students should receive instruction in two related sets of skills; foundational reading skills and reading comprehension skills. The former, according to Spycher (2017), are specifically called out as skills that lead to "independence with the code", that is the ability to decode text on one's own. Activities geared toward developing foundational reading skills range from phonological awareness through phonics and oral reading fluency. The latter, relates to activities which aim at developing vocabulary and text comprehension. This may include equipping students with reading techniques like sensitising, improving reading speed, and from skimming to scanning (Grellet, 1981).

However, the act of developing foundational reading skills is assumed to be more effective and successful when students are trained to develop awareness of the segments of sound in speech and how they relate to letters (National Centre for Education Evaluation and Regional Assistance, 2016, 2017). The National Reading Panel (2000), reports that training students to recognise and manipulate the segments of sound (phonemes) in words, also referred to as phonological awareness, and to use this knowledge to link or associate those segments of sounds with their corresponding letters in written language is necessary for a successful acquisition of foundational reading skills. Furthermore, the National Centre for Educational Evaluation and Regional Assistance (2016, 2017), recommends that to develop foundational reading skills, students should be trained to decode and recognise words automatically. Decoding, here, according to Honig et al, (2013), is the ability to convert written language into its spoken form.

2.8 Decoding and Automatic Word Recognition

Honig et al, (2013), maintain that instruction which aims at teaching students sound-letter correspondences prepares them for decoding. When students develop decoding ability they

acquire the skill of using printed word to retrieve the corresponding sounds of these letters. For example, they see letters: ‘t’, 'i', and 'p' in the word ‘tip’ and retrieve the sounds: /t/, /i/ and /p/ associated with those letters and say /tip/. Beck (2006), cited in Honig et al, (2013), argues that "one crucial element of decoding is the ability of blending individual sounds (phonemes) in a given word together to produce or pronounce a recognisable word". Honig et al, (2013), add that children or early readers learning to read need to be trained first to decode regular words and, then, later, exposed to decoding irregular words. By regular words, they mean words in which each letter represents its most common sound. Irregular words, on the other hand, mean words which contain "one or more sound/spelling correspondences that students do not know and therefore cannot use to decode the words". In other words, regular words, may mean words whose sound/spelling correspondences have been learned by the students and can therefore be decoded, while irregular words may mean those words which contain sound/spelling correspondences that have not been covered by the students and are therefore difficult to decode. Some irregular words are temporarily irregular while others are permanently irregular. Some words are said to be permanently irregular if a word like 'said' pronounced as /sed/, where the spelling 'ai' is not conventionally pronounced as ‘ed’ but unique to this word. Temporarily irregular words are those words which contain sound/spelling correspondences that have not been covered in the phonics instruction, but eventually change to regular words when the sound/spelling relationships have been covered (Honig et al; 2013).

Automatic word recognition, as defined by Honig et al, (2013), means "being able to decode words quickly and effortlessly". This is usually the main goal of any good phonics instruction. To this end, scholars like Stahl et al, (1998), Wolf and Bowers (1999), Hudson et al (2006), and LaBarge and Samuels (1974), cited in Honig et al, (2013), agree that systematic and explicit phonics instruction should largely provide the students with activities to develop

automatic word recognition in isolation and in connected text. It should also provide students with the ability to identify letter sound quickly and effortlessly, and that lack of adequate knowledge of automatic word recognition deprives readers of the ability to develop reading fluency, a skill essential in comprehension.

2.9 Decodable Text

Decodable text, according to Honig et al, (2013), is a material of reading practice in phonics instruction which contains sound/spelling correspondences and spelling patterns that have been covered by students previously in their phonies' instruction classes. It is assumed to be not only phonically connected", but also "coherent and comprehensible", the words should be known well by beginning readers or belong to their grade-level oral vocabularies (Anderson et al, 1985, Kamil and Hiebert, 2005; cited in Honig et al, 2013). This is similar to what Krashen (1982), referred to as "comprehensible input" in the input hypothesis, one of the five hypotheses presented in his book *Principles and Practice of Second Language Acquisition* (1982). Belmins (2006), cited in Honig et al, (2013), maintains that decodable text is an integral part of systematic and explicit phonics instruction. In a study he conducted in 2006, he finds out that students who are exposed to using decodable text "in their early reading instruction get off to a stronger start in reading development". Honig et al, (2013), add that using decodable text allows students practice what they are learning, eventually leading to automaticity, confidence and fluency, and that it serves as an intervening step between students' acquisition of phonics knowledge and their ability to read authentic literature.

2.10 Studies in Phonics Instruction.

The debate on whether reading instructions that stress early emphasis on systematic phonics are more effective than those which do not, has been a major concern of reading researchers (The National Reading, 2000). The distinct lines of argument underlying this issue

experienced changes over the years, and the topic received a considerable amount of investigations, aiming at finding out the best approach in developing literacy skills in children. Given this, below is an attempt to briefly review series of researches in early reading pedagogy as they occur from the 1960s through the present day literature.

The American National Reading Panel (2000), reports that the U.S government through the office of education founded two different but related reading research programmes, Cooperative Research Progamme in First Grade Reading and Project Literacy. The former, as explained in the panel's report reviewed "a wide-ranging research project, consisting of twenty nine separate studies in different site" with a view to determine the approach that is best for teaching beginning reading. The latter, did not directly focus on reading pedagogy, rather it concerned itself with the task of identifying "psychological" and "linguistic" processes involved in learning to read. Chall's (1967) comprehensive review of beginning reading instruction titled *Learning to Read: The Great Debate*, was carried out at almost the same time. In it, Chall analyses the research on the value of phonics, look and say, and knowing the alphabet in teaching reading. She reviewed and documented available relevant researches from 1910-1965 and concluded that early and systematic instruction in phonics seems to lead to better achievement in reading than late and less systematic phonics instruction. Chall's finding has been reaffirmed in a number of research reviews conducted since then, (e.g., Adams, 1990; Anderson et al, 1985; Balmuth, 1982). However, Chall's finding, suffered somewhat endless criticisms. Part of the reasons for the controversy, reported by the panel, is that politics, ideology, and philosophical disagreements about how children learn to read have been mixed up with phonics instruction (Grundin, 1994; Taylor, 1998; Weaver, 1990).

Moreover, the National Reading Panel (2000), notes that children learning to read who receive systematic and explicit phonics instruction tend to perform better in reading than

those who receive nonsystematic or no phonics instruction. The National Centre for Education Evaluation and Regional Assistance (2016, 2017), recommends that beginning readers need to be systematically and explicitly trained in four areas of early literacy development. First, the panelists argue that children in early ages of literacy development should be equipped with "academic language skills" which sensitises them with the ability of making inferences in using "narrative language and vocabulary knowledge". This recommendation seems to be one of the major modifications made on the findings of the National Reading Panel report (2000). Besides, the panelists recommend that children should receive instructions which incorporate lessons on phonemic awareness and letter-sound correspondences (phonics). They should also be trained to develop decoding ability and progressively in reading accuracy, fluency, and comprehension. Another modification made is that these four areas need to be concurrently taught to children learning to read so that when they come to the stage of reading to learn they will not be found wanting (National Centre for Education Evaluation and Regional Assistance, 2016, 2017).

Equally important, in order to investigate the impact of systematic and explicit phonics instruction on the development of foundational reading skills in third grade, other researchers' voices should not go unrecognised. Researchers at the national and international levels devoted considerable amount of researches investigating phonics instruction with a view to vividly explain its relationship with other components of literacy development and how it contributes to the development of beginning reading ability in children.

Esheit (2014), a PhD student in Education and Applied Linguistics from Newcastle University, United Kingdom, conducted a research on "Synthetic Phonics as a Tool for Improving the Reading Skills of Nigerian Pupils". Basing her argument on research findings which reveal that most of the Nigerian fourth grade primary school pupils, who by virtue of the National Policy on Education (FGN, 2013), are expected to have developed the necessary

reading skills from phonemic awareness through text comprehension by the end of the third grade, are not equipped with sufficient skills of reading the English language. Esheit used two hundred and twenty-two pupils, nine teachers and nine schools as her research subjects. After administering a pre-test to both the control and treatment groups, a training in using synthetic phonics method was given to the nine selected teachers. After the treatment period, a post-test was administered to both the two groups, the control and treatment groups. A focus group discussion was carried out with the nine teachers, and the pupils in the treatment group were interviewed. Analysing the collected data cumulatively, the research finds out that using synthetic phonics method creates collaborative and engaging environment for learning, which, in turn, motivates the pupils to learn letter-sound correspondences.

The nine teachers who were trained in the synthetic phonics method before the treatment period demonstrated more confidence to teach the English language alphabetic system and found the synthetic phonics method very useful and easy to use. The findings show that the pupils in the treatment group performed better in reading than those in the control group. By critical assessment, the study is very rich in that it determines the effectiveness of synthetic phonics on the basis of students' performance in phonics both prior and after intervention period.

Hingston (2017), a reading instructor in the University of Southern Marine, United States of America, conducted an action research for the Capstone Research Projects on the topic "The Impact of Explicit Systematic Phonics Instruction on the Areas of Decoding and Fluency for Students with a Specific Learning Disability in Reading". In the action research report published in 2017, it is reported that phonics intervention programme, Specialized Programme Individualising Reading Excellence (SPIRE) was implemented on the sampled students over the course of four weeks. The sample comprises two fourth grade students and one sixth grader, all identified with specific learning disability in reading. Two sets of tests

were administered on the sampled students, pre-test (prior to the implementation of the SPIRE), and post-test (after the programme is implemented). Also, the students' participation in the SPIRE was measured using a survey by the researcher. The findings of the study reveal that the students perform better in the post-test compared to their performance in the pre-test. Indeed, the research, when assessed critically, can be said to have succeeded in determining the effectiveness of the Specialised Programme Individualizing Reading Excellence (SPIRE) on improving the students' decoding accuracy especially those identified with specific reading disability. The students' reading fluency also increased by one hundred percent after the treatment, which, in turn, shows that the SPIRE is also a very good tool for improving student's reading fluency especially those identified with specific reading disability.

Hardy (2016), a master's degree students in the Canterbury Christ Church University, United Kingdom, conducted a master's degree research on Synthetic phonics, an approach of teaching systematic phonics in which teachers teach letter-sound correspondences and how to blend them to decode words in isolation and in connected text. In this study, the researcher investigated synthetic phonics and determined its impact on developing reading skills in teaching children who learn English as an Additional Language (EAL) to read. The research subjects included four EAL children aged between six and ten-year-old who were from a Czech and Slovak Roma community and attended primary school in the south-east England and reading teachers as well as reading teaching assistants in the school. Semi-structured interviews were used for the teachers and teaching assistants, whereas structured-interviews were used for the children. Lesson observation was also conducted. After analysing the collected data, the results show that synthetic phonics appear to be very useful in developing decoding ability. The results also show that inadequate lexical knowledge in children impedes their comprehension. It was also revealed that retrieving the letter-sound correspondences seems somewhat challenging on the part of the children learning to read.

The research concluded that for EAL children to succeed in learning to read, their lexical knowledge should be given much attention. Also, the synthetic phonics is very useful and can be used to teach children learning to read globally.

Zakari (2016), a master's degree student in English language from the Department of English and Literary studies, Bayero University, Kano, compares "the whole language" method of teaching reading and "the phonics method" in order to find out which one, if used in teaching children to read, will be more effective. To achieve this, the researcher uses two schools as the research subjects, wherein one school uses the whole language method and the other uses the phonic method to teach reading. In each of the schools, thirty two pupils were randomly selected, making sixty four pupils as the research participants. The researcher used a paired sample t-test statistical tool in analysing the data. The results of the data analysis show that there is a significant difference in the performance of students taught using the phonics method compared to those who received instruction in the whole-language method. However, the research, by critical evaluation, may be criticised of making overgeneralisation in asserting that children should be exposed to phonics before any other form of reading instruction. The basis for this criticism is that many scholars (e.g. The National Reading Panel, 2000; the panelists of the National Centre for Education Evaluation and Regional Assistance, 2016, 2017), agree that children learning to read should be systematically and explicitly taught to read from phonemic/phonological awareness through phonics, fluency, vocabulary and text comprehension. This shows that phonemic awareness is the basis upon which phonics instruction is built and any deficit in acquiring the phonemic awareness knowledge might lead to difficulty in learning the letter-sound correspondences. Besides, the researcher is not specific and clear in the theoretical framework, where various theories of reading are reviewed without being specific on the theory that the study uses and how it is used. This might make the study to be described as theoretically baseless.

Maikaba (2015), another master's degree student in the Department of English and Literary Studies, Bayero University, Kano, investigated how effective is phonics instruction in teaching primary one pupils to read by using Bayero University, Kano Staff School as a case study. Using experimental research design, the researcher randomly assigned the experimental and control groups. However, the researcher does not report what happened before the treatment period, rather, directly reports that a treatment was given in form of phonics instruction to the intervention group after which the two groups were tested. The result of her data analysis reveals that phonics instruction is very effective in teaching children to read in the early years of literacy development. This further proves the findings of many researches in phonics instructions (e.g. Zakari, 2006: Esheit, 2014; National reading Panel Report, 2000).

Moodie-Reid (2016), a PhD student from the Walden University in United States, conducted a doctoral study in which the teachers' perceptions on the impact of Jolly Phonics programme on students' literacy was investigated. In the course of this study, eight school teachers were interviewed. The results of the data collected reveal that jolly phonics programme positively impacts on early grades school curriculum and instructional delivery. It helps student with less basic literacy skill to catch up, and results in developing phonemic awareness, writing, comprehension and listening skills. Besides, the study finds out that Jolly Phonics programme serves as a means of helping struggling readers in grades 1-3. Obviously, this study largely focuses on the teachers, neglecting the significance of early grade readers' participation in the Jolly Phonics programme. Indeed, it would be more clear, objective, and reliable if the children were participants in the study.

Thaen-nga and Leenam (2016), researchers from the Department of English, UbonRathchathaniRajabaht, Thailand, investigated how phonics instruction can be used to enhance students' reading ability. Randomly sampling thirty grade three students of the Nam

Yuen School, Nam Yuen district, Thailand, the researchers used the pre-test and post-test experimental research design. Using mean, percentage and standard deviation as statistical tools in analyzing the data, the researchers' findings reveal a statistically significant main effect ($P < .001$) which indicates a significant difference in the students' performance in post-test scores (after receiving treatment in phonics instruction) compared to their performance in the pre-test scores (before receiving treatment). It is obvious that although the researcher investigated how phonics instruction contributes in enhancing students' reading ability, they did not specify the aspect of reading ability under investigation. The aspects of reading ability in early readers according to many scholars (e.g. Honig et al, 2013; National Reading Panel, 2000), include decoding, word recognition and automaticity.

2.11 Pilot Study: Classroom Observation

To validate the viability of this study, the researcher visited Gobirawa Special Primary School in order to observe how phonics instruction takes place in primary one, two and three. In the course of the classroom observation, four classes were visited when the phonics instruction lesson was going on. These include primary 1A, 1B, 2C and 3A. The findings of the classrooms observation are summarised in the following paragraphs.

In primary one 'A', the teacher uses the grouping method. The lesson centered on teaching of /t***s*** / and /***s***/ consonant digraphs. Introducing the sounds on flash cards to students, the teacher asks them to pronounce the sounds correctly and they are able to do so at an average level. The teacher then asks the students to give examples of words containing these two consonant digraphs. The examples given include 'shop', 'chin', and 'chop'. The teacher asks the students to segment the individual sounds in each of these words and they are able to do so, for instance, they segment the individual sounds in the word 'shop' as /***s***/, /i/, and /p/. This means that the pupils are able to associate some letters with their corresponding sounds in words in isolation.

In primary one 'B', the pupils are grouped. Individual sounds like /i/, /g/, /l/, /P/, /o/ and /k/ are introduced on cards. However, an explanation is not given in a situation where a single letter such as 'c' can represent more than one sound. This shows that the phonics instruction in this class is neither systematic nor explicit. Instead, the students are guided by the teacher to form recognisable words using the cards containing the sounds. The pupils are then engaged in practicing substitution strategy. For example, the word 'fix' contains three individual sounds /f/, /i/, and /ks/, and another word 'fox' can be formed if the medial sound /i/ is substituted with /o/. The pupils are also engaged in practicing deletion strategy. For example, if the initial sound /p/ is deleted from the word 'pin', a new word 'in' is formed. However, the lesson in this class is not particularly phonics in nature, rather it can be said to be geared towards developing phonemic awareness. This is because no letter-sound relationship is taught. In fact, all the activities that the pupils are engaged in are part of phonemic awareness instruction.

In primary two 'C', it is evident that letter-sound correspondences are being taught because pupils are able to remember some letters and the sounds that represent them without being exposed to them. The basis for this observation is driven from the initial part of the lesson where the teacher asks the pupils to say the sounds and the letters which represent them that have previously been learned. The pupils are able to do so by saying out sounds like /a/, /k/, /s/. The pupils are then asked to give words which contain these sounds. They are also able to do so as they mention words like 'snake', 'ant', 'look', and 'arm'. However, an explanation is not given in a situation where one sound is represented by more than one letter, and one letter represents more than one sound. This is part of what should be included for any phonics instruction to be systematically explicit.

In primary 3'A', the lesson at the time of the visit focused on the letter sounds 'a' and 'e'. The lesson was particularly aimed at practicing decoding ability. The teacher gives some words in

isolation like 'take, make, race, escape, and game', to be decoded by the pupils. Indeed, they are able to do so with some little level of accuracy. The pupils are then asked to spell out each word which they are also able to do. A set of 3-letter words is then presented to the pupils and they are asked to add a helpful 'e' at the end of each word. For example, mad + e = made, mat + e= mate, and rat + e = rate. The pupils are also able to do so. However, it should be noted that this is third grade, and the expectation on the pupils in this stage, as stipulated in the national policy on education (FGN, 2013), is that they should have acquired all the five major components of early literacy development ranging from phonemic awareness, phonics, fluency, to text comprehension. What the pupils are doing is part of developing decoding, words recognition and reading fluency. Even these are not systematically and explicitly being done. This means the pupils may find reading difficult when they reach fourth grade, a stage in which they will begin reading to learn.

In summation, based on what was observed in the four classes visited, it becomes evident that phonics instruction is being practised. This means the proposed study can be carried out. Again, the phonics instruction in the early grade is not being done in a systematically explicit manner, hence, investigating to test how systematic and explicit phonics instruction can make a positive impact on developing foundational reading skills in the third grade, particularly decoding and automatic word recognition, is viable. The basis for this thesis is fundamentally rooted on what many scholars contend (e.g. National Reading Panel, 2000; National Centre for Education Evaluation and Regional Assistance, 2016, 2017; New South Wales Department of Education and Training, 2009). According to these scholars, systematic phonics instruction is inevitably needed for foundational reading skills to be developed. These empirical evidences in the most current researches in phonics instruction positively influence the other three major components of reading instruction in early grades. For example, if students learning to read learn to effortlessly unlock the relationship between

letters and sounds in decoding words in isolation and in connected text and to develop word recognition, skills, they will easily acquire fluency, vocabulary and text comprehension. The overall result of this process is automaticity in reading (National Reading Panel, 2000).

2.12 Theoretical Framework

The reading process is so complex to the extent that its development has been theorised in different ways by a considerable number of scholars according to their various academic inclinations. The theoretical framework guiding this study is developed by drawing ideas from two different but inter-related theories: Ehri's phases of word recognition development and Krashen's input hypothesis. The former was used to describe the phases of automatic word recognition development, determining how well the pupils have acquired the five phases. The latter guided this study on the research instrument used, determining its comprehensibility and decodability as well as the assessment of the input hypothesis.

Ehri (1992), contends that children and other disabled readers learning to read learn to recognise word by making connection between letters in written language (graphemes) and individual sound representing those letters in spoken language (phonemes). Ehri (1998), adds that the act of reading is the result of what happens during the process of learning to recognise words. As such, the skill of automatic word recognition is developed in five phases: the pre-alphabetic phase, the partial alphabetic phase, the full alphabetic phase, the consolidated alphabetic phase, and the automatic alphabetic phase (Ehri and Mc Cormick, 1998; Ehri, 2002; Ehri and Snowling, 2004). Readers see the spelling of a given word in written form, retrieve the sounds (phonemes) associated with the letters in the spelling from their grapho-phonemic knowledge to read words. This process of making connection between letters and sound, known as decoding, allows readers to remember how to read not only words containing conventional letter-sound correspondences but also words that have regular spellings. Through this, sight words are developed, resulting into acquiring automatic word

recognition skill. This is based on the notion that, in order for students to read and comprehend text, they must be able to read most of the words accurately (EhriarfdSnowling. 2004). The process of acquiring automatic word recognition, culminated in five phases, according to Ehri. can be described as follows:

1. **Pre-Alphabetic Phase:** Readers in the pre-alphabetic phase are typically pre-school and kindergarten pupils who do not have any knowledge about letters or sound associated with those letters. They largely depend on other visual cues to read words. For example, a child can retell a story he/she has heard read aloud by using the pictures as cues. Making meaning, thus, depends on rudimentary connection between visual cues and the spoken words. For a child to move beyond this phase, some letter knowledge and phonics awareness need to be acquired.

2. Partial Alphabetic Phase: The word “partiar” connotes that in this phase children begin to know some letters and sound. They use this little sound/spelling knowledge to identify words by recognizing the first letter or the first and the last letters in particular word. To progress to the next phase, student must know all the letters of the alphabet and at least, the most common sound associated with those letters.

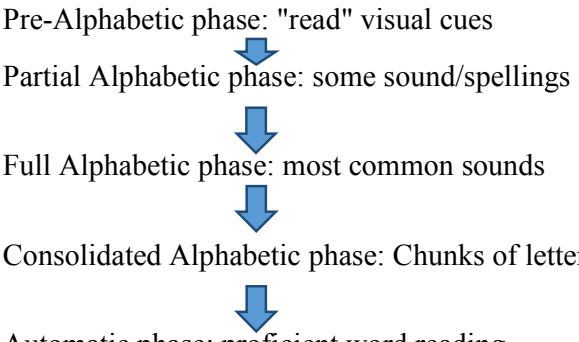
3. Full Alphabetic Phase: The word "full", here, shows that children in this phase have extensive knowledge of the alphabetic system. As such, children read a word by using their alphabetic system knowledge which allows them to recognise letters and sounds, attending to each letters in the word. Although their decoding ability in this phase is slow, frustrating and laborious, with practice it becomes more proficient and automatic.

4. Consolidated Alphabetic Phase: Students in this phase improve their knowledge of alphabetic system by beginning to relay more on multi letter pattern or chunks within words than on individual sound-spelling correspondences. They also begin to be able to recognise

unknown words using their alphabetic knowledge of known pattern. Through this analogy their sight word vocabulary increase.

5. Automatic Alphabetic Phase: The word "automatic" in this phase implies that students' word recognition skill becomes automatic. Children mostly encounter words in the act of reading which are part of their sight word vocabulary. This allows them to automaticallyrecognise words, devoting less energy to retrieving letter-sound correspondences and more energy to making meaning of a text.

In summation, a smooth transition from the pre-alphabetic phase through the automatic alphabetic phase results in the successful development of automatic word recognition skill (Ehri, 2002). This can be illustrated below:



Phases of Word Recognition Development (Adopted from Honig et al, 2013).

The input hypothesis, on the other hand, is one of the five hypotheses developed by Steven Krasen in his book *Principles and Practice of Second Language Acquisition*, (1982). Krashen, a professor of Linguistics at the University of South California, formulated the input hypothesis arguing that we acquire language by understanding messages. This acquisition is possible through exposure to what Krashen called "comprehensible input". The basic claims of the input hypothesis are presented in four statements:

I. The input hypothesis relates to acquisition, not learning.

II. We acquire by understanding language that contains structures a little beyond our current level of competence (i+1). This is done with the help of context or extra-linguistic information.

III. When communication is successful, when the input is understood and there is enough of it, i+1 will be provided automatically.

IV. Production ability emerges. It is not taught directly.

Although the input hypothesis has been criticised by many scholars interested in second language acquisition (e.g., McLaughlin, 1987; Gregg, 1984), it has been supported by numerous evidences from researches in First Language Acquisition in children, Second Language Acquisition and Applied Linguistic Research (e.g., Newport, Gleitman, and Gleitman, 1977; Long, 1980; Hakuta, 1974; Clark and Anderson, 1980; Terrell, 1977). However, it is the second statement of the input hypothesis that the present study applies in the course of developing its research instrument and its assessment.

The second statement of the input hypothesis is that we acquire by understanding language thatcontains structure a little beyond our current level of competence (*i+1*). Krashen (1985),contends that "i" represents our current level, and "1" represents the next level. By comprehensible input, he means structure that can be understood by the language learner. Assessing these two notions critically, Lightbown and Spada (2006), cited in Liu (2005), note that “I” can best be defined as the level of language already acquired, and "+1'" as a metaphor of language (words, grammatical forms, aspects of pronunciation). To this end, the present studyconsiders letter-sound correspondences aimed at in the research instrument in words in isolation and in connected text as the "i", while the knowledge of the relationship between those letters and sounds to be acquired in the systematic explicit phonics instruction within the treatment period as the “+1” Again, the concept of comprehensible input, which

transcends the scope of message meaning and grammar to cover such aspects as words and pronunciation is used in ensuring that the words included in the research instrument exhibiting the letter-sound correspondences which the experiment aims at are comprehensible and decodable.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents how the study was conducted which culminated into the research design used, population of the study from which the sample is selected, the instrument used in collecting the data, its validity and reliability, the procedure for collecting the data, the pedagogical intervention used, the dependent and independent variables of the study and the procedure used in analysing the data.

3.1 Research Design

This study is largely quantitative in nature. Quantitative data is therefore needed in order to attain the aim and objectives of the study. For this reason, the research adopted a quasi-experimental research design, non-equivalent pretest post-test research design. In this design, according to Marczyk, Dematteo and Festinger (2005), two groups of participants are formed, the experimental and the control groups. The dependentvariable is measured prior and after the treatment period. The rationale behind this selection liesin the fact that random assignment of the participants of this study to the experimental andcontrol groups is not feasible because they are primary three pupils who are assigned to theirrespective classes officially and this cannot be altered by the researcher. Phakiti, (2014) andMarczyk et al., (2005), contend that when random assignment, one of the best ways to ensure internal validity, is not possible, researchers are mandated by the circumstances to use any of the quasi-experimental research designs. The chosen design fitted this study in that it provided the researcher with the pretest and post-test data which helped the researcher to establish the temporal precedence of the independent variable to the dependent variable, leading to the establishment of the natural impact of the independent variable under investigation. This also

made it possible for the researcher to infer that the independent variable is responsible for any significant difference observed in the result of post-test compared to the result of pretest.

3.2 Population and Sample of the Study

This section describes the entire target population and the accessible population of this study as well as the sampling technique used in determining the sample of the study.

3. 2. 1 Population of the Study

Population refers to the entire subjects that a research study involves itself with, irrespective of the subjects to participate or otherwise in the actual study. It, thus, encompasses all the individuals, cases, phenomena, or situations that a study targets from which the sample was determined using appropriate sampling technique (Murphy, 2016). In view of this, the target population of this research included all primary three pupils across Nigerian primary schools and their educational level mates across the world. The subjects included in the target population are characterised by being in their transitional stage from learning to read to reading to learn. However, it is not possible for the sample of this study to be determined from this larger population. As a result, the study used the entire primary three pupils of the two selected primary schools as its accessible population.

3.2.2 Sample and Sampling Technique

Sample refers to the specific subjects or individuals who participate in the actual study irrespective of being randomly or non-randomly sampled. It is, thus, a portion of a population (Etikan, Musa, &Alkassim, 2016). The researcher resides in Tarauni Local Government Area. As such, the researcher used convenient sampling technique. In this way, two primary schools in this area (Darmanawa Special Primary School, the Phonics school, and BabbanGiji Primary School, the non-Phonics school) were selected to control some financial and time constraints in carrying out this study. The researcher employed the convenience sampling

technique. The convenience sampling technique is a nonrandom sampling technique in which subjects of the target population share certain characteristics like easy accessibility, geographical proximity, availability at a given time, and the willingness to participate in the study, were used in conducting this study (Dornyei, 2007; Hatch &Lazaraton, 1991; Palinkas, Green, Wisdom, &Hoagwood, 2013; Leiner, 2014; and Mackey & Gassing, 2005, cited in Etikan*et al.*, 2016). It is against this background that this study used the convenience sampling technique because the sampled participants are primary 3 pupils who share the same geographical proximity, and are easily accessible and available the researcher as at the time of carrying out the study.

3.2.3 Sample Size

The total accessible population of this study is six hundred and eight (608) primary three pupils from which a sample size of two hundred and thirty six (236) pupils was determined using Research advisor's (2006) table of determining sample size. The determined sample size was shared between the two schools with each one having one hundred and nineteen pupils. In each school, the one hundred and nineteen pupils were randomly divided into two groups, the experimental and the control groups. Each group has fifty nine pupils.

3.3 Instrumentation

This section presents the research instrument used in collecting the data of this study, the justification for using it, its validity and reliability, the procedure for data collection, the dependent and independent variables and the pedagogical intervention used during the treatment period of the study.

3.3.1 Data collection Instrument

The research instrument used in collecting the data is a researcher-made achievement test. The decision to construct this instrument arose because most of the available standardised

tests do not fit the educational abilities of the sampled students. Thus, the construction of the new instrument was guided by the United K ingdom Standards and Testing Agency's Assessment Framework for the Development of the Year 1 Phonics Screening Check (2017), and its newer version, Phonics Screening Check: Administration Guidance (2019).

The instrument was titled Test of Decoding and Word Recognition Skills (TDWRS) and contained three sections. Section one gave an overview of the structure of the instrument in terms of the objectives of each section of the test and how individual items were structured and scored.

Section two aimed at testing the pupils' decoding skill. The section contains five items, with each item containing three words. The pupils were grouped and asked to read the words in each item, and they are assessed as whether their decoding ability is very accurate (a =4 marks), accurate

(b.=3 marks), less accurate (c.=2 marks), or inaccurate (d.=l mark).

Section three aims at testing the extent to which the pupils are able to automatically recognise words as wholes in connected texts. There are five items in this section. Each item in this section contains a simple sentence exhibiting some of the grapheme-phoneme correspondences that this study focuses on. Each of these five items is accompanied by 4 grades, where a. very automatic =4 marks, b. automatic= 3 marks, c. less automatic = 2 marks, and d. not automatic = 1 mark. The pupils' word recognition skill is assessed as such.

3.3.2 Validity of the Research Instrument

Validity is the extent to which a measuring instrument measures what it purports to measure. Researchers are mandated to consider threats to internal and external validity. There are many types of validity which include content validity, construct validity, criterion-related validity, and face validity (Phakiti, 2014; &Marczyk et al., 2005). However, two types of validity,

content validity and face validity, are ensured on the instrument used. Content validity is the extent to which items on the instrument measure the intended variable. The content validity of the research instrument is ensured by carefully associating each item on the instrument with the intended learning outcome being measured. This is done with the help of the supervisor and experts in research methodology. Additionally, face validity, which relates to the appearance of items physically in terms of wording, language use, and grammatical accuracy, is also ensured with the help of the supervisor and experts in research methodology.

3.3.3 Reliability of the Instrument

Reliability refers to the extent to which a measuring instrument is consistent. There are three major types of reliability which include, test-retest, equivalent form, and internal consistency (Phakiti, 2014; &Marczyk et al., 2005). The third type, internal consistency, which relates to the extent to which items on the instrument are consistent, is found to be more relevant to this study. It was ensured with the help of the supervisor and research experts, where 75% of the items are found to be consistent which is within the standard requirement of reliability.

3.3.4 Procedure for Data Collection

The quantitative data needed for this study were collected in three stages. The researcher collected an introductory letter from the office of the Head of English and Literary Studies Department, Bayero University Kano which was presented to the heads of the two selected primary schools. The researcher then randomly divided the primary three pupils into the experimental and the control groups. Thus, in each school there were two groups, the experimental and control groups, with each group having the total number of fifty nine pupils. The researcher attended the pupils individually and asked them to look at the words and sentences on the pretesting and post-testing instruments and read. The dependent variable was measured in both the two groups, after which the experimental groups received the

pedagogical intervention for a period of four weeks. Finally, the dependent variable was post tested which marked the end of the data collection process.

3.3.4 Variables

The term "variable" is derived from the word "vary" meaning "change", which is suffixeted with "able" meaning "ability" to mean something that is subject to change. More technically, variable is any "thing" that can take on two or more values (Marczyk et al., 2005; Phakiti, 2014). The variables of this study are the systematic explicit phonics approach as it controlled the students' performance and the students' ability to effortlessly decode and automatically recognise words while reading as it was controlled by the systematic phonics approach. The two major types of variable are the independent variable and the dependent variable.

3.3.4.1 Independent Variable

Independent variable is a type of variable that the researcher controls, experiments or manipulates in an experiment, and it influences the dependent variable. In other words, independent variable is the presumed causal factor in the experiment (Phakiti, 2014). The independent variable in this study is the systematic phonics instructions approach used at the intervention period because it influenced the students' ability to decode and recognise words in the reading activity.

3. 3. 4. 2 Dependent Variable

If the independent variable is the presumed causal factor that influences the dependent variable, then dependent variable is the presumed effect. The dependent variable of this study, therefore, is the pupils' ability to effortlessly decode and recognise words while reading

because it was influenced by the systematic explicit phonics approach used during the treatment period.

3. 3. 5 Pedagogical Intervention

The educational programme used as the treatment to the experimental groups was developed based on the Nigerian Primary Schools Curriculum. It is aimed at systematically and explicitly training the pupils in twenty grapheme-phoneme correspondences which are carefully selected based on their frequency of occurrence in children's reading books and as being simple or complex. Approximately, four weeks were spent on the pedagogical intervention where at least two sounds were treated per lesson with adequate practice and drilling activities. During the treatment period, the pupils are systematically and explicitly guided to unlock the relationship between the targeted grapheme-phoneme correspondences to read and spell words. An example of how the pupils were guided to do so might describe the intervention programme better. This example can be given with the systematic relationship that exists between the letter 'C and the sounds it represents in the written language. The pupils are guided to identify that:

i. The letter 'c' is pronounced as /s/ and as /k/ respectively.

ii. It is pronounced as /s/ when it is followed by any of the graphemes:

   a. 'e' as in centre, cell, percentage, pronounce.

   b. ‘y’ as in cyber, bicycle, juicy, mercy.

   c. 'i' as in city, cite, citadel.

   d. 'ir' as in circle, circuit, circulate.

e. 'er' as in certificate, concert.

iii. It is pronounced as /k/ when it is followed by any of the graphemes:

a. 'a' as in call, cat, canoe, calendar

b. /o/ as in coffee, come, contract

c. 'u' as in cube, cute, circumstances, circulation

d. 'ur' as in curtail, curfew

iv. It is also pronounced as /k/ when followed by any consonant letter, eg., club, protect, create, climb

v. It is also pronounced as /k/ when it appears at the end of a word, eg., panic, picnic, mechanic, electric

New South Wales Department of Education's (2009).

3.4 Procedure for Data Analysis

The data of this study tend to be quantitative. As a result, an inferential statistic parametric test, t-test for independent samples was applied in analysing the data. It is a procedure for t-test calculations used to compare the means scores of two samples. Its main concern was to find out the difference between the mean scores of two groups and identify whether the difference is significant or not (Lawal, 2011). The t-test for independent samples is therefore relevant in the data analysis of this study because it allowed the researcher to calculate and compare the mean scores of the experimental and the control groups in each school, and compare the mean scores of the two schools before and after the treatment period. The result of these comparisons helped the researcher to determine the difference between the control

and the experimental groups within each school, and between the two schools. This allowed the researcher to determine the natural impact of systematic phonics instruction on developing foundational reading skills in the lower level of primary education.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, DISCUSSION AND FINDINGS

4.0 Introduction

This chapter presents and analyses the data of this study. As such, it begins by presenting the profiles of the pupils used as the research participants of the study. It proceeds to present the pretest and post-test scores across the two selected schools which are summarised in two tables. The chapter then moves to present the group or descriptive and inferential or independent samples t-test statistics derived from the SPSS software by entering the collected raw data. In the same vein, the eight formulated null hypotheses were tested, the result of which leads to the answers of research questions under investigation. It ends with a summary of the major findings of the study.

4.1 Profile of Pupils

The target population of this study is six hundred and eight (608) pupils comprising primary three pupils of the two selected primary schools. Two hundred and thirty six (rounded up) is determined as the sample size of this study from the target population using Research Advisor's (2006) Table of determining sample size. The following table presents the profile of the pupils in terms of their number, gender, age and group membership by frequency (F) and percentage (%).

Table 4.1: Profile of research participants.

Profile	Category	Frequency	Percentage (%)
Gender	Male	165	69.9 %
	Female	71	30.1 %
	Total	**236**	**100%**

Age	10	137	58.1 %
	9	50	21.2%
	8	49	20.7 %
	Total	**236**	**100%**
Experimental group 1	Phonics school	59	25%
Experimental group 2	Non-phonics school	59	25%
Control group 1	Phonics school	59	25%
Control group 2	Non-phonics school	59	25%
	Total	**236**	**100%**

4.2 Data screening and Entry

The determined sample size, two hundred and thirty-six, was shared between the two selected schools, where each school carried 118. Within each school, the randomly selected 118 pupils are also randomly divided into two groups, the experimental and control groups, with each group having 59 subjects. Before the treatment period, a pretest was administered across the four groups. A pedagogical intervention using systematic phonics instruction was given to the experimental groups 1 and 2 in the two schools, while the control groups received their normal instructional lessons for a period of four weeks. After the treatment period, all the four groups were post tested. The pretest and post test scores were properly screened, where the 10 items on the instrument were grouped into decoding and word recognition items, with each group having five items. The number of the research participants is somewhat large Therefore the scores of each pupil on the items testing decoding skill were summed up and also for item testing automatic word recognition, thereby having 59 scores on the decoding skill and 59 scores on the automatic word recognition skill for all the four groups. The screened data were then entered into the Statistical Package for Social Sciences (SPSS)

software and analysed using T-test for independent samples, where comparison was made between the experimental and control groups and between experimental group 1 and experimental group 2, both at pretest and post-test levels.

4.3 Data Presentation

The following Tables present a cumulative summary of the collected data for pretest and post test scores. The frequency (F) and percentage (%) of the pupils in terms of scoring a, b, c or d, where a=4 marks, b= 3 marks, c= 2 marks, and d=l mark, with 40 as the maximum score and 10 as the minimum score, are summarised and presented for each item.

Table 4.2: A cumulative Summary of pretest and post-test scores by frequency and percentage

S/N	Testing Variable	Item	A=4		B=3		C=2		D=1		Total	
			F	%	F	%	F	%	F	%	**F**	**%**
1.	Decoding	Centre Boy Book	0	0%	5	2.1%	20	8.5%	211	89.4%	**236**	**100%**
2.	Decoding	School Classroom City	**0**	**0%**	**8**	**3.4%**	**30**	**12.7%**	**198**	**84%**	**236**	**100%**
3.	Decoding		**0**	**0%**	**8**	**3.4%**	**37**	**15.7%**	**191**	**80.9%**	**236**	**100%**
4.	Decoding		**0**	**0%**	**4**	**1.7%**	**33**	**14%**	**199**	**84.3%**	**236**	**100%**
5.	Decoding		**0**	**0%**	**8**	**3.4%**	**39**	**16.5%**	**189**	**80.1%**	**236**	**100%**

6.	Automatic Word Recognition	**0**	**0%**	**12**	**5.1%**	**43**	**18.2%**	**181**	**76.7%**	**236**	**100%**
7.	Automatic Word Recognition	**0**	**0%**	**10**	**4.2%**	**32**	**13.6%**	**194**	**82.2%**	**236**	**100%**
8.	Automatic Word Recognition	**0**	**0%**	**16**	**6.8%**	**39**	**16.5%**	**181**	**76.7%**	**236**	**100%**
9.	Automatic Word Recognition	**0**	**0%**	**18**	**7.6%**	**46**	**19.5%**	**172**	**72.9%**	**236**	**100%**
10.	Automatic Word Recognition	**0**	**0%**	**22**	**9.3%**	**49**	**20.8%**	**165**	**69.9%**	**236**	**100%**

The above table presents a cumulative summary of the performance of the 236 sampled primary three pupils in both the phonics and nonphonics school on decoding and automatic word recognition skills by frequency and percentage. In summation, the scores show that the pupils in the phonics school performed significantly better than those in the nonphonics school on both decoding and automatic word recognition skills.

Table 4.3: A cumulative Summary of Post-test Scores by Frequency and Percentage

S/N	Testing Variable	Item	A=4		B=3		C=2		D=1		Total	
			F	%	F	%	F	%	F	%	F	%
1.	Decoding	Centre Boy Book	92	39%	26	11%	102	43.2%	16	6.8%	236	100%
2.	Decoding	School Classroom City	89	37.7%	24	10.2	104	44%	19	8.1%	236	100%
3.	Decoding		90	38.1%	28	11.9%	112	47.5%	6	2.5%	236	100%
4.	Decoding		82	34.7%	36	15.3%	110	46.6%	8	3.4%	236	100%
5.	Decoding		97	41.1%	29	12.3%	104	44.1%	6	2.5%	236	100%
6.	Automatic Word Recognition		102	43.2%	37	15.7%	87	36.9%	10	4.2%	236	100%
7.	Automatic Word Recognition		91	38.5%	36	15.3	106	44.9%	3	1.3%	236	100%
8.	Automatic Word Recognition		94	39.8%	32	13.6%	89	37.7%	21	8.9%	236	100%
9.	Automatic		89	37.7%	22	9.3%	97	41.1%	28	11.9%	236	100%

	Word Recognition										
10.	Automatic Word Recognition	**82**	**34.7%**	**24**	**10.2%**	**93**	**39.4%**	**37**	**15.7%**	**236**	**100%**

Table 4.3 presents a cumulative summary of posttest scores by frequency and percentage. The table shows that on item 1, 92 pupils (39%) scored A, 26 pupils 24 pupils scored B (11%), 102 pupils (43.2%) scored C and 16 pupils (16.8%) scored D. 89 pupils (37.7%) scored A on item 2, 24 pupils scored B (10.2%), 104 pupils (44%) scored C and 19 pupils (8.1%) scored D. On item 3, 90 pupils (38.1%) scored A, 28 pupils (11.9%) scored B, 112 pupils (47.5%) scored C and 6 pupils (2.5%) scored D. On item number 4, it is presented that 82 pupils (34.7%) scored A, 36 pupils '(15.3%) scored B,» 110 pupils (46.6%) scored C and only 8 pupils (3.4%) scored D. 97 pupils (41.1%) scored A. On item number 5, 29 pupils (12.3%) scored B, 104 pupils (44.1%) scored C and only 6 pupils (2.5%) scored D. On item 6, up to 102 pupils (43.2%) scored A, 37 pupils (15.7%) scored B, 87 pupils (36.9%) scored C and only 10 pupils (4.2%) scored D. On item 7, also, up to 91 pupils (38.5) scored A, but 36 pupils (15.3%) scored B, 106 pupils (44.9%) scored C and only 3 pupils (1.3%) scored D. Up to 94 pupils (39.8%) scored A on item 8, 32 pupils (13.6%>) scored B, 89 pupils (37.7%) scored C and 2\ pupils (8.9%) scored D. On item 9, 89 pupils (37.7%) scored A, 22 pupils (9.3%) scored JB, up to 97 pupils (41.1%) scored C and only 28 pupils (11.9%) scored D. On item 10, lastly, up to 82 pupils (34.7%) scored A, 24 pupils (10.2%) scored B,"93 pupils (39.4%) scored C and 37 pupils (15.7%) scored D.

4.4 Hypothesis Testing

This section presents the results of the analysed data and tests the eight formulated hypotheses based on the first research question, which was transformed into four hypotheses, thereby providing evidence for answering the research question under experimentation. The section proceeds to answer the last three research questions by discussing the results of the experiment. Below, is a table presenting a cumulative summary of the calculated descriptive or group statistics, the calculated inferential statistics (independent samples t-test statistics), the calculated effect size (Cohen's d effect size) and the decision made on each of the null hypotheses:

Table 4.4: A Cumulative Summary of Pretest and Post-test Calculated Descriptive and Independent Samples t-test Statistics Culled from SPSS

	Group Membership and Testing Variable	N	Mean	SD	T-Value	Df	P-Value	Effect size (Cohen's d)	Decision
Pretest	**Experimental Group**	**118**				**234**			
	Decoding		**7.6271**	**3.44132**	**.656**		**.512**	**.085443**	**Ho Accepted**
	Automatic Word Recognition		**7.7542**	**3.49587**	**-2.524**		**.531**	**.13096**	**Ho Accepted**
	Control Group	**118**				**234**			**Ho Accepted**

	Decoding		**7.3305**	**3.50105**	**.656**		**.512**	**.085443**	**Ho Accepted**
	Automatic Word Recognition		**7.2983**	**3.46753**	**-2.524**		**.531**	**.13096**	**Ho Accepted**
	Experimental Group 1	**59**							
	Decoding		**10.2542**	**3.13816**	**7.769**	**116**	**.000**	**1.430393**	**Ho rejected**
	Automatic Word Recognition		**10.2542**	**3.13816**	**5.220**		**.000**	**0.960989**	**Ho rejected**
	Experimental Group 2	**59**							
	Decoding		**6.1864**	**2.51530**	**7.769**		**.000**	**1.430393**	**Ho rejected**
	Automatic Word Recognition		**6.9492**	**3.71567**	**5.220**		**.000**	**0.960989**	**Ho rejected**
Post-test	**Experimental group**	**118**							
	Decoding		**14.237**	**4.91931**	**9.432**	**234**	**.000**	**1.22792**	**Ho rejected**

		3					3	
Automatic Word Recognition		**14.1525**	**4.94867**	**10.562**		**.000**	**1.37498**	**Ho rejected**
Control Group	**118**							
Decoding		**8.8136**	**3.84963**	**9.432**	**234**	**.000**	**1.227923**	**Ho rejected**
Automatic Word Recognition		**8.0085**	**3.92883**	**10.562**		**.000**	**1.37498**	**Ho rejected**
Experimental Group 1	**59**							
Decoding		**18.2203**	**2.41452**	**-0.988**		**.325**	**0.181902**	**Ho Accepted**
Automatic Word Recognition		**18.0508**	**2.45949**	**0.556**		**.579**	**0.102431**	**Ho Accepted**
Experimental Group 2	**59**				**116**			
Decoding		**18.6441**	**2.24194**	**-0.988**		**.325**	**0.181902**	**Ho Accepted**

Auto. Word Recognition	**17.796**	**2.50365**	**0.556**	**.579**	**0.10243**	**Ho**	**Accepted**

Hypothesis 1:

"There is no statistically significant difference in the performance of decoding skill between pupils in the experimental group and those in the control group before the treatment period."

Table 4.4 presents the number of participants in both the control and experimental groups, their means, standard deviations (SD), standard error means. T-value (sig. (2 tailed)), degree of freedom (df) and the decision made on the null hypothesis (Ho). From the Table, the total number of participants in the experimental groups used in the two selected schools is 118 and 118 in the control groups of the two selected schools. The calculated mean of the experimental groups in terms of their performance on the items testing decoding skill at the pretest level is 7.6271, which is slightly higher than the mean of the control group, 7.3305, with a difference of 0.2966. The calculated standard deviation (SD) for the experimental group on decoding skill is 3.44132, which is slightly lower than 3.50105, the SD for the control group on decoding skill, with a difference of-0.05973. The standard error mean for the experimental group is given as .31680, which is also slightly lower than .32230, the standard error mean of the control group, with a difference of -0.0055. The calculated T-value arrived at by comparing the scores of test of decoding skill between the control and experimental groups using t-test for independent samples in the Statistical Package for Social Sciences (SPSS) software is 0.656 with a degree of freedom of 234. The P- value (sig. tailed) derived is .512, which is largely greater than the 0.05 alpha level in comparison. Hence, the last column shows that the null hypothesis is accepted because the calculated p-value (.512)

is greater than the alpha level of 0.05. This indicates that there is no statistically significant difference between the experimental and the control groups on the test of decoding skill before the treatment period.

Hypothesis 2:

"There is no statistically significant difference in the performance of decoding skill between pupils in the experimental group one (Phonics School) and those in the experimental group two (non-Phonics School) before the treatment period."

Table 4.4 shows that the number of participants in the experimental Group One (phonics school) is 59 and 59 in the experimental Group Two (non-Phonics School). The calculated mean of the test of decoding skill of the experimental Group 1 is 10.2542, which is significantly higher than 6.1864, the calculated mean of the experimental Group Two, with a difference of 4.0678. The calculated SD of the test of decoding skill of Group 1 is 3.13816, which is significantly greater than 2.51530, the SD for Group 2, with a difference of 0.62286. The standard error mean of the experimental group 1 is .40855, which is also significantly greater than the standard error of the Group 2, which is .32746 with a difference of 0.08109. The calculated T-value is 7.769 with a degree of freedom 116. The P-value derived (sig 2 tailed) in the analysis is .000, which is largely lower than 0.05 alpha level in comparison. The last column shows the decision made on the null hypotheses. The decision shows that because the p-value .000 is significantly lower than the 0.05 alpha level which means there is statistically significant difference in the performance of decoding skill between the experimental group one and the experimental group two. d= .13096 which is within the small range of Cohen's d Effect size. Therefore, the null hypothesis is hereby rejected. This means

that pupils in the Phonics School perform substantially better than those in the non-Phonics School on the test of decoding skill before the treatment period.

Hypothesis 3:

"There is no statistically significant difference in the performance of automatic word recognition skill between pupils in the experimental group and those in the control group before the treatment period."

Table 4.4 shows that there are 118 pupils in the experimental group and 118 in the control group. The calculated mean of the experimental group on the test of automatic word recognition skill is 7.7542, which, when compared to the mean of control group, 7.2983, is insignificantly higher with a difference of 0.4559 only. The standard deviation (SD) given for the experimental group is 3.49587, which is significantly higher than the SD given for the control group, 3.46753, with a difference of 0.02834. The standard error mean of the experimental group is given as .32182 which is significantly lower than the std. error mean of the control group which is given as .31921 with a difference of 0.00261. The calculated T-value given for the test of automatic word recognition skill is -2.524 with 234 degree of freedom. The P-value (sig. 2 tailed) given is .531 which is significantly greater than the 0.05 alpha level in comparison. The calculated effect size given as d=0.13096 is very small because it is within the small range. Hence, the null hypothesis is hereby rejected.

Hypothesis 4:

"There is no statistically significant difference in the performance of test of automatic word recognition skill between pupils in the experimental group 1 (phonics school) and those in the experimental group 2 (non- phonics school) before the treatment period."

Table 4.4 shows that there are 59 pupils in the experimental Group 1 (Phonics School), and 59 pupils in the experimental Group 2 (non-Phonics School). The calculated mean of the

experimental Group 1 is given as 10.2542, which is significantly higher than 6.9492 given as the mean of experimental Group 2 with a difference of 3.305. The SD of Group 1 is given as 3.71587, which is greater than 3.13816, the given SD for Group 2. The std. error mean of the experimental Group 1 is given as .48377, which is greater than .40855, the given standard error mean of Group 2. The calculated T-value of the test of decoding skill is given as 5.220 with a degree of freedom 116. The given P-value is .000, which is largely below 0.05 alpha level. Therefore, the null hypothesis is rejected. This means the pupils in the experimental Group One, who were drawn from the phonics school (where Phonics is taught) significantly performed better in the test of automatic word recognition skill than those from the non-Phonics School (the school where Phonics is not taught).

Hypothesis 5:

"There is no statistically significant difference in the performance of decoding skill between pupils who receive instruction in systematic explicit phonics approach and those who do not."

Table 4.4 above shows that a total number of 236 pupils are used in the two selected schools with 118 as the experimental group and 118 as the control group. After the treatment period, as shown in the above Table, the mean for the experimental group on decoding skill is 14.2373, which is extremely higher than 8.8136 as the mean of the control group, with a difference of 5.4243. The standard deviation of the experimental group significantly increases after the treatment period where it is given as 4.91931. This is largely greater than the SD of the control group, which is given as 3.84963, with a difference of 1.06968. The standard error mean of the experimental group is .45286, which is also substantially greater than .35439, the given std. error mean of the control group. The calculated T-value of the test of decoding skill between these two groups after treatment period is given as 9.432, with 234 as the degree of freedom (DF). The P-value is given as .000, which is significantly lower than the 0.05 alpha level. With these significant differences in view, the null hypothesis saying that "there is no

significant difference in the performance of decoding skill between pupils who receive instructions in systematic explicit phonics approach and those who do not" is hereby rejected. This shows that the four-week pedagogical intervention given to the experimental groups in the two selected schools significantly improved the pupils' decoding skill.

Hypothesis 6:

“There is no statistically significant difference in the performance of decoding skill between pupils in the experimental group 1 (phonics school) and those in the experimental group 2 (non-phonics school) after the treatment period."

Table 4.4 presents the descriptive and inferential statistics of both the experimental Group 1 and the experimental Group 2. It is shown that there are 59 pupils in the Experimental Group 1 and 59 pupils in the Experimental Group 2. The mean of group 1 (Phonics School) on decoding skill is given as 18.2203, which is slightly lower than 18.6441, the mean of Group 2 (non- Phonics School) with a difference of -0.4238. The SD of group 1 is given as 2.41452, which is slightly greater than 2.24194, the SD of Group 2, with a difference of 0.17258. The standard error means are given in the Table as .31434 and .29188 for Groups 1 and 2, respectively, with a difference of 0.02246. The calculated t-value for the T-test for independent samples is given as -0.988 and the degree of freedom is 234. The P-value given is .325, which is substantially greater than the 0.05 alpha level. Hence, the null hypothesis is hereby accepted to mean that there is no statistically significant difference in the performance of decoding skill between Jolly Phonics Pupils and non-Jolly Phonics pupils after the treatment period. Comparing this performance to that of the pretest level, it becomes clear that those in the non- Phonics School perform substantially lower than those in the Phonics School, but after the treatment period, the non-Phonics Students’ performance on decoding skill substantially improves. Indeed, their performance is almost the same as that of the Phonics pupils. Hence, the hypothesis saying that there is no statistically significant

difference in the performance of decoding skill between pupils in the experimental Groups 1 and 2 after the treatment period is hereby accepted because the result of the analysis reveals that there is no statistically significant difference between these two groups on test of decoding skill after the treatment period. This means that the systematic explicit phonics approach used during the treatment period proved to be very effective on developing decoding skill in early grade readers and delayed or struggling readers.

Hypothesis 7:

"There is no statistically significant difference in the performance of automatic word recognition skill between pupils who receive systematic explicit phonics instruction and those who do not."

Table 4.4 shows that there are 236 participants in the two selected schools. 118 are given as the total number of the experimental Group and 118 as the control Group. The mean of the experimental group in the test of automatic word recognition skill at the post-test level is 14.1525, which is significantly greater than the mean of the control group given as 8.0085 with a difference of 6.144. The SD for the experimental group is given as 4.94867, which is also substantially greater than 3.92993, the SD of the control group, with a difference of 1.01874. The standard error mean is given as .45556 and .36178 for the experimental and control groups respectively. The calculated T-value on test of automatic word recognition skill after the treatment period is given as 10.562 with 234 as the DF. The P-value given is .000, which is extremely below the 0.05 alpha level. Therefore, the null hypothesis is rejected. This means that pupils in the experimental groups perform substantially better than those in the control groups on test of automatic word recognition skill after the treatment period as opposed to the result of pretest analysis. This reveals that systematic explicit phonics instruction positively impacts on the development of automatic word recognition skill in children learning to read because this comparison proves it to be responsible for the

observed significant improvement in the experimental groups' performance on test of automatic word recognition skill at post-test level.

Hypothesis 8:

"There is no significant difference in the performance of automatic word recognition skill between pupils in the experimental group 1 and those in the experimental group 2 after the treatment period."

Table 4.4 above shows that there are 59 pupils in Group 1 and 59 in Group 2. The mean of Group 1 on automatic word recognition is 18.0508, which is almost the same as 17.7966, the given mean of Group 2, with a difference of only 0.2542. The SD of groups 1 and 2 are 2.45949 and 2.50365, respectively. The standard error means are given as .32020 and .32595 for Groups 1 and 2, respectively. The calculated T-value is given as 0.556 and the degree of freedom is 116. The P-value given is .579, which is significantly higher than the 0.05 alpha level. Hence, the null hypothesis is hereby accepted. This means there is no significant difference in the performance of automatic word recognition skill between Phonics pupils and non-Phonics pupils after the reatment period. Although the Phonics pupils performed significantly better than the non-Phonics pupils at the pretest level, the pedagogical intervention given to the experimental group in both the Phonics and non-Phonics schools is responsible for the significant improvement in the non-Phonics pupils after the treatment period. This means that systematic explicit phonics instruction positively impacts on the development of automatic word recognition skill in beginning readers.

4.4.3 Discussion: Linguistic Explanation

This section discusses the performance of the pupils on the Test of Decoding and Automatic Word Recognition Skills, leading to the answers of the research questions under investigation.

4.4.3.1 Discussion of the Data Obtained on the Impact of Systematic Phonics on Developing Decoding Skill in the Early Grades.

In accounting for the development of decoding skill in children learning to read, which relates to the reader's ability to accurately and effortlessly decode words while reading (Honig et al., 2013), this study compares the pretest and post-test performance of the pupils on the items testing decoding skill. Looking at the performance of the experimental group and the control group on decoding skill, as presented in Table 4.4, it is clearly shown that the experimental group have similar performance as the control group at the pretest level. The pupils were able to identify the individual letters in each word on the instrument (e.g., 'c', 'l', 'o' and 't' and 'h' in 'cloth', and 'f, 'a', 'r', 'm' in 'farm'). The Phonics pupils were able to associate those letters with their individual corresponding sounds to decode the words on the instrument (e.g., /f/ for letter 'f' /a: / for letters 'a' and 'r' and /m/ for letter 'm' to decode the word 'farm'). However, the non-Phonics Pupils struggled to associate the letters with their corresponding sounds to decode the words on the instrument.

At the post-test level, the performance of the experimental group significantly improved. Their decoding of the words on the instrument was more accurate and effortless. For example, at the pretest level, they were able to decode the word "breathing" in 2, 3, 4 to 5 seconds, but in 1, 2 to 3 seconds at the posttest level. This significant improvement was largely dependent on the systematic explicit phonics approach used in teaching certain letter-sound correspondences during the treatment period. For example, during the treatment period, the pupils were guided to identify that the letters 'f, 'a', 'r', and 'm' in the written form of the word 'farm' are represented by the sounds /f/, /a:/, (the letter 'a' when used concurrently with 'r' sometimes makes a long vowel /a:/) and 'm' in spoken form, which are blended and pronounced as /fa;m/. With this knowledge, the pupils were able to decode the word 'farm' and other unfamiliar words containing such grapheme-phoneme correspondences (e.g., 'party',

'family'). This is evident by comparing the pretest and post test scores of the two groups where their pretest performance on decoding skill is approximately the same, but significantly different at the post-test level with the experimental group (treatment Group) performing substantially better than the control Group (no-treatment Group).

Moreover, Table 4.4 compares the decoding skill performance between the Phonics Experimental Group and the non-Phonics Experimental group both at the pretest and post-test levels. The pretest comparison shows that the phonics experimental group performed significantly better than the non-phonics experimental group. At the post-test level comparison, the performance of the two groups on decoding skill was approximately similar. This means that the performance of the non-Phonics Experimental Group on decoding skill significantly improved after the treatment period, making it possible to infer that the observed improvement is the result or effect of the systematic explicit phonics approach used to teach phonics elements during the 4-week treatment period. Given these comparisons and their effects, it is discernible that systematic and explicit phonics instruction positively impacts on the development of decoding skill in the early primary grades. This is in line with the assertion of the Department of Education and Training, New South Wales (2009), National Reading Panel (2000), Konza (2010) and Honig et al, (2013), which notes that early and systematic explicit phonics instruction results in producing better readers than late and less or nonsystematic phonics instructions. It also relates to the position of Honig et al, (2013), Hingston (2017) and Hardy (2016), who maintain that systematic and explicit phonics approach positively impacts on the development of decoding skill in children learning to read. It also further proves the findings of Hingston (2017), which reveal that systematic phonics approach is very effective in developing decoding skill in children learning to read and those with specific learning disabilities. It is also similar to the findings of Hardy (2016), who reports that synthetic phonics, a method of teaching systematic phonics, is very useful in

training early readers. It is also in line with the contentions of many scholars (e.gHonig et al, 2013; Ehri, 1992, 2002; Ehri and Snowling, 2004), who contend that teaching phonics elements in a systematic and explicit procedure is very effective and enhances the reading ability of children learning to read. Given these comparisons and relations or similarities with other researchers' findings and some scholars' contentions, the half part of research question one "does systematic explicit phonics instructions impact on the development of foundational reading skill, specifically decoding skill, in the early grades?" is answered. The answer to this research question is supported with the aforementioned instances, pointing to the extent to which the pupils' decoding skill significantly improved after receiving the pedagogical intervention during the treatment period using the systematic explicit phonics instruction.

4.4.3.2 Discussion of the Data Sourced on the Impact of Systematic Phonics Instruction on Developing Automatic Word Recognition Skill in the Early Grades

On the part of developing automatic word recognition skill in the early grades, which relates to the readers' ability to quickly, effortlessly and automatically recognise words while reading (Honig et al, 2013.), this study compares the performance of automatic word recognition skill at the pretest and posttest levels between experimental and control groups, and between experimental group 1 (Phonics group) and experimental group 2 (non-Phonics group). At the pretest level, the experimental group performed approximately similar as the control group on the items testing automatic word recognition skill. Both the Experimental and Control Groups were able to recognise the words contained in items 6 - 10 on the instrument (e.g., 'Ibrahim is the father of Aminu', and 'He is the new headmaster of the school'), which test the skill of automatic word recognition in about 5, 6, 7 to 8 seconds approximately. At the post-test level, however, the Experimental Groups read each sentence in not more than 3, 4 to 5 seconds approximately.

Considering the significant difference in the comparison of automatic word recognition skill performance between the two groups at the pretest and post-test levels, the researcher discovered that the systematic explicit phonics approach is largely responsible for the significant improvement observed at the post-test level. The study also compares the performance of automatic word recognition skill between the Experimental Group 1 (Jolly Phonics Group) and Experimental Group 2 (non-Phonics Group) at the pretest and post-test levels.

At the pretest level, the comparison shows that the phonics group performed significantly better than the non-phonics group with the former able to read the sentences in items number 6-10 in not more than 3,4 to 5 seconds and the latter failing to recognise the word therein. At the post test level, the comparison reveals that the two groups have similar performance approximately with both groups being able to read the sentences in not more than 4, 5 to 6 seconds. This shows that their word recognition skill is more automatic compared to the pretest result. This reaffirms that the pedagogical intervention (systematic phonics instruction), which guides the pupils to use their decoding skill in automatically recognizing words in isolation and in connected text is responsible for the significant improvement observed in the non-Phonics Group on automatic word recognition skill at the post test level. This reveals that systematic explicit phonics instruction is very effective in developing the skill of automatic word recognition in beginning readers. This is similar to the findings of Hardy (2016), who reports that systematic phonics approach is very useful in producing better readers. It also reaffirms the finding of Chall's (1967, 1996) review which asserts that direct and systematic explicit phonics approach is very effective and useful in order to produce skillful readers. The finding also further proves the contentions of many scholars (e.g., Honig et al. 2013; Adams 1990; and Foorman*et al.* 1991) who emphasise the inevitable role that systematic explicit phonics instruction plays in training beginning readers and older

struggling readers. Finally, this finding is in line with the view of scholars like Hudson et al, (2006), Stahl et al, (1998) and Adams (2001), who maintain that systematic phonics instruction largely provides children learning to read with activities to develop automatic word recognition skill of words in isolation and in connected text, the absence of which deprives readers of the ability to develop reading fluency which is essential in comprehension.

4.4.3.3 Discussion on the Data obtained on the Extent to which Pupils Have Acquired the Phases of Word Recognition Development at Pretest and Post-test Levels as Outlined in Ehri's (1992, 1994) Model.

To determine the extent to which pupils have acquired the phases of word recognition development as outlined in Ehri's model, the result of the analysed data in this study indicates that at the pretest level, the phonics pupils, who performed better than the non-Phonics pupils, were able to spell the individual letters of alphabet found in each word on the research instrument (e.g., 'w', 'o', 'm', 'a', 'n, in 'woman', 'b','a', 'n', 'a', 'n', 'a' in 'banana', and 'b', ‘r’, 'o', 't', 'h', 'e', 'r' in 'brother') and associate most common and regular spelling sound patterns to decode the words as in /woman/ for 'woman', /ba'na:na/ for 'banana'. But their decoding was not quite accurate because they spend about 4, 5 to 6 seconds in decoding each of the words. To this end, the jolly phonics pupils can be said to have passed or acquired the pre-alphabetic phase because they less accurately read the individual words on the instrument, and the partial alphabetic phase because they are able to associate most common sound-spelling patterns as in 'parents', 'family', 'dog', 'headmaster' and 'farm'. Thus, their overall performance exhibited activited typical of the full alphabetic phase as outlined in Ehri (1998). At the post test level, the Phonics pupils were able to apply analogy strategy by using their knowledge of certain letter-sound correspondences to decode new words containing such letter-sound patterns. For example, during the treatment period, the pupils were guided to learn that the

sound /s/ is written or spelt as 's' as in 'school' or 'c' as in 'city'. At the post-test level, they were able to apply this awareness to decode, recognise and read unfamiliar words on the instrument containing such grapheme-phoneme relationships (e.g., 'centre', 'ceremony' and 'sentence'). This is an activity typical of Ehri's (1998) consolidated alphabetic phase.

The non-Phonics pupils, on the other hand, were assessed to have only acquired the pre alphabetic phase and the partial alphabetic phase because they were only able to spell the letters of alphabets within each word on the instrument but could not associate these letters with their corresponding sounds to decode the words. However, their post-test performance showed that they were able to spell the letters in each word, associate those letters with their corresponding sounds and apply their phonics knowledge to decode some new words with the familiar letter-sound patterns. This means they have acquired more phases after the treatment period, the full alphabetic and consolidated alphabetic phases. Thus, at the pretest level, the Phonics pupils exhibited activities typical of the pre alphabetic phase, the partial alphabetic phase and the full alphabetic phase but progressed to the consolidated alphabetic phase at the post-test level.

Also, the non-Phonics pupils only acquired the pre-alphabetic and partial alphabetic phases at the pretest level, but progressed to acquire the full-alphabetic phase and the consolidated alphabetic phase after the treatment period. Given these comparisons, it becomes clear that systematic explicit phonics approach helps reading teachers to enhance the ability of struggling leaders to effectively develop the decoding skill and the automatic word recognition skill. This is similar to the Chall's (1967) review which notes that direct systematic and explicit phonics instruction is most effective in producing better readers compared to the whole language and the whole word approaches. It also conforms to the Adam's (1990) argument which also notes the inevitable role that systematic phonics instruction plays in training early and older struggling readers to acquire the knowledge of

alphabetic system in order to become fluent readers. It also further proves the contention of Honig et al, (2013), who point to the advantage of using systematic explicit phonics instruction in the course of developing decoding and word recognition skills in children learning to read. This finding, thus, answer that research question "To what extent do primary three pupils acquire the phases of word recognition development as outlined in Ehri's (1994, 1998, 2001) model?", because the pretest result shows that the phonics pupils acquired only the first three phases, and the non- phonics pupils only the first two phases, but the post test results show that both the phonics and non-phonics pupils acquired up to the fourth phase, the consolidated alphabetic phase.

4.4.3.4 Discussion on the Data sourced on the Extent to which the Words on the Testing Instrument are decodable Using Krashen's (1982) Input Hypothesis.

To determine the extent to which the words on the instrument are decodable and assess the Krashen's input hypothesis, some words on the instrument as used at the pretest level were substituted with new ones at the post-test level. This is to assess the Krashen's (1982) claim in his Input Hypothesis that we understand language through exposure to language structures that are little bit beyond our current level of competence, i.e., /i+1/. In this way, the words on the pretesting instrument such as 'father', 'cardigan', 'love', 'dog', 'family' 'travelling' and 'city' are substituted with words like 'mother', 'bus', 'sun' 'friend', 'donkey', 'canoe' and 'brother' on the post-testing instrument. It is observed that the word 'father' exhibited a similar letter-sound correspondence with 'mother' and 'brother', 'love' with 'bus' and 'friend' with 'travelling, for example. The pupils were able to apply their phonics knowledge that the word 'father' has a similar rime with 'mother' and 'brother'. They were also able to use their phonics knowledge of 'r'-/r/ correspondence as in 'travelling' to decode the unfamiliar word 'friend' at the post-test level. This shows that the acquired phonics knowledge and relevant examples in words in isolation and in connected text proved to be very helpful in decoding and recognising

unfamiliar words while reading. This further proves the effectiveness of the systematic explicit phonics approach in training beginning and struggling readers. It also supports the Krashen's (1982), claim that we acquire language through exposure to structures that are little bit beyond our current level of competence. This implies that if pupils learning to read are systematically guided to identify letter-sound relationships with adequate practice and drills and later exposed to unfamiliar words containing the acquired phonics concepts, they could use that knowledge in unlocking the relationship between letters and sounds therein to decode and recognise the words while reading.

4.4.3.5 Discussion on the Implication of Developing the Skills of Decoding and Automatic Word Recognition Using Systematic Explicit Phonics Instruction

On the last research question which says "what is the implication of developing foundational reaching skills through systematic explicit phonics instruction in the early primary grades?" the result of the analysed data reveals that a number of implications can be discerned. Firstly, the experimental group performed better than the control group at the posttest level, which was not the case at the pretest level. The pupils in the Experimental Group were able to use their knowledge of the letter-sound patterns they learned during the treatment period to decode new words at the post test level. This implies that systematic explicit phonics instruction helps readers to apply their phonics knowledge to decode unfamiliar words. This is similar to the contention of Honig et al, (2013) and Adams (1990), who contend that systematic explicit phonics instruction helps beginning readers decode unfamiliar words in isolation and in connected text.

Secondly, comprehension of a text is largely dependent on the readers' ability to accurately decode and automatically recognise words while reading (Adams, 1990; Honig et al, 2013). The result of this study discovered that at the post test level, the Experimental Groups were able to effortlessly decode and automatically recognise words while reading, a skill necessary

for oral reading fluency and consequently for comprehension. This means if students learning to read are trained to effortlessly unlock the relationship between letters and sounds in decoding words in isolation and in connected text and in developing word recognition skills, they will easily acquire fluency, vocabulary and text comprehension. The overall result of this process is automaticity in reading. This implies that for skillful reading and independence with the code to occur, readers should be adequately trained to effortlessly and accurately decode and automatically recognise words, and this can best be achieved through systematic explicit phonics approach. Also, this implies that receiving instructions in systematic explicit phonics approach prepares readers for the development of oral reading fluency, an essential skill of text comprehension. This conforms to the assertion of a number of scholars like Honig et al, (2013), Foorman, Francis, Novy, and Liberman (1991), Adams (1990), and Chall (1967, 1996) who maintain that for skillful reading to occur and to train students to become independent readers, they should receive instruction in systematic explicit phonics approach.

Thirdly, based on the result of this study, it is discovered that students who received instruction in systematic and explicit phonics approach performed better in reading than those whose phonics instruction was implicit and indirect. This further proves the findings of Zakari (2016), who reports that systematic phonics instruction is more effective in producing better and fluent readers than the whole language approach. It is also similar to the contentions of many scholars (e.gHonig et al, 2013; Chall, 1967; Adams, 1990; Comorie et al, 2007) who contend that using teacher-direct and systematic phonics instruction results in producing better readers.

4.5 Major Findings

The major findings of this study, aiming at investigating the impact of systematic explicit phonics instruction on developing foundational reading skills, specifically decoding and automatic word recognition skills, are:

1. Systematic explicit phonics instruction is very effective in developing foundational reading skills.

2. The teacher-direct and systematic explicit phonics approach proves to be more effective in producing better readers than other indirect and implicit approaches.

3. Teaching beginning readers to read by using systematic explicit phonics approach allows for a smooth transition from learning to read to reading to learn.

4. Systematic phonics instruction helps readers to use the knowledge of already learned letter-sound correspondences to decode unfamiliar words.

5. Training beginning readers through systematic phonics approach results in producing skillful and independent readers.

6. Receiving instructions in systematic explicit phonics approach prepares readers for the development of oral reading fluency, an essential skill of text comprehension.

7. The overall result of the process of using systematic explicit phonics approach in training beginning readers is automaticity in reading.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter summarises the entire work. It also draws conclusion from the findings of the study. It ends by suggesting areas for further studies.

5.2 Summary

This study investigated the impact of systematic explicit phonics instruction on developing the skills of decoding and automatic word recognition in the early primary grades. It stems out from the prevailing interest among reading researchers to investigate the teaching of early grade reading around the world and from the incessant reports on the drawback that the teaching and learning of early grades reading in Nigerian primary schools has been experiencing to the extent that beginning readers find it difficult to successfully transit from learning to read to reading to learn by the end of primary three as outlined in the Nigerian National Policy on Education. This difficulty is assumed to be related to the readers' inability to accurately and effortlessly decode and automatically recognise words while reading. Third grade pupils from two selected primary schools of the Kano metropolis were used as the subjects of the study.

Krashen's input hypothesis (1982) and Ehri's (1992, 1994, 1998)) phases of word recognition development were employed as the theories framing the study. The study views the acquired phonics knowledge during the treatment period as the (i) that is the students' current level of competence, and the word that the students decode in the research instrument as the '+1' of the Krashen's input hypothesis. The study also used Ehri's model to determine the extent to which the pupils acquire the phases of word recognition development before and after the treatment period.

The study is quantitative, as such experimental. For this reason, it employed a quasi-experimental research design, the non-equivalent pretest-post-test research design in its methodological conduct. The determined sample size 236 pupils, are divided into two groups, with each group having 118 pupils. Both the two groups are pretested. The pupils in the Experimental Group received the pedagogical intervention using the systematic explicit phonics approach, while the pupils in the Control Group received their normal lessons for a period of 4 weeks. Both the two groups were post-tested. A comparison was made between the pretest and the post-test results to determine the impact of systematic explicit phonics approach on developing the two foundational reading skills under investigation.

The results of the comparison reveal that, at the pretest level, the experimental and the control groups have similar performance. But at the post-test level, the experimental group performed better than the control group. Also, the Phonics Experimental Group performed better than the non-Phonics Experimental Group at the pretest level. However, after the treatment period, the non-Phonics Experimental Group's performance approximated the Phonics Experimental Group's performance. Hence, the systematic explicit phonics approach used as the pedagogical intervention during the treatment period is responsible for the observed significant difference between the experimental Group and the control Group, and for the significant improvement in the non-Phonics Experimental Group's performance.

5.2 Conclusion

Based on the findings of this study, a number of conclusions can be drawn. Firstly, the findings of this study imply that beginning and older struggling readers would not succeed in the reading activity unless they could accurately and effortlessly decode and automatically recognise words while reading, the two basic reading skills essential for reading fluency and subsequently for text comprehension. Secondly, the findings, also, indicate that the systematic and explicit phonics approach proves to be very effective in developing the skills

of decoding and word recognition in children learning to read and older struggling readers. Thirdly, the study discovers that the teacher-direct and systematic explicit phonics approach equips beginning and older struggling readers with the ability to use their phonics knowledge to decode and recognise unfamiliar words while reading. Fourthly, the findings of the study reveal that using the systematic explicit phonics approach in training beginning readers and older struggling readers result in skillful reading and independence with the code. Finally, because the approach proves to be very effective and allows for a smooth transition from learning to read to reading to learn based on the findings of this study, Literacy and Jolly Phonics teachers in the Nigerian Primary Schools could incorporate the teaching of phonics concepts that are clearly defined and explained (explicit) and skills that are arranged and presented in a logical instructional sequence (systematic) in order to control the syndrome impeding the teaching and learning of early grade reading in Nigerian Primary Schools.

5.3 Areas for Further Studies

This study is an investigation of the impact of systematic explicit phonics instruction on developing decoding and automatic word recognition skills in the early grades with evidence from third grade pupils of two selected Kano metropolis primary schools. The researcher, therefore, suggests the following areas for further studies:

1. A similar study can be carried out to explore the impact of systematic phonics approach on reading fluency.

2. A similar research can also be carried out to find out the direct impact of systematic phonics on text comprehension.

3. A similar work can also be conducted to investigate the relationship between phonemic awareness and phonics instruction in the early grades.

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Appendices

Appendix I: Pretesting Instrument

TEST OF EFFORTLESS DECODING AND AUTOMATIC WORD RECOGNITION SKILLS (TEDAWRS).

Section One: Introduction

This test (TEDARS) is aimed at measuring the extent to which pupils effortlessly decode and automatically recognise words while reading. There are ten items which are divided into two parts. The first part contains 5 items aimed at testing the pupils' decoding skill. Each item contains 3 words which the pupils read and they are assessed as: a). Very Accurate=4marks, b). Accurate=3 marks, c). Less Accurate =2 marks, or d). Inaccurate = 1 mark. The second part tests the pupils' automatic word recognition skill with 5 items. Each item contains one simple sentence which the pupils read and are assessed as a). Very Automatic =4 marks, b.) Automatic =3 marks, c.) Less Automatic = 2 marks, or d.) Inautomatic=l marks.

Section Two: Read the individual words in each of the following items as accurately as possible

1. Father Kitchen Family

a). Very Accurate. (b). Accurate c). Less Accurate d). Inaccurate

2. Dog Clock City

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate

3. Farm Children Church

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate ,

4. Cloth Bag Village

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate

5. Monkey Travelling Book

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate

Section Three: From item number 6-10, read the sentences as automatically as possible

6. There are three children in the class.

a). Very Automatic b)1. Automatic c). Less Automatic d). Inautomatic

7. My father is sleeping.

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

8.1 saw a dog.

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

9. The villagers like Danjuma.

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

10 His classmates like him.

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

Appendix II: Post-testing Instrument

TEST OF EFFORTLESS DECODING AND AUTOMATIC WORD RECOGNITION SKILLS (TEDAWRS).

Section One: Introduction

This test (TEDARS) is aimed at measuring the extent to which pupils effortlessly decode and automatically recognise words while reading. There are ten items which are divided into two parts. The first part contains 5 items aimed at testing the pupils' decoding skill. Each item contains 3 words which the pupils read and they are assessed as: a). Very Accurate=4marks, b). Accurate=3 marks, c). Less Accurate =2 marks, or d). Inaccurate = 1 mark. The second part tests the pupils' automatic word recognition skill with 5 items. Each item contains one simple sentence which the pupils read and are assessed as a). Very Automatic =4 marks, b.) Automatic =3 marks, c.) Less Automatic = 2 marks, or d.) Inautomatic=l marks.

Section Two: Read the individual words in each of the following items as accurately as possible

1. Mother Chalk Brother

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate

2. Donkey Clock City

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate

3. Farm Children Church

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate

4. Cloth Monkey Village

a). Very Accurate b). Accurate c). Less Accurate d). Inaccurate

5. Monkey Friend Book

a). Very Accurate'b). Accurate c). Less Accurate d). Inaccurate

Section Three: From item number 6-10, read the sentences as automatically as possible

6. There are three monkeys in the room

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

7. My brother is reading

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

8.I saw a bag

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

9. The Villagers like Danjuma

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

10. His mother likes him

a). Very Automatic b). Automatic c). Less Automatic d). Inautomatic

Appendix III: Description of Pedagogical Intervention

Introduction:

This pedagogical intervention is aimed at systematically guiding the pupils in the treatment groups to identify 15 letter-sound correspondences and to use this knowledge to decode and recognise familiar and unfamiliar words in isolation and in connected texts.

Objectives:

At the end of the treatment period, the pupils are expected to be able to: '

i. Identify the systematic relationship between the following grapheme-phoneme correspondences: 'f - /f/, 'm' - /m/, 'b' - /b/; 's' - /s/, 'k' – /k/, 'ch' - /ts/, 'ch' - /k/, 'th' - / /, 'th' - / /, 'c' - Is/, 'c' - /k/, T - /i/, 'o' - /o/, ‘oo’- /u:/, 'ar' - /a:/.

ii. Decode familiar and unfamiliar words containing those 15 letter-sound correspondences in isolation and in connected texts.

iii. Recognise familiar and unfamiliar words containing those 15 grapheme-phoneme correspondences in isolation and in connected texts

Instructional Materials: Include pictures, images and card board papers

Introduction Stage: Using ample examples of words on cards and pictures, the pupils are guided to identify that letters of alphabet used to write words in English language are represented by individual sounds in spoken form. For example, the letter 'f is represented by the sound /f/ as in 'farm', 'afraid' and 'friend'. The pupils should also note that this relationship is sometimes arbitrary. For example, the letter "c' is represented by the sound /s/ as in 'dance', 'bicycle, 'city' and 'rice', but sometimes represented by the sound Ikl as in 'bicycle', 'climb', 'cup' and 'cat'.

Development Stage: The pupils are systematically helped to identify the systematic relationship that exists between those fifteen letter-sound correspondences using ample examples of words in isolation and in connected texts. This is subsequently followed by adequate practice with multiple simple sentences and short passages.

Conclusion: The pupils are engaged in multiple practice exercises to master the acquired grapheme-phoneme correspondences.