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**Does Intensive Synthetic Phonics
Instruction Improve the Literacy
Skills of Primary One Children in
Cross River State?**

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Abstract

The aim of this study is to investigate whether utilising a synthetic phonics programme, in Primary schools in Cross River State Nigeria, increases basic literacy skills in English. This research consists of a critical analysis of a pilot study, administered by a UK charity, Stepping Stones Nigeria, in partnership with the University of Calabar, in Nigeria. Almost 300 children, across six schools, took part in the eight-month pilot study that was completed in June 2012. At each school, one class received a daily synthetic phonics lesson using the 'Jolly Phonics programme', and one control class continued with the traditional method of reading instruction, mostly consisting of rote learning and memorisation. A pretest / post-test comparison was made using the Early Grade Reading Assessment tools which tested a number of basic early literacy skills in English.

The findings of the study demonstrate that the children who received synthetic phonics instruction performed at a much higher level on the assessments than those children who continued with their normal literacy instruction. The data also highlighted that a higher oral vocabulary, an urban location, previous nursery and primary education, and a higher level of parental education, all have a positive influence on children's reading and writing abilities.

Through an extensive literature review, various methods of reading instruction and other reading intervention pilot studies were analysed in depth. The literature review concludes that phonics forms a large part of the ongoing debate around the best methods of reading instruction, and there have been many successful synthetic phonics interventions all over the world. There is also extensive literature supporting the notion that children learn better in their mother tongue. However, the results of the Cross River pilot study show that children, who do not speak English, can perform just as well as those who speak English. These findings raise many questions for future research and will hopefully lead to even greater understanding of how to most effectively teach Nigerian children to read.

Chapter One

The

Introduction

Chapter 1 - The Introduction

A Brief Outline of the Research

This dissertation analyses how the literacy skills of primary school children in Nigeria can be developed through the teaching of synthetic phonics in the language of English.

Part of the research is completed through a thorough literature review of how phonics helps children learn to read, and the use of synthetic phonics around the world, in both high and low income countries. The review investigates many ways of improving literacy skills and compares the effectiveness of synthetic phonics as a method of reading instruction.

The main body of research comes from an in-depth analysis of the methodology and outcomes of a pilot study that taught synthetic phonics across six schools in the Cross River State in Nigeria. The pilot study was organized by Stepping Stones Nigeria, a UK charity that has been working in Nigeria since 2005. The University of Calabar supplied the research team who administered the assessments and collected the data. The analysis set out to determine whether the study was successful in improving reading skills and how it can be improved for the future.

The synthetic phonics lessons were taught in English, four times a week, to Primary One children for eight months. At each of the six schools, one control class continued with the regular literacy lessons and one experimental class was taught synthetic phonics. Three of the schools were located in rural areas and three were in urban areas. The lesson plans and materials were from a British based commercially available phonics programme called Jolly Phonics. The Nigerian teachers involved in the study received a basic two-day training on teaching synthetic phonics with no follow up training.

The reading abilities of all of the children were assessed at the beginning and end of the intervention period, using the Early Grade Reading Assessment (EGRA) tools, designed by RTI International and USAID. The results of the study showed that the synthetic phonics programme increased the literacy skills of the Primary One children dramatically.

The Importance of this Research

The Nigerian Context

Nigeria is an oil rich country that has, over the years, been hindered by political and religious instability, corruption, inadequate infrastructure and poor economic management. Ranked 31st in the world in terms of GDP (\$414 billion purchasing power parity), the country is not meeting its potential, with 70% of its population of 170 million living below the poverty line, and one in five adults unemployed. (CIA, 2012) Nigeria also has more than 250 ethnic groupings speaking over 500 languages and dialects. (Government of the Federal Republic of Nigeria, 2010)

Education in Nigeria

“Primary schools in Nigeria suffered years of neglect during the long period of military governments and from which the school system is still trying to recover.”

(Adekola, 2007, p2)

In Nigeria there is a vast range of educational successes and failures, with the most severe issues facing the zones in the North East and North West of the country. On average 61% of primary school aged children attend primary school, with a tendency for males to have about 6% higher attendance rates than females. There is also a marked rural-urban difference in the net-attendance ratios: 74% of children in urban areas attend primary school, compared to 55% in rural areas. (Edata, 2010, p55) Attendance rates drop dramatically when children go to secondary school, with only 44% of children aged 12 to 17 attending. (Edata, 2010, p57)

The quality of the education that the children receive once they arrive at school is of greater significance to the development of the children, and the country. Average literacy rates for children aged five to sixteen are 46%, but these rates vary greatly among states, with some states seeing a 13% rate, and others a 73% rate. (Edata, 2010, p47) Most of the inability to read at all among children is found in the North West and North East zones. (Edata, 2010, p161)

“While an increasingly high proportion of children of school-age are actually enrolling in school, more of them are also dropping out in the course of their education.” (Government of the Federal Republic of Nigeria, 2010, p 17) Only 72.3% of children who enroll in Primary One actually make it through to Primary Five. Literacy rates among parents and guardians also vary considerably across the country, with most illiterate parents being in the states of the North West and North East zones. (Edata, 2010, p159) 50% of women in the country cannot read, where as only 27% of men are illiterate. (Edata, 2010, p17)

In addition to the troubling attendance and literacy rates, schools are often faced with inadequate supply of trained teachers, poor amenities and no or little teaching resources.

The many languages that are spoken in Nigeria also adds to the complexity of the situation. ***“The national policy on education in Nigeria stipulates that education in lower primary grades 1 to 3 should be through the home or main community language together with the introduction of oral English in grade 1.”*** (Adekola, 2007, p8) The reality on the ground is different. Due to such a variety of languages in each state, and teachers posted from all over the country, very often the early years teachers do not speak the languages of their students, or there are too many languages in one class to chose from, so even in Primary One and Two, English is often the language of instruction.

Education in Cross River State

As shown in the **Figure 1.1** below, Cross River State is a coastal state in South-Eastern Nigeria, named after the Cross River, which passes through the state. The state, which is divided into eighteen Local Government Areas (LGAs), has a population just below three million. (Census, 2006)



Figure 1.1 Map of Nigeria. (Source: emapsworld.com)

The net primary school attendance ratio in the state is 80% but due to the high drop out rates, the net attendance ratio for secondary school is only 54%. Just under one third of these children attend pre primary school and 20% of the state's children never attended school. (Edata, 2010)

Only half of the children living in Cross River State are able to read, by far the lowest in the region. A more encouraging figure of 76% of the children in Cross River State are numerate, but still the lowest % in the south-east region. (Edata, 2010)

The state also suffers from high levels of adult illiteracy, with 38% of parents who are unable read at all. Only 20% of women, and 25% of men, in Cross River State attended and completed primary and secondary school. 10% of the State's women attended education beyond secondary with 15% of the men doing the same. (DHS, 2008, p335)

The Importance of a Quality Education

As the discourse has shifted from access to education, to the quality of education, there is a great deal of global pressure for Nigeria's education system to improve. It is not satisfactory to have good or improved attendance ratios, when the children are still lacking the skills and knowledge for them to be able to both progress to secondary school, and to be successful citizens when they leave school. As stated by Hansushek and Woessman, 2007, it is the quality of education that has the most impact on a country's economic development and individual earning potential. Addressing the education quality gap will also help improve the health of Nigerian's citizens, reduce crime rates, and improve the cohesion of society. (Wolfe and Zuvekas, 1995)

In tackling the lack of quality in education, it is impossible not to discuss the role that literacy plays. The Global Partnership for Education (2011) finds that if school leavers in low-income countries possessed basic reading skills, a 12% cut in global poverty would occur. It is also suggested that early reading skills have a marked effect on overall educational achievements.

Literacy has a direct influence on improving livelihood. The World Bank (2002) reported that people who had completed literacy courses tended to be more willing to take initiatives in developing their livelihoods. The United Nations Educational and Cultural Organisation (UNESCO 2006) observed that individuals with literacy and numeracy skills are more productive, understand family planning, and enjoy a better quality of life.

Eldred (2008) also noted that literacy is linked to particular job skills and contributes to development of critical thinking and problem solving. Zuofa (2009) highlighted the gains of literacy in empowering women. She noted that those who benefited from literacy programmes were more confident, kept records and progressed in their economic activities.

To conclude, ***“Literacy also enables individuals to engage meaningfully in the political process, claiming their rights and holding governments to account.”***
(Pearce, 2009, p3)

The need for quality primary literacy education in order to raise the quality of education in Nigeria is apparent, and as a result, there must be studies and interventions in order to determine the best ways for that improvement to happen. It is my intention to determine what effect a synthetic phonics pilot study has on children’s literacy rates in order to determine whether this is a way forward or not for the progress of Nigeria.

The Rationale for the Research

The lack of quality education in Nigeria, and the resulting low literacy rates, has given cause for more research into literacy programmes and reading interventions that can, quickly and economically, teach Nigerian children how to read.

Through my literature review, the analysis of the pilot study's documentation and the Nigerian Education policy documents, and through discussions with the University of Calabar and Stepping Stones Nigeria, I have determined that synthetic phonics instruction in English was chosen as the reading intervention for several reasons:

- Low literacy rates in Cross River State.
- Poor quality of education in Cross River State.
- Synthetic phonics method has already be proven to have positive effects on literacy skills of the children of low-income countries.
- Research shows that phonics instruction is most effective, and has more long-term impact on reading development, when taught during the early years.
- Minimal teachers training required.
- Minimal resources needed to implement the phonics curriculum.
- Synthetic phonics can be taught whole class to large numbers.

Guiding Research Questions

This study will answer the following questions:

Does intensive synthetic phonics instruction improve the literacy skills of Primary One children in Cross River State?

- Which method of reading instruction, synthetic phonics or the traditional Nigerian approach, results in more reading development?
- What specific literacy skills are developed through synthetic phonics instruction?
- Does synthetic phonics instruction develop the reading skills of children who do not speak English as their first language?
- What other factors influence the success of a child's reading development through synthetic phonics?

Chapter Two

The Literature Review

Chapter Two – The Literature Review

Introduction

This chapter discusses and analyses literature and studies written about the effects of synthetic phonics on the reading skills of children from the last twenty-five years. The contested theories of the most effective way to teach reading are debated, and a more detailed explanation of the various types of phonics instruction, and the effectiveness of each in the teaching of reading, is also given. The views of those who are for and against the use of phonics are analysed, along with a discussion of those in support of a 'mixed approach' to reading instruction.

The second half of this chapter looks closely at various studies of the use of synthetic phonics in low-income countries, with a particular focus on Nigeria. The chapter concludes with a discussion about mother-tongue education, and the role of phonics in English for second language learners.

See **Appendix A** for a table of literature used, organised by the various approaches to the teaching of reading.

The Teaching of Reading

What is the best way to teach children to read – phonics instruction or whole language instruction? This question has been debated for centuries and the answers are continuously evolving. Most of the dialogue has been centered in the developed world, but it is of much relevance to low-income countries as they search for ways to improve literacy skills.

“Phonics is based on the systematic teaching of sound and letter relationships, as well as sound and spelling patterns.” (Pang, 2003, p9) The knowledge of sound to written letter relationship, allows the learner to decode and pronounce written words. For example, the six-letter word ‘ground’ can be broken down into five sounds.

Prior to the 1960’s, phonics teaching was the preferred mode of reading instruction, but as more child-centered approaches became the norm, learning to read within the rich context of the ‘whole language’ approach, started to gain momentum. McGuiness, 2004, argued that phonics is boring to young children, and that reading skills would be more easily obtained if joy was a factor.

Whole language instruction is the process of learning to recognize words as whole pieces of language, as opposed to individual sounds. Supporters believe that language should remain whole, and not be broken down into letters. Language is a complete system of making sense, with words functioning in relation to each other in rich and engaging literary contexts.

Brown et al (2012) support the whole language approach, and contest the idea that phonics instruction is the best method for teaching early reading skills. A study of how a second grader in the U.S. moves her eyes around the page whilst reading, indicates that reading is not just about decoding letters and word in a linear form, but includes more complex patterns of decision-making and interactions with the language and the whole text.

Strauss & Altwerger, 2007, are also against a purely phonics approach to reading. Through their study of how children in the U.S. learn letter sounds, their findings showed that the English phonics system is too complex to be taught in elementary classrooms and that teaching highly simplistic phonics in the early years will not teach children to be proficient readers. ***“We conclude that neither linguistic, neuroscientific, nor classroom research has demonstrated the superiority of intensive phonics over meaning-centered approaches to reading.”*** (Strauss & Altwerger, 2007, p229)

This debate is, and has been, such a contested subject in the U.S., that the whole-language approach to reading has been blamed for the Nation’s high levels of illiteracy, and the connected concerns of poverty and crime. (Lyon, 1988). Lyon argues that the evidence behind this debate is so intertwined with politics that scientific research must be supported by political organisations to get the recognition they deserve. As new governments gain political power they often create new plans for educational success, sometimes without much thought.

When such studies about the various phonics approaches to the teaching of reading are analysed, one has to be very mindful of the politics at play. Huxford (2007) argues that the literacy arena is controlled and manipulated by various 'phonics' groups. Financial gains form part of the politics with publishing companies benefitting heavily from certain endorsements of their teaching materials.

The Teaching of Reading Through Phonics

Educationists in favor of a phonics approach to reading instruction are not all in agreement with one another. Much research has been designed to determine which *specific type* of phonics instruction is most effective.

Synthetic Phonics

In England in 2006, the "Rose Report", commissioned by the Secretary of State for Education, recommended that early reading instruction *must* include synthetic phonics. This directly impacted the National Curriculum, and teaching and learning in England over the last several years.

Synthetic phonics (also known as explicit phonics) is when children are taught to 'synthesise' the sounds in written words by blending individual sounds together. For example, /d/ /o/ /g/ says dog. ***"Many countries in Europe use a synthetic phonics approach... where children learn very early on how to blend letter sounds in order to decode unfamiliar words."*** (Johnston, 2011, p2) Hiskes, 1998, describes synthetic phonics as an approach that can be taught in a few months and to those who have no reading skills.

The Rose Report recommendation mostly came from evidence created by a seven-year longitudinal study of the impact of synthetic phonics in schools in Clackmanshire, Scotland, in which children's reading skills were greatly improved through the use of Jolly Phonics, a synthetic phonics programme.

A controversial criticism of the report was the lack of stated evidence to support the push for synthetic phonics. ***“The Rose Report’s conclusion that synthetic phonics should be adopted nationally as the preferred method for the teaching of early reading is not supported by research evidence.”*** (Wyse & Styles, 2007, p40) Wyse & Styles (2007) discovered that there is substantial evidence promoting the use of *systematic phonics* in early reading instruction, yet none regarding *synthetic phonics* specifically.

Analytic Phonics

Analytic phonics (also known as implicit phonics) works more with the whole word, with sounds already blended together. Learners identify words by their shape, their beginning and ending letters, and by the context that they are used in sentences, often with the aid of pictures. This method avoids saying sounds in isolation but would identify the sound that the letter b makes, as /b/ as in bat. As Watson and Johnston (2000) explained so simply, analytic phonics breaks down the whole to parts, whereas synthetic phonics builds up from parts to whole.

Johnston (2011) discusses a six-year longitudinal study of ten year-old Scottish children who were taught either synthetic phonics or analytical phonics. The synthetic phonics group had better word reading, spelling and reading comprehension skills. ***“After 6 years at school, children taught by the synthetic phonics approach read words, spelt words and had reading comprehension skills significantly in advance of those taught by the analytic phonics method.”*** (Johnston, 2011, p14) The study also showed that boys performed better when taught synthetic phonics. The girls who were taught synthetic phonics performed better on all tests except reading comprehension skills were the same, regardless of the type of phonics instruction.

Despite the apparent clear-cut findings, it is important to note that the two groups of children used for this study were from very different socio-economic backgrounds so one could argue that the lack of complete pre-test matching could have influenced the outcomes of the study.

Another small study in Scotland, of ten schools, taught twenty five 5 year olds synthetic phonics for eight weeks, learning six to eight letter sounds a week, and twenty-nine reception aged children were taught analytic phonics for twenty-six weeks, one letter sound a week. ***“It was found that the synthetic phonics group now had a reading age of 6 years 8 months... being 16 months in advance of chronological age....The mean reading age for the analytic phonics group was 5 years 4 months.”*** (Johnston, 1997, page 2) The research concluded that synthetic phonics teaches early reading skills rapidly and so is not needed to be taught once children have shown that they can sound out and blend letters in order to pronounce words.

This study did not give details into the analytic phonics programme used, where as the synthetic programme used (Jolly Phonics) was given much description and evaluation. This would suggest more emphasis and observation was given towards the synthetic phonics approach and possible slight biases in the study analysis existed.

Systematic Phonics

Systematic phonics actually includes both synthetic and analytic phonics. The 'systematic' aspect refers to the facts that the letters and sounds are taught in a specific sequence and not on a "when I need know' basis.

A quantitative meta-analysis by Ehri et al (2001) studied the effects of systematic phonics instruction compared to unsystematic, or no phonics instruction, and analysed thirty-eight experiments that took place across the United States, Canada, the United Kingdom, Australia, and New Zealand.

The study concluded that phonics instruction had positive results on reading development and the progress stayed with pupils through later grades after phonics instruction had ended. ***"Results showed that systematic phonics produced better reading than every type of program taught to control groups."***(Ehri et al, 2001, p430). The control group programmes included basal programs, regular curriculum, whole language approaches, whole word programs, and miscellaneous programs.

A criticism of the meta-analysis is that the varying types of systematic phonics instruction were often difficult to distinguish. As a result, phonics was not taught in a uniform fashion across the thirty-eight studies and many of the studies did not include enough information about all the features of the phonics programme, so the exact benefits of the varying phonics methods was hard to conclude.

A Mixed Approach to Reading Instruction

Out of this debate comes a third group of opinions; mixed approaches to reading instruction that use a variety of both phonics and whole language instruction. A more recent mixed method approach is *balanced literacy*, a complete literacy curriculum that incorporates reading, writing, speaking, and listening experiences, while maintaining phonics based instruction through a word study component.

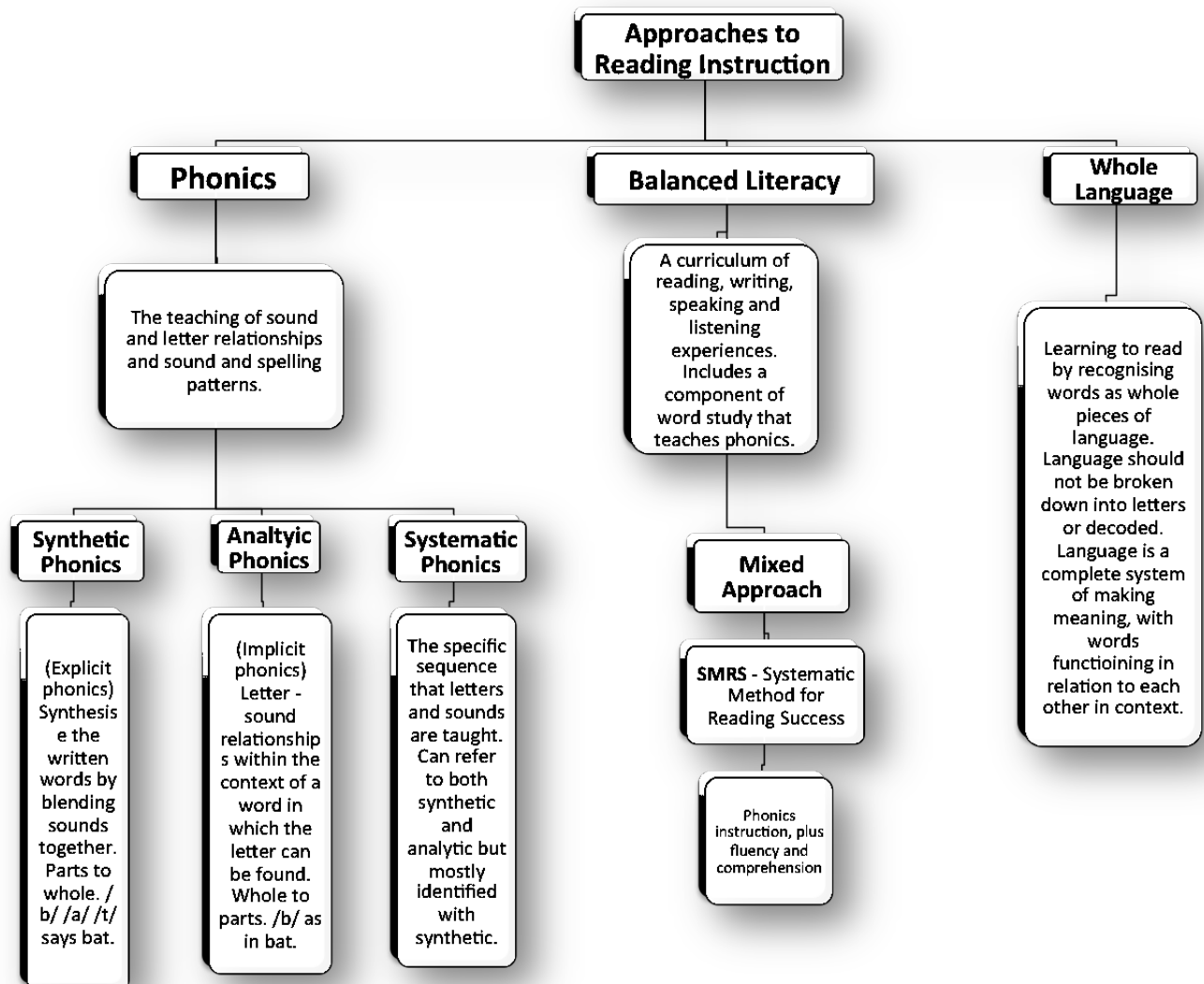
Ehri et al (2001) argues that whole language instruction would benefit from the inclusion of synthetic phonics and that the whole-language approach should not be completely avoided. ***“Systematic phonics instruction by itself does not help students acquire all the processes they need to become successful readers. Phonics needs to be combined ... to create a complete and balanced reading program.”*** Ehri et al, 2001, 433)

The United Kingdom Literacy Association also supports the notion that both alphabetic understanding and whole text comprehension lead to early reading development. ***“Best practice integrates skills teaching with more authentic, contextually-grounded literacy activities, responding to the interests of the learner and the literacy contexts of their homes and communities”*** (UKLA, 2005, p. 3).

Torgerson et al (2006) believes that a balance is required and that evidence to recommend one form of systematic phonics as more effective is lacking. They go on to suggest that, ***“since there is evidence that systematic phonics teaching benefits children’s reading accuracy, it should be part of every literacy teacher’s repertoire ...in a judicious balance with other elements”*** (Torgerson et al, 2006, p. 49)

Another version of this mixed approach to reading is the Systematic Method for Reading Success (herein after known as SMRS), a fast-track reading programme through which children learn to decode sounds into letters and words. SMRS differs from a purely phonics based approach because there are specific fluency and comprehension lessons.

Figure 2.1 The various approaches to the teaching of reading. (Source: Shepherd, S., 2013)



Phonics and Reading Comprehension

The complex debate of phonics versus whole-language is partly caused by a concern that phonics instruction alone will not teach reading for understanding. ***“Ability to read single words is only a part of reading skill, ultimately what is important is that children can comprehend what they read.”*** (Johnston, 1997, p2) Research into this area is limited but there are a few authors who have expressed some opposing findings.

Ehri et al (2007) believe that phonics instruction benefits whole text reading as well as individual word reading. ***“The meta-analysis confirmed that for beginners, phonics instruction benefited reading comprehension as much as it benefited reading miscellaneous words and decoding pseudowords.”*** (Ehri et al, 2001, p429)

One study in Scotland set out to determine the impacts of phonics instruction on comprehension by comparing two groups of third year pupils, one that had been taught synthetic phonics, and the other having been taught analytic phonics. Using a cloze procedure to assess reading comprehension ***“it was found that the synthetic phonics taught children were nine months ahead of the analytic group in reading on this test.”*** (Johnston, 1997, p2)

This study, however, did not investigate what actually caused the comprehension of the children's reading to improve. Synthetic phonics allows children to learn to decode words quickly, so it could be argued that there is more time left in the school day to discuss and learn about comprehension of the text as a whole. Shanahan believes ***“if a student lacks the phonemic awareness and phonics skills to translate written text into oral language, reading comprehension will be blocked no matter how well the student can think about the ideas.”*** (Shanahan, 2006, p28)

However, Dixon et al (2011) states that studies that have shown a noticeable impact on phonemic awareness, spelling and word recognition, have shown ***“no traceable influences of the training on measures of comprehension.”*** (Dixon et al, 2011, p463)

Phonics in the Early Years

Most phonics teaching around the world occurs during the first years of primary school. Research has shown that the effectiveness of phonics instruction is highest during the first two years of primary school and the return on investment rapidly drops off after the third year. Good (1998) explains that research has shown that children who fall below a certain reading level by the end of grade one, stay behind throughout their school careers and the gap widens as the years progress. If the acquisition of reading skills does not occur by the end of grade one, children also fall behind in all other subject areas.

“Children who do not learn to read in the early grades risk falling further and further behind in later ones, as they cannot absorb printed information, follow written instructions, or communicate well in writing.” (Gove, 2011, p1) Ehri et al (2001) also support this finding.

However, Jeynes (2007) analysed twenty-two studies that looked into the effects of phonics instruction and found that children with no early years phonics training still derived the same reading benefits from phonics instruction as late into the primary school years as sixth grade ***“This meta-analysis suggests that the phonics advantage remains quite consistent through the elementary school years.”*** (Jeynes, 2007, p161)

Phonics in Low-Income Countries:

The second half of this chapter focuses on the effectiveness of phonics in reading development in low-income countries.

Dixon et al (2005) describes research in low-income areas of Hyberadad, India, in 2004 in which five hundred children across twenty-two schools took part in a synthetic Jolly Phonics study. Half of the children were taught synthetic phonics for one hour a day, the remainder of the classes were taught by traditional rote learning methods, where the children memorised whole words by sight. All pupils were assessed before and after the intervention period using a range of word and sentence reading, spelling, dictation and IQ assessment tools.

The control group, who continued to teach using ‘local’ methods, experienced improvements in reading skills and this could be related to greater motivation of teachers as they were monitored closely by an international research team, yet the experimental group experienced significant growth in reading skills ***“with mean reading and spelling ages rising by approximately 12 and 13 months respectively in the six month project period.”*** (Dixon et al, 2005, p12.)

One flaw in the methodology was that the synthetic phonics group actually started with slightly higher reading and spelling ages so the result had to focus on improvement of test scores instead of comparing exact end results. The children who started with higher reading and spelling skills possibly found it easier to improve more, due to the foundation of skills they began with.

The same study was analysed by Schagen and Yarim (2007). They also concluded that the results were supportive of synthetic phonics. ***“Evidence from the analysis shows a clear indication of a positive impact of Jolly Phonics on test scores in reading and spelling, over and above the effect of maturation.”*** (Schagen and Yarim, 2007, p11) However, Schagen and Yarim highlighted another criticism of the study, which is the lack of consideration given to the impact of the motivation of the pupils. The children in the phonics group were reported to have increased motivation by the study and their attendance was significantly higher.

In 2007, The Gambia also partook in a pretest / posttest Jolly Phonics intervention in English where 1200 randomly selected pupils, from forty primary schools across the country, were assessed on a range of basic reading skills. Half were taught Jolly Phonics, and the rest were taught as usual for approximately one year. The results were positive, with the intervention pupils out performing the control pupils in all nine categories of the assessments. Despite the improvements, the overall scores were still low, especially in the areas of reading comprehension and sentence construction. ***“However, the fact that the modes for the indicators still remain low, the Ministry or The Gambia as a nation cannot therefore be complacent with the registered achievement.”*** (Republic of The Gambia, 2009, p38)

Unfortunately, observations of the phonics instruction were not made and there were no investigations into the motivation and confidence levels of the teachers who were trained to teach the phonics intervention. The low results of the study could have been given further analyses if there was a clear understanding of what occurred in the schools during the intervention year.

Liberia Concern Worldwide is currently working in partnership with the Ministry of Education and has implemented a reading programme that is very heavily focused on phonics instruction with positive outcomes. ***“Results from...assessments demonstrate increases in reading fluency and comprehension in intervention schools as compared with similar non-intervention schools.”*** (Davidson & Hobbs, 2001, p8)

The programme instructed children in phonology and taught decoding skills. The main difference in the type of intervention they used, compared to the approach found in The Gambia, is that it is based upon a “speech to print” approach (Moats, 2004). Due to the fact that the children did not speak any English, yet the language of instruction in Liberia is English, the programme taught the children how to hear the words and sounds first, before introducing them to the printed version.

Despite positive results in Liberia, it must be noted that the quality of the data collected was not sufficiently high and in some cases the assessments had to be repeated using more qualified assessors. Davidson & Hobbs (2012) suggested that the amount of data being collection should be limited and the training of the research team improved, in the hope to improve levels of accuracy and reliability.

In South Africa, the SMRS – that has a heavy emphasis on phonics instruction, has also been implemented in the home languages in Limpopo, Mpumalanga, and North West Provinces, with pre and post-tests using the EGRA tools. Ten treatment and five control schools were chosen in each province. With only half of the programme’s lessons completed, the post-test results showed that all treatment classes made gains in reading skills. ***“Implementation of SMRS resulted in improved literacy skills for over 90% of learners based on Mastery Test data.”*** (Hollingsworth, 2009, p5)

It is important to highlight the fact that the quality of instruction varied immensely. Some lessons were thirty minutes long, while others were forty-five. The impact that this had on student outcomes was not addressed in the study. It was also noted that the schools in which facilitators supported the teachers, made the greatest gains, thus removing some of the “control” aspects of the research. Another variety across the controlled classes was that language of instruction was not the mother tongue language for all students. This meant that some children were taking part in the programme as second language learners, which is not what the programme is designed for.

Phonics in Nigeria:

The literature discussing reading interventions and studies in Nigeria are very limited. All of the Nigerian based research that I discovered were written about Jolly Phonics and Stepping Stones Nigeria interventions that occurred in Rivers and Akwa Ibom State. These studies are almost identical to the Cross River State study.

The study in Akwa Ibom State was a pretest-posttest experiment with a sample of 168 Primary One pupils from five schools. Two intact classes in each school were selected. The experimental classes were taught Jolly Phonics for thirty-six weeks and the research team made monthly visits to observe teaching. The control classes continued with their regular literacy instruction. The Burt reading test was used to measure progress.

“Jolly Phonics was effective in enhancing pupils reading skills. The experiment group gained from 3-29 months reading age (5.3 to 5.7) in the Burt Test.” (Ekpo et al, 2007, p1) Ekpo et al (2007) believes that the success of synthetic phonics is partly due to the fun and engaging lessons that stimulate both and teacher student motivation.

Despite the positive results, the range of these results is of importance. Ekpo et al (2007) suggests that this variation in improvements is due to some teachers, who were trained in Jolly Phonics, transferred out of schools that had low results, but the specifics about which classes performed poorly and whether those classes had teachers who had transferred out, were not confirmed.

It must also be noted, however, that there were some differences in the rate of improvement between rural and urban children, emphasizing the important role of the environment and how the teaching and learning needs will not be uniform across all schools.

Ekechukwu & Uzu (2010) wrote about a similar study based in Obio/Akor region of River State involving two hundred pupils from both public and private schools. The study used the same synthetic phonics lessons and the Burt reading test. It was the intention of the study to determine if there were any specific differences between the effects of synthetic phonics instruction on the reading skills of male and females. **“There is a high positive relationship between synthetic phonics and early reading among female pupils in primary schools in the area.”** (Ekechukwu & Uzu, 2010, p636.) The same results were found for males.

Eshiet (2012) wrote about a synthetic phonics intervention in Bonny, River State. This study used Jolly Phonics and was a pretest/posttest method. 155 pupils, across four schools were involved. The results of this study were not as obviously positive. The experimental group made more progress than the control group, but the control group also made significant progress in reading. Due to the lack of classroom observations and school monitoring during the study, it is difficult to determine the cause of these results. **“SSN discovered that schools that had been monitored had much better results than those that had not. An unforeseen impact of monitoring is that teachers feel motivated and supported.”** (SSN, 2012, p15)

Interestingly, Eshiet’s focus as he analysed the study was on the effect that the intervention had on the motivation of the teachers. Through interviews, he gained an understanding about how the new approach to teaching reading made the teachers feel about their jobs. **“The teachers were enthusiastic about the intervention and also carried out the teaching with passion and purpose.”** (Eshiet, 2012, p155)

Suggestions for why the synthetic phonics has been so successful in Nigerian schools are the suitability of the programme for large class sizes, and the relative ease of which teachers can be trained. Stuart's (1999) longitudinal study found that the programme worked just as effectively with whole class instruction and that ***“results additionally demonstrate that teachers need very little training or support to use these materials to good effect.”*** (Stuart, 1999, p603.) Ehri (2001) also states that phonics instruction is no more effective in small groups as it is in very large whole class situations.

It is the reported success of these programmes that has led to the Nigerian government wanting to implement synthetic phonics instruction across all thirty six states and has made it part of the National literacy curriculum.

English as the Language of Instruction in Nigeria

All of the previously mentioned Jolly Phonics studies in Nigeria were taught in English. There is, however, much research that suggests that children learn to read more effectively in their mother tongue. For many children in low-income countries, this is not an option. In Nigeria, English, as a result of the remnants of the British colonial power, is the chosen National language of instruction in schools. The reasoning behind these choices is highly political and extremely complex and unique to every developing country.

“Teacher education and training that has lost its focus on preparing teachers specifically to teach in primary schools within a multilingual society.” (Adekola, 2007, p8)

Adekola (2007) argues that longitudinal studies have shown that Nigerian students who were taught in the Yorunba language had higher learning achievements across all school subjects than students from English only schools. Adekola (2007) also investigated two different approaches to education language policy in Malawi and Zambia. In Malawi, the local language of Chichewa is used for grades 1 through 4 with English as a subject. In Zambia, children are taught in English from grade 1, with the local language (Nyanja) as a subject. Observations showed that children demonstrated little differences in English reading proficiency despite the Zambian children having been taught in English for four additional years. Malawian pupils read much better in the local language than the Zambian pupils.

“Teaching of reading in English is not effective. The great majority of pupils almost certainly do not read English well enough to be able to use this skill to learn other subjects.” (Adekola, 2007, p10)

A study in The Gambia also concluded that teaching and learning in the home language of the student has a big impact on the success of the English reading development. ***“The English speakers were very rarely found to outperform the other linguistic groups.”*** (EGRA The Gambia, 2009, p14). The same Gambian study also showed that different languages spoken at home had different effects on the ability to master the English phonetic system. ***“These results indicate that the phoneme identification task was more sensitive than the other tasks to the specificity of the spoken language.”*** (EGRA The Gambia, 2009, p26)

In a discussion on the low literacy rates in Nigeria, Edem argues that, even when mandated to learn English at school, the teachers are often not proficient at reading and writing in English, and as a result students are graduating from secondary school unable to read and write proficiently in any language. ***“The problem is further compounded by the use of a foreign language (English), as a medium of communication and learning in schools.”*** (Edem, 2011, p16).

Phonics Instruction in English for ELA students

There is also contrary evidence to suggest that phonics instruction in English can benefit the reading development of students for whom English is a second or third language due to the fact that knowledge of one system of phonemes increases phonological awareness, and could actually make learning a new language through phonics easier. (Bruck & Genesee, 1995; Campbell & Sais, 1995).

“Early concentration on teaching phoneme awareness and phonics can radically improve reading and spelling standards in inner city second language learners.”

(Stuart, 1999, p587) Stuart described a longitudinal study assessing 112 five year olds, 96 of whom did not speak English as their first language, who were either taught using the Jolly phonics programme or word level work within big books. The intervention happened for one hour a day, for twelve weeks. All of the children, who had very poor receptive vocabularies in English at the start of the intervention, made huge gains in their ability to blend and segment phonemes. Stuart (2004) discovered that synthetic phonics instruction was far more effective at teaching reading and writing in English instruction than through the use of “whole texts”.

The study however, did not prove whether or not the acquisition of these skills ***“will be sufficient enough to enable them to develop self-teaching printed word recognition skills.”*** (Stuart, 1999, p603). Hence further investigation is needed to determine the long lasting effects that phonics instruction has on reading development of children with English as a second language.

Jones (1996) also believes that phonics should be taught to students for whom English is not their first language. In her study of Mexican immigrants, the learners used ***“their basic understanding of the Spanish phoneme-grapheme relationships to gain an understanding of the underlying morphophonemic structure of English.”*** (Jones, 1996, p3) This study highlights the advantages for adults to use phonics as a method for learning to read and write English by transferring understanding from the systems and rules in their first language. Jones (1996) believes that children should gain a working knowledge of the “code” of their own spoken language before being exposed to a different language.

Chiappe and Siegel (1999) investigated reading acquisition of English of Punjabi-speaking children in Canada and also found that the phonological awareness skills in the first language transferred during the acquisition of the second language. Additionally, Linklater, O’Connor, and Palardy (2009) found no difference in development of English phonemic awareness between a group of Kindergarten children who spoke English only and a group of Kindergarten children who were English language learners.

The findings both for and against the use of English as the medium of instruction, in countries where other languages are the mother tongues, form part of this very complex and sensitive debate about which is better for the children and the country as a whole. The debate can be analysed as a very technical issue in terms of which teaching method gets results, but it can also be considered from a cultural perspective. The impact of using a foreign language can be very destructive, by devaluing a country's diversity and eradicating local identities.

Key Lessons Learned

This research sits in the middle of two huge debates: whole language versus phonics approach to reading instruction, and instruction in the mother tongue or English. The literature discussed the more technical intricacies of these debates and argued the pros and cons of both on an instructional level. But there is a wider view.

Phonics instruction focuses on the technicalities of individual reading skills such as decoding and blending. The whole language method takes more of a grass roots approach through the embedding of the culture through literature. Regardless of immediate impact on reading skills, one must also consider the wider impacts of the literacy instruction on the cultural diversity and identities of the local communities in which the education takes place.

The use of English instead of the mother tongue is charged with controversy. On a technical level the literature can argue both for and against instruction in English, based on student outcome from assessments. But the larger impact on the community and country as a whole must also be considered. Language forms such an integral part of a person's and a country's identity that the picture is not simple.

One overwhelming factor that comes out of the literature review is that learning to read at a young age is of extreme importance. Children have one chance to get this right and research shows that the earlier the reading skills develop, the easier it is. It is crucial that research finds that most effective method for teaching children to read because if they do not get it right the first time, it is very hard to catch up, and the social disadvantages that come later in life are profound.

It is also important to remember that much of the research in the literature review comes from the west. Many of the ideologies of how children learn to read are born in high-income countries and then implemented in low-income countries in the hope that they will succeed. The positive results of many of these studies in developing countries does not necessarily mean that those are the *best* methods, they just might be the only ones that have been tried.

Another fact, that is very hard to ignore, is that synthetic phonics instruction in both high and low-income countries, has been proven to get results. Study after study has shown that student's reading skills improve with phonics instruction during the early years.

The literature raises the question: Are the issues of low literacy rates in Nigeria a technical issue that can have money poured into it in order for a solution to be found? Or is this a more complex picture than synthetic phonics, regardless of its success rate, cannot tackle alone?

The importance of teacher education is also emphasized through the literature. The complexities surrounding the teaching of reading, and the various approaches used, need to be understood by all educators on the ground. Teacher education therefore needs to be of a high quality.

There are also some practical takeaways from the literature review that suggest why synthetic phonics was chosen to be the mode of reading instruction in many low income countries:

- Able to teach basic reading skills in a relatively short period of time.
- Possible to teach effectively to large groups.
- Easy to train teachers in a short amount of time.

Chapter Three

The Methodology

Chapter 3 – The Methodology

Introduction

This chapter starts with a brief discussion about research methodology in education, the various approaches and key considerations around social science research, and how they relate to this study.

The focus of the chapter then shifts to an analysis of the literature review and the interviews, with an explanation of why such methods were chosen, the appropriateness of those methods, and suggestions for how the process could have been improved.

The chapter concludes with an analysis of the study of the empirical data, giving a full description of the pilot study, the specifics of *what* data was collected and *how*, the ethical considerations of the study, and recommendations for methodological improvements.

Research Methodology in Education

Educational research methodology is very complex and has given rise to centuries of discussions about the best way of discovering new knowledge and understanding of the world of teaching and learning. Research is primarily about how we understand the world we live in, and so our own individual views and experiences will greatly influence how we interpret and understand our research.

Research is often thought of as the collection and interpretation of data in very clinical and scientific manner. That approach maybe possible in the world of natural science, but in such a multifaceted environment of a school, the collection of pure data can be impossible. The researchers' views will inevitably, either consciously or subconsciously, influence both their observations and their interpretations of their findings.

The question of "*what is knowledge?*" needs important consideration. Whether a researcher believes that knowledge can be acquired, or that it has to be experienced, will greatly determine how they go about their inquiry into social behavior. A researcher who takes the observer's role has an allegiance to the methods of natural science. This is often referred to as the positivists approach. This idea relates to the analysis of empirical data produced by the phonics pilot study. The pretest- posttest model that assesses specific reading skills of children takes a very technical and scientific approach. It assumes that exact literacy skills can be taught directly and then measured concretely.

A researcher, who gets involved with their subjects and becomes immersed in the situation that they are studying, takes the anti-positivists approach. They believe that knowledge is less concrete, more subjective, and based on personal experience and nature. This approach connects with the whole language approach to the teaching of literacy. Language is the complex vehicle of which we make meaning. To reduce its development to a series of numbers based on specific reading skills reduces the power of what language really is and removes it from the culture and identity rich body in which it lives.

“The contrasting ontologies, epistemologies and models of human beings will in turn demand different research methods.” (Cohen et al, 2005, p7) As the methodologies used in this study are analysed, it is important to keep these ideas in mind.

The Research Methodologies

In order to answer the question – ***“Does intensive synthetic phonics instruction improve the literacy skills of Primary One children in Cross River State?”*** an extensive literature review was conducted. Key players who were involved in the pilot study’s design and implementation were also interviewed. Thirdly, empirical data, collected from a sample study of schools in Cross River State, was also analysed.

The motivation to analyse new data from the schools was coupled with the understanding that it was of great importance to gain an in-depth knowledge of the pilot study itself, similar studies that have taken place in other locations, and the complex theory behind how children learn to read. The intention of this mixed approach was to gain the most accurate analysis and understanding of the situation on the ground.

“Triangular techniques in the social sciences attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint.” (Cohen et al, 2005, p112)

The Literature Review

Before a full analysis of the data from the Cross River pilot study could take place, it was important to understand as much as possible about how children learn to read, the impact that phonics can have on reading development, and any studies that have focused on the use of phonics in low-income schools.

Using Google Scholar, and several online journal databases, I searched for literature relating to '*phonics, reading and Africa*'. My initial findings were limited to literature about how children learn to read and phonics programmes that have been studied in developed countries. This material highlighted the complexities of learning to read and the political struggle and debate surrounding the question: *What is the best way to teach children to read?*

After widening the search to '*phonics, literacy and low income countries*' a number of studies that have taken place in Asia, South America, and Africa were discovered. Some of this research was specifically analyzing the use of phonics programmes, whereas other described whole language approaches.

The review of such research and studies was absolutely necessary in order for me to be able to critically analyse the study in Cross River, I also needed to know the theory behind learning to read, the various approaches, and the successes and failures of similar interventions. The reading increased my awareness of how difficult it is to teach a child to read and the many factors that influence what makes the best method of teaching, depending on the context.

There were limitations to my literature review. Initially, it was extremely time consuming and discoveries of quality articles were stumbled upon by luck. It was also difficult to conclude that the search was exhausted. Additionally, all of the studies that I located and read were ones that showed very positive outcomes of the reading intervention. It would appear that studies that do not get good results are not often published.

See **Appendix A** for a table of literature that was used, organised by author, content and study location.

Interviews

Over the course of several months, interviews were conducted with an employee of Stepping Stones Nigeria who was responsible for the design of the pilot study, the training of the research team and the teachers involved, and the coordination of the work between the charity, the State Department of Education and the University of Calabar. The telephone interviews largely consisted of questions to clarify details of the study, the motivation behind the empirical research, the training programmes, how data was collected, and the intentions of the outcomes of the study. The questions aimed to collect information that was not available in the pilot study's documentation.

Email interviews, with two professors at the University of Calabar, also occurred. The questions were mainly around the logistics of the research, and getting access to the data.

There are many issues with the technique of interviewing in order to gain valid information about an educational situation. ***“The sources of bias are the characteristics of the interviewer, the characteristics of the respondent, and the substantive content of the questions.”*** (Cohen et al, 2005, p121). Personal connections with the founder of the Stepping Stones Nigeria could have impacted the level of honesty and directness during the interviews. It was therefore difficult to get critical information about the negative aspects of the study.

An effective interviewer ***“should be: knowledgeable (of the subject matter so that an informed conversation can be held)”*** (Kyale, p148, 1996) Yet, as the intention of the interviews was to find answers to all the unknowns surrounding the study, the interpretation of some of the interviewee’s responses could have also been misinterpreted due to a lack of full understanding.

More frequent face-to-face interviews could have helped to overcome some of the before mention issues. The interviews also only took place at the start of the research period. More interviews after the data had been released and initial chapter drafts written, could have proved more reliable.

See **Appendix B** for a sample of interview questions used.

The Study of Empirical Information

The literature review revealed that there has not been any published research completed in Cross River State on the use of synthetic phonics. There have also been many positive effects of synthetic phonics programmes in the development of reading in low-income countries. Despite this, every country context is unique and it is important to test whether the same successes would be found in the Cross River State schools. Low literacy rates in Nigeria are not increasing (Edata, 2010) and so this data study sets out to find out if a phonics based programme can help improve the literacy situation in Cross River schools.

Through the connections of a university peer, the opportunity arose to study data collected by a UK charity, Stepping Stones Nigeria (hereinafter referred to as '**SSN**') and the University of Calabar (hereinafter referred to as '**UNICAL**').

As the pilot study assessments, teaching and data collection were not designed, implemented, or observed personally, there are certain limitations. This chapter will make recommendations for how the pilot study methodology could be improved.

Pilot Study Background

The synthetic phonics pilot study in Cross River State was planned and implemented by SSN, in partnership with UNICAL and Cross River State Universal Basic Education Board, (hereinafter referred to as 'SUBEB'). All three parties shared a common goal: To improve the literacy levels of primary children in Cross River State.

SSN is a UK based registered charity that has been working in the southern region of Nigeria since December 2005. Over the years SSN has worked closely with Nigerian teachers building a model school and learning how to improve the reading and writing skills of the local children. SSN introduced a synthetic phonics reading intervention to the model school, and the improvement of literacy skills of the children initiated the charity's desire to learn more about synthetic phonics and its impact on children's reading skills.

The work of SSN continued by partnering with the Ministry of Education and the University of Uyo in Akwa Ibom State where they implemented a one-year pilot study into the use of synthetic phonics in Primary One classrooms. Through a simple pre-test, post test reading assessment, using the Burt's reading assessment, (Burt, 1974), the study showed that teaching synthetic phonics increased the reading ages of the children. ***"This pilot study revealed that the chronological reading age of children taught using the programme was up 17 months higher than pupils taught using conventional methods."*** (SSN, 2012, p5)

After the success of the Akwa Ibom pilot study, the Nigerian Ministry of Education added synthetic phonics to the draft Primary curriculum, and also agreed to roll out the synthetic phonics programme to one thousand primary schools in Akwa Ibom State. Once these successes were made public, the Ministry of Education in Cross River State was very interested in replicating the programme. SSN teamed up with SUBEB and UNICAL, in Cross River State, to design a similar pilot study that would assess the suitability of the phonics intervention to improve literacy skills in Cross River State.

Pilot Study Overview

In August 2011, six schools in Cross River State were identified to take part in the pilot study to determine the effect of synthetic phonics on the reading skills of Primary One children. In each school two classes were involved in the study. One class continued with the regular and traditional approach to literacy instruction, and the other took part in the synthetic phonics lessons.

In September 2011 the pre test was administered to 263 Primary One pupils by the research team using the interview method. The research team, comprising of three lecturers from UNICAL, administered the assessments with the assistance of nine graduate students. One member of the research team, or a research assistant, interviewed one pupil at a time using the Early Grade Reading Assessment. In June 2012, the same post-test assessment was administered to 217 of the original 263 Primary One pupils, at the same six schools, by the same research team.

The Pilot Schools and Classes

SUBEB identified the six schools to be used in the pilot study. No criteria for how the schools, the classes or the teachers were chosen was given, except that three of the schools were rural and three were urban. There was no intentional pretest matching of schools and classes. A detailed analysis of how the control and the phonics groups compared at pretest is given in Chapter 4. **Figure 3.1** shows school locations.

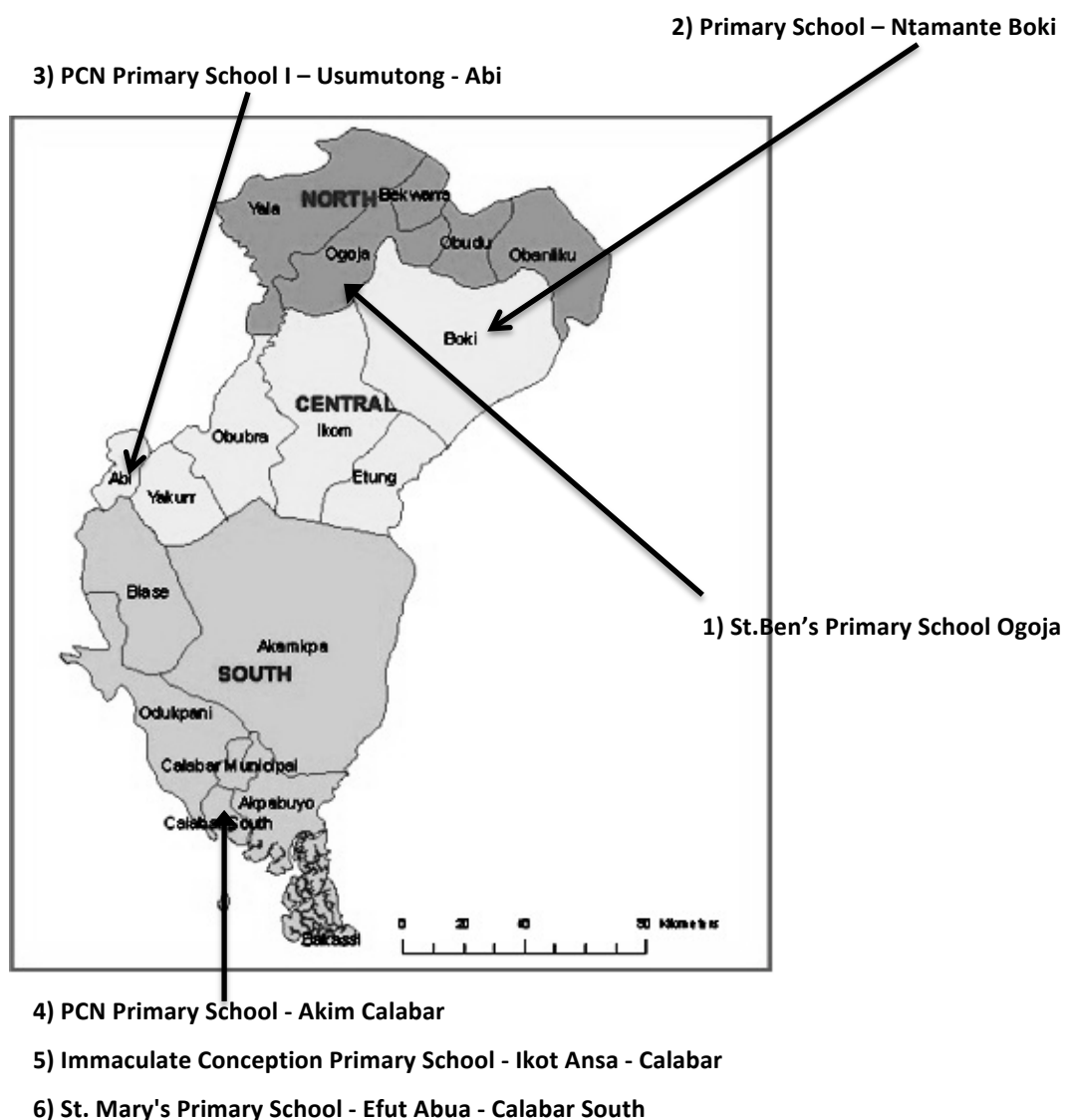


Figure 3.1 – A map of Cross River State showing pilot school locations. (Source: <http://www.ncocusa.com>) Adapted by Shepherd, S., 2013.

The Data Collection

The Cross River pilot study used the Early Grade Reading Assessment (hereinafter referred to as 'EGRA') to assess reading skills before and after the synthetic phonics intervention.

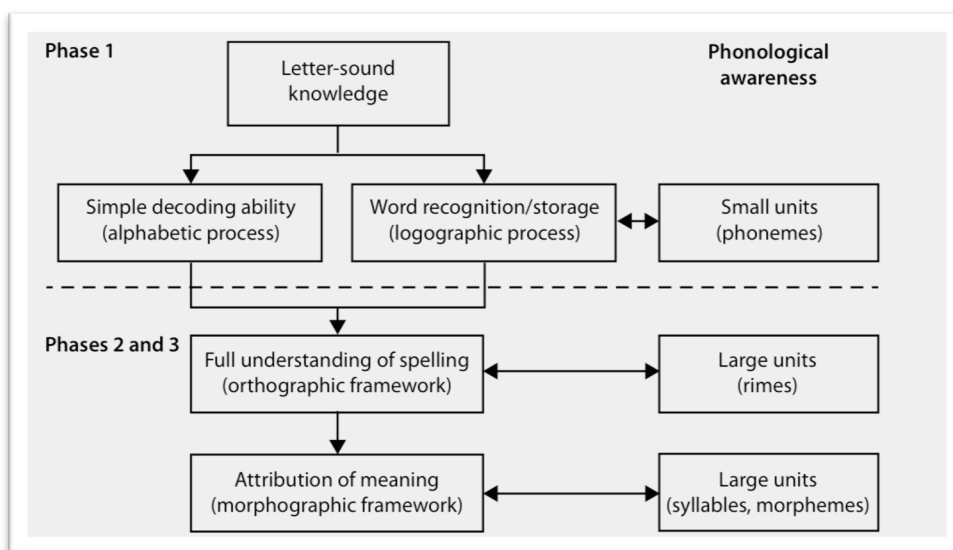


Figure 3.2 – The phases of reading development. (Source - Gove and Wetterburg, 2011, p10)

As shown in **Figure 3.2**, children learn to read in stages. There are many parts to each of these foundational stages. The EGRA tools are designed to assess each of these steps in reading development, thus giving a very clear picture of how a child's ability to read is progressing.

The EGRA tools assess the following areas of early reading development:

1. Letter name knowledge. *(Say the name of a letter)*
2. Initial sound identification. *(State the beginning sound of a word)*
3. Letter sound knowledge. *(Say the sound of a letter)*
4. Familiar word reading. *(Read the word)*
5. Invented word decoding. *(Read 3 letter non-words)*
6. Oral passage reading. *(Read a short story)*
7. Reading comprehension. *(Answer questions to show understanding of the story)*
8. Listening comprehension. *(Answer questions about a story that they listened to)*
9. Dictation. *(Write a simple sentence that is read to them)*

See **Appendix C** for a complete copy of the EGRA assessment sheets used in the pilot study.

RTI, World Bank and USAID started to develop the EGRA tools in 2006. The intention was to design a series of assessment tasks that could determine the foundational literacy skills of a child. ***“The objective was to help USAID partner countries begin the process of measuring, in a systematic way, how well children in the early grades of primary school are acquiring reading skills; ultimately the aim was to spur more effective efforts to improve performance in this core learning skill.”***

(Gove & Wetterberg, 2011, p7)

By 2011, the EGRA tools had been used in over fifty countries in over seventy languages. Education departments, non-profits and private organizations have used the tools to demonstrate the need for a reading intervention, to gain insight into the effectiveness of an intervention, and to nationally diagnose areas of priority for instructional improvement or teacher training. More recently the tools have been used as an assessment tool for teachers, parents and school leaders to target children who need more reading support.

“Concrete information on general reading levels, school performance, and individual student progress can spur officials, educators, activists, and parents to agitate for improvements.” (Gove & Wetterberg, 2011, p25)

The tools used in the Cross River schools were tailored by SSN to suit the Nigerian context. Certain words and pictures were changed to be more contextually and culturally appropriate. The individual tasks on the assessment lines up closely with the content of the synthetic phonics curriculum used in the pilot study. It also tests reading comprehension and writing skills which are important in determining the impact the synthetic phonics knowledge will have on the wider skill of reading with understanding.

The Training of the Research Team

On August 2nd 2011, the research team, consisting of twelve participants from UNICAL, were given a two-day training. Based on a report of the training (SSN, 2011), the training included teaching of letter sounds and how to blend and segment sounds. Most of the Jolly Phonics lesson activities were also discussed. The administration methods of the EGRA tools were also studied in depth.

See **Appendix D** for the research training presentation.

The team was made up of a number of research assistants, who were graduate students from the University. ***“The research assistants were not trained in the use of Jolly Phonics as it was thought that they did not need this knowledge.”*** (SSN, 2012, p3) This lack of training could have impacted the reliability of the data collected by the research assistants.

Unfortunately, no observations of the training sessions were made personally, as they would have been very beneficial in understanding the impact of the training and to make recommendations for improvements.

Using the EGRA tools can be challenging due to the complexity and thoroughness of the assessment tasks. The administration of the tools require a substantial amount of training as the assessors need to be able to listen to children’s responses, and accurately code the response, at the same time as monitoring elapsed time. There also needs to be a deep level of understanding surrounding the actual sounds that the letters make – a skill that many adults in Nigeria were not exposed through their own literacy education.

Clear instructions for how to administer the tests were given, and researchers were trained to use the script accurately. The instructions included strategies for explaining the tasks to the children, making the child feel relaxed, and gaining consent to continue with the assessment. All record and prompt sheets were also provided for each assessment. During each of the nine assessment tasks the assessors had the opportunity to stop the test when children were not performing well and move on to the next section of questioning to keep levels of motivation up.

The test also has to be administered in a one to one setting which is not only time consuming and causes issues of space availability, but requires absolute consistency across the team of assessors for how they code various children's responses. It is crucial that personal opinions of the assessors do not interfere with their interpretations of the responses.

Discussions with SSN employee revealed that, despite explicit instructions given to the research team during training and in the form of documentation, photographs taken during the pre test suggest that there were at least two interviews taking place in a room at some school sites. The assessments took place during the school day and there were not enough free rooms available. In addition, the children did not know the research team members and they had to sit with them and answer many questions. Consideration must be given to how the testing environment may have impacted the performance of the children.

The research team was also instructed to interview the children in their home language. The EGRA tools were designed for use in the mother tongue, so that the children have a complete understanding of each part of the assessment. The research assistants translated the directions for each task into as many of the local languages as possible. Assessors were encouraged in the training to use the child's mother tongue to give the directions in the interview.

The languages spoken by the assessors during the interviews were also not recorded. Due to the amount of different languages spoken across the schools, it seems impossible that all children were spoken to in their mother tongue. This may have affected how well some children understood each section of the assessment.

See **Appendix E** for the complete assessment script and instructions.

The Ethics

“Ethical concerns encountered in educational research in particular can be extremely complex and subtle and can frequently place researchers in moral predicaments.” (Cohen et al, 2005, p49)

It is difficult to balance the ethics of the study and the validity of the research. Social scientists have a moral obligation to the subjects of their work and not just to their profession and the search for knowledge and truth. As outlined by the cost/benefits ratio work Frankfort-Nachmias and Nachmias (1992), the personal costs of the individuals taking part must be considered despite the social benefits that might be gained from the research.

One important area of ethical research is the collection of informed consent. ***“Consent thus protects and respects the right of self-determination and places some of the responsibility on the participant.”*** (Cohen et al, 2005, p50)

A member of the research team at the Univeristy of Calabar, explained that ***“Consent was received from parents through their children.”*** Additionally, the instructions given to the research team were to ask the consent of the child at the start of each interview. Here is part of the script that the assessors were trained to follow:

“I will also ask you other questions about your family....I will NOT write down your name so no one will know these are your answers. Once again, you do not have to participate if you do not wish to.” (EGRA, 2011, p1)

See **Appendix F** for the complete gaining consent script.

The families were also informed of the reason for the study, what the data will be used for, and where it will be published.

Randomized controls are often criticised on ethical grounds. In controlled experiments, where some children benefit from interventions and others do not, researchers have to decide where the line of unethical lies. At the time of writing, SUBEB decided that once the positive results from this study were released, that all schools in Cross River State should benefit.

The Training of the Phonics Teachers

Due to not being on the ground, the training that teachers received was not observed personally. All of the knowledge regarding the training programmes was second hand through training materials and reports.

In September 2011, the six phonics teachers were given a two-day training in synthetic phonics. Teachers were taught how to identify and breakdown the individual sounds in words, and how to blend individual sounds back into words. Additionally, they were taught how to deliver a Jolly Phonics lesson, the structure and pacing of the lesson, how to use the Jolly Phonics teacher and pupil resources, and how to assess informally to help plan for future lessons.

See **Appendix G** for an example of the teacher training materials used.

After the initial training and baselines assessment, teachers reported that they did not feel like they had had enough training. Suggestions were made for an additional training day during the middle of the pilot study but this did not happen. Mentoring at the school level was also suggested but this did not happen either. For support, teachers were given the Jolly Phonics teachers' manuals and a VCD that taught all of the letter sounds.

“It was suggested that a re-training exercise should be organised to remind them of the correct sounds and actions for letters and should also cover tricky words.”

(SSN, 2012, p4)

More training should have been given to ensure the most success possible from the intervention. Regular check-ins, and on-going training, with the teachers would have also given much information on how to improve the study for the future.

The Teaching of the Synthetic Phonics Lessons

Starting in October 2011, the teachers in the six experimental classes taught Jolly Phonics lessons four times a week, for an hour each day. The teachers were trained to follow the lessons in order and repeat lessons when most of the class seemed to struggle. The scheme of work and lesson plans were adapted from the Jolly Phonics curriculum, but made culturally appropriate for the Cross River environment by the staff at SSN and the model school.

The lessons followed a similar structure each day. Each lesson the children complete a page in the Pupil Book, sing a letter sound song, play a flash card game, and read a short story that reinforces the sounds. They then do letter formation activities, a sound blending activity to make a word, sounding out the letters activity to break apart a word, and finally a short dictation exercise. Every fourth lesson is a revision lesson where the previous lessons' sounds are reviewed. These lessons were taught for eight months until the end of May 2012.

See **Appendix H** for the Jolly Phonics scheme of work.

English was chosen because it is the official language of instruction in schools in grades 3 and beyond. In the early grades, where the mother tongue is mandated to be used, English is still the main language of instruction – often due to the fact that teachers do not speak the language of their students, or because there are too many languages in the class and one has to be chosen.

The Jolly Phonics “experimental” lessons taught during the pilot study were not observed so no comments can be made on whether the teachers followed the lessons plans closely. Some teachers may have been teaching more or less than the required number of lessons. There is also no record of which teachers delivered the curriculum at a higher level, therefore possibly gaining better results. Some teachers are naturally better than others, and this information, would have been very interesting and useful data.

The control group lessons were not observed either. It is very important to know what was going on in the classrooms that were not teaching Jolly Phonics. Were the teachers more focused on literacy due to the intervention that was happening in other classrooms? Were some using phonics methods that they had learnt from their fellow teachers? What were the reading instruction methods that were being used? This information would also have made for a more reliable analysis of the data and more interesting discussion around which traditional methods were more effective.

An SSN employee informed me during a phone interview, that three visits to the schools were planned but due to University strikes, public holidays and financial difficulties, they did not happen.

Towards the end of May 2012, members of the research team from the UNICAL visited the three urban schools. The visit report focused on the results of the Jolly Phonics lessons and whether children were already remembering their letter sounds. There was no mention of the quality of teaching in either the experimental Jolly Phonics or control classrooms. (Inaja, 2012) More observations, of both the control and phonics lessons, are highly recommended in order to learn more about how to make the study more effective.

The Data Analysis

On completion of the posttest assessments, the research team at UNICAL collated all of the raw data onto an excel spreadsheet.

I analysed the data in several ways, testing reliability for pretest matching using Standard Deviation and T Test Analysis. The data was also examined from many angles to determine the cause of certain assessment scores.

Chapter Four

The Presentation of Findings

Chapter 4 – The Presentation of Findings

This chapter analyses and discusses the data from the pilot study and answers the research questions. The pretest data is scrutinised to determine whether or not the phonics and the control group were well matched at pretest. The success of the synthetic phonics intervention is then evaluated through close inspection of the results of each section of the assessment. Discussions and possible explanations for the results are given throughout the chapter, with some conclusions made at the end.

All the data presented and discussed in this chapter has been analysed, manipulated and organised in an excel spreadsheet.

The Matching of the Pretest Data:

Six schools were chosen to take part in the study, three rural and three urban. It is important to determine if the two groups of classes provide good matches for the pilot study and highlight any differences between the control and the phonics groups that may impact the interpretation of the results.

Pretest Matching of Demographics:**Table 4.1:** Pupils' Demographic Variables (Source: Shepherd, S. 2013)

Variables	Code Used	Category	Total Frequency	%	Frequency in Phonics Group	%	Frequency in Control Group	%
Gender	1	Male	118	54	63	56	55	52
	2	Female	99	46	49	44	50	48
		Total	217	100	112	100	105	100
Location	1	Urban	149	69	75	67	74	70
	2	Rural	68	31	37	33	31	30
		Total	217	100	112	100	105	100

Table 4.1 shows that in terms of gender, the two groups were well matched at pretest, with only 4% more boys and 4% less girls in the phonics group than the control group.

In terms of location, the two groups were also well matched at pretest, with very similar percentages of children attending rural or urban schools in both the control and the phonics groups. There are 3% less urban children and 3% more rural children in the phonics group than in the control group.

However, overall, there are significantly greater more children attending urban schools than rural, with 38% more attending urban schools. This finding will not affect the reliability of the data, but offers an interesting variable that is investigated later in this chapter.

Pretest Matching of Languages Spoken

As **Table 4.2** shows, both groups were also well matched at pretest by languages spoken at home, with a similar distribution of languages used at home and the extent of which English is spoken at home.

Table 4.2: Languages Spoken at Home. (Source: Shepherd, S. 2013)

Variable	Category	Code Used	Frequency	%	Frequency in Phonics Group	%	Frequency in Control Group	%
Main Language used at home	English	N/A	33	15	16	14	17	16
	Others		184	85	96	86	88	84
	Total		217	100	112	100	105	100
Use of English at home	Never	0	11	5	6	5	5	5
	Rarely	1	40	18	20	18	20	19
	Some of the time	2	110	51	58	52	52	50
	Most of the time	3	36	17	19	17	17	16
	All the time	4	20	9	9	8	11	10
	Total		217	100	112	100	105	100

Pretest Matching of Socio-economic Status

The data collection from Section 9 of the assessment informs us about the ownership of particular household property such as electricity, a radio, and an inside toilet etc. This data is attempting to determine some level of social economic status. Both the phonics and the control group had a very similar distribution of such items, and is therefore another indication of being well matched at pretest.

See **Appendix I** for the Data of Ownership of Household Property

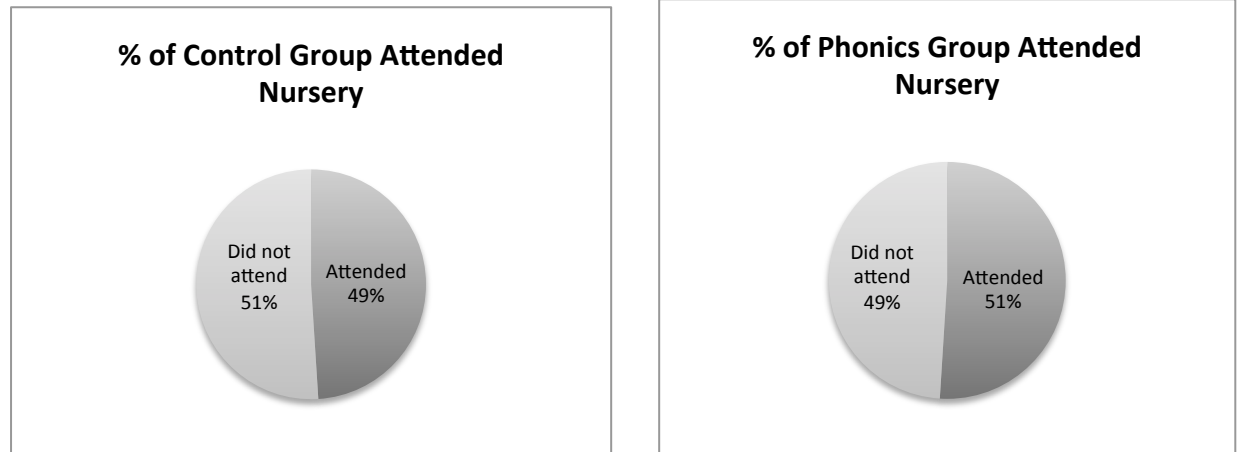
Pretest Matching of Education Levels of Child and Parents

Figure 4.1 - % of Children Who Attended Nursery School. (Source: Shepherd, S. 2013)

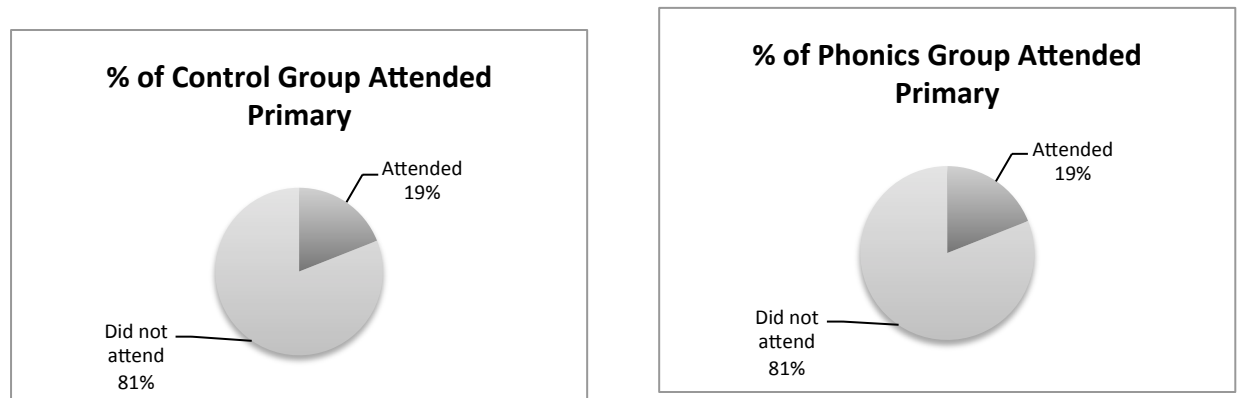
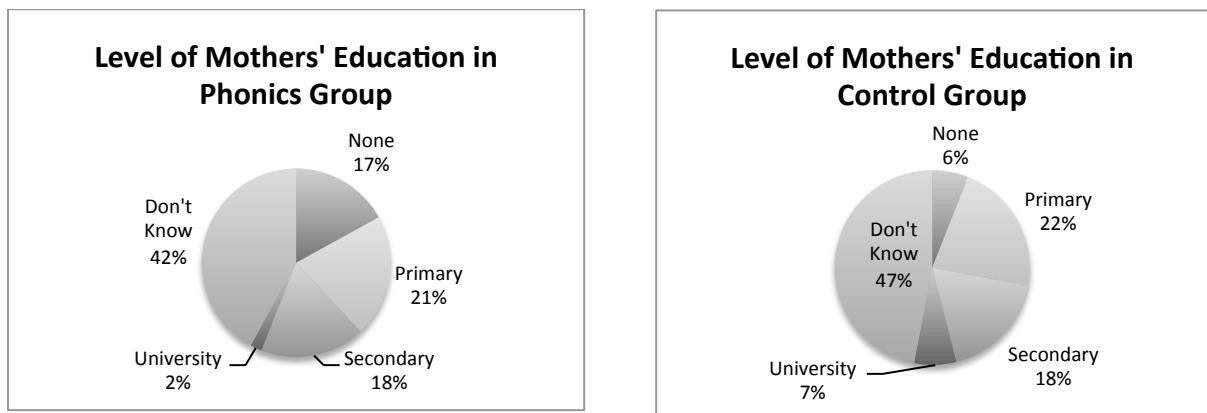
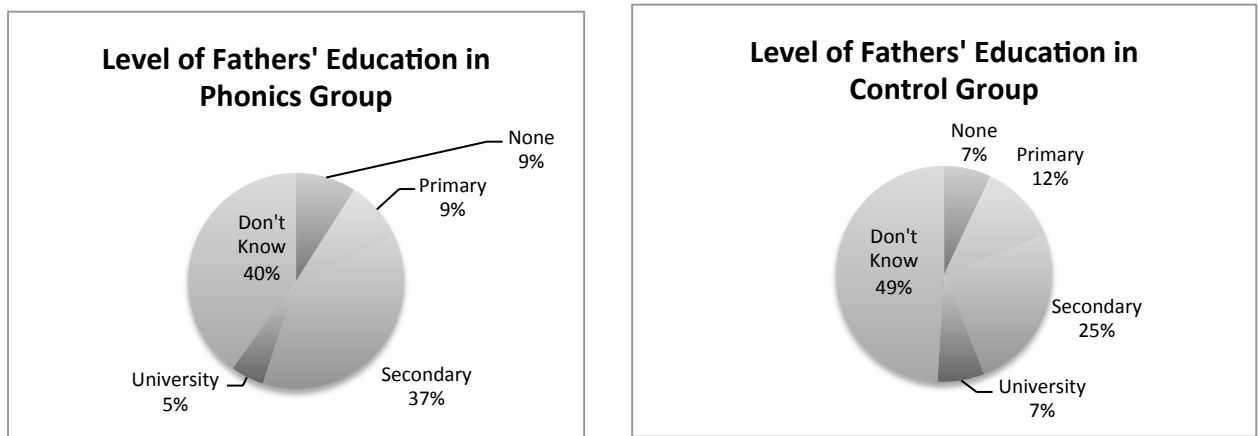


Figure 4.2 - % of Children Who Attended Primary School the Previous Year. (Source: Shepherd, S. 2013)

As shown in **Figures 4.1 and 4.2**, the number of children who attended nursery or primary school, in the year preceding the assessments, are almost identical in both the phonics and the control groups.

Figure 4.3 – Education Levels of Mothers. (Source: Shepherd, S. 2013)**Figure 4.4** – Education Levels of Fathers. (Source: Shepherd, S. 2013)

However, **Figures 4.3 and 4.4**, demonstrate that there are some differences when comparing the parents' level of education in the two groups. 11% more mothers in the phonics group had no education and 12% more fathers in the phonics group had completed their secondary education. If there is a relationship between level of parents' education and the results of the assessments, then these differences in numbers may be significant. More analysis can be found later in this chapter.

See **Appendix J** for data of parents' education.

Pretest Matching of Oral Vocabulary Skills

The first part of the pretest interview was an oral vocabulary test. This task was completed to make sure that the children were language ready and is an excellent way of determining whether the two groups were well matched at pretest.

Figure 4.5 - The oral vocabulary test. (Source: SSN, 2012)



The child is shown pictures, (see **Figure 4.5**) representing nouns and verbs, and after hearing the noun or verb, they point to the correct picture. Instructions are given in English first, and then the home language if English was not understood.

The average oral vocabulary score for the phonics group was 21.88 out of a possible 25 points, and the average score for the control students was 21.70 points. This is another example of well-matched groups at pretest.

Pretest Matching of Specific Reading Skills:

Through an analysis of the pretest average scores it is possible to determine whether the children in the two groups, were matched at pretest in terms of specific reading abilities. Neither group had been instructed in synthetic phonics prior to the pretest.

Table 4.3: Independent T-test Analysis of the Difference in Performance Between the Phonics Group and the Control Group in the Pretest. (Source: Shepherd, S. 2013)

Variables	Group	N	Mean	SD	T
Letter Name Knowledge (Section 1)	Phonics	112	13.17	16.52	-.969
	Control	105	15.29	15.61	
Letter Sound Knowledge (Section 2)	Phonics	112	2.97	5.62	-.706
	Control	105	3.56	6.66	
Familiar word Reading (Section 3)	Phonics	112	1.93	4.07	-.949
	Control	105	2.62	6.46	
Invented Word Decoding (Section 4)	Phonics	112	0.18	0.87	1.057
	Control	105	0.08	0.53	
Initial Sound Identification (Section 5)	Phonics	112	1.13	2.17	.035
	Control	105	1.11	2.37	
Oral Passage Reading (Section 6a)	Phonics	112	0.75	2.88	.961
	Control	105	0.46	1.26	
Reading Comprehension (Section 6b)	Phonics	112	0.07	0.29	.121
	Control	105	0.07	0.28	
Listening Comprehension (Section 7)	Phonics	112	2.28	1.47	.625
	Control	105	2.15	1.47	
Dictation (section 8)	Phonics	112	1.31	3.05	-.296
	Control	105	1.19	3.02	

P > .05, df = 261, critical t = 1.96

As highlighted in **Table 4.3**, by finding the Standard Deviation of the average pretest scores of both groups, for each of the nine sections of the assessment, it was possible to determine that the reading abilities of the two groups were similar.

The T test analysis demonstrates that there were no significant differences in reading abilities of the two groups at the time of the pretest. Each calculated t-value was less than the critical t-value of 1.96.

When looking at each section of the assessment in turn, there are some small differences (that do not show up significantly on a T Test Analysis) that will be discussed when analyzing the posttest data.

For example, the mean score for the first three sections of the assessment are slightly lower in the phonics group than the control group. Yet in Sections 4, 5, 6a, 7 & 8 of the assessment, the average scores are slightly higher for the phonics group. The average pretest scores for Section 6b are the same.

This is a significant finding when discussing the results of the synthetic phonics reading intervention as it shows that the children in both groups had similar starting points in terms of their overall reading development, but with some slight differences in performance in the specific reading skills that are assessed.

It has therefore been determined that the phonics and control group were suitably well matched in most areas, so that the data gained from the pretest and posttest will be reliable in determining the effectiveness of the synthetic phonics intervention.

Which method of reading instruction, synthetic phonics or the traditional Nigerian approach, results in more reading development?

Through a T-test analysis of the posttest results for each section of the assessment, the phonics group has significantly superior results when compared to the control group.

Table 4.4: Independent T-test Analysis of the Difference in Performance Between the Phonics Group and the Control Group in the Posttest. (Source: Shepherd, S. 2013)

Variables	Group	N	Mean	SD	t
Letter Name Knowledge (Section 1)	Phonics	112	21.13	21.73	0.750
	Control	105	18.94	21.06	
Letter Sound Knowledge (Section 2)	Phonics	112	16.85	17.32	8.014*
	Control	105	2.80	4.91	
Familiar word Reading (Section 3)	Phonics	112	7.29	9.04	2.502*
	Control	105	4.42	7.74	
Invented Word Decoding (Section 4)	Phonics	112	2.29	5.25	2.948*
	Control	105	0.50	3.51	
Initial Sound Identification (Section 5)	Phonics	112	5.67	3.87	9.387*
	Control	105	1.35	2.78	
Oral Passage Reading (Section 6a)	Phonics	112	4.34	7.99	4.066*
	Control	105	0.85	3.80	
Reading Comprehension (Section 6b)	Phonics	112	0.58	1.14	3.687*
	Control	105	0.12	0.58	
Listening Comprehension (Section 7)	Phonics	112	3.15	1.44	3.254*
	Control	105	2.50	1.49	
Dictation (Section 8)	Phonics	112	6.13	6.25	3.026*
	Control	105	3.82	4.89	

P > .05, df = 261, critical t = 1.96

Table 4.4 shows that the calculated t-values were each higher than the critical t-value of 1.96 for all the sections of the assessment, except letter name knowledge. This shows that synthetic phonics results in more reading development than the traditional teaching methods used in the control group.

Teaching the letter names is a common Nigerian approach to reading instruction. Both groups were familiar with the letter names at pretest. The phonics group's average score for Section 1 at pretest was 2.12 points lower than the score of the control group, so the fact that at posttest it is 2.19 points higher means that the phonics group also made more progress than the control group in the one area that was not part of the Jolly Phonics curriculum.

The assessment of letter sound knowledge in Section 2 produced markedly different results between the two groups. The average score of the phonics group was six times greater than for the control group. The jolly phonics curriculum is designed to specifically teach the sounds of each letter, and this data shows that those lessons are effective. These skills would not have been taught in the control classrooms using the traditional methods.

The results of the familiar word reading for the phonics group were only one and a half times greater than the results for the control group. Although the synthetic phonics instruction clearly taught this skill better, the traditional teaching methods still managed to increase the familiar word reading skills to the control group. Teaching children to memorize words, so they have sight recognition of them, is another traditional teaching method used in Nigerian classrooms.

What specific reading skills are developed through synthetic phonics instruction?

Table 4.5 identifies the average score change from pretest to posttest, for all sections of the assessment, for both groups. As the table highlights, the average score change for each section of the assessment is significantly higher for the phonics group than the control group.

Table 4.5: Average Score Change for Each Section of the Assessment. (Source: Shepherd, S. 2013)

Variables	Group	Ave Score Change	Change as a % of Maximum Points Possible
Letter Name Knowledge (Section 1) <i>Out of 100 points</i>	Phonics	7.96	8%
	Control	3.66	4%
Letter Sound Knowledge (Section 2) <i>Out of 100 points</i>	Phonics	13.86	14%
	Control	-0.76	-1%
Familiar word Reading (Section 3) <i>Out of 50 points</i>	Phonics	5.36	11%
	Control	1.8	4%
Invented Word Decoding (Section 4) <i>Out of 50 points</i>	Phonics	2.12	4%
	Control	0.42	1%
Initial Sound Identification (Section 5) <i>Out of 10 points</i>	Phonics	4.54	45%
	Control	0.24	2%
Oral Passage Reading (Section 6a) <i>Out of 26 points</i>	Phonics	3.59	14%
	Control	0.39	2%
Reading Comprehension (Section 6b) <i>Out of 4 points</i>	Phonics	0.51	13%
	Control	0.06	2%
Listening Comprehension (Section 7) <i>Out of 5 points</i>	Phonics	0.86	17%
	Control	0.34	7%
Dictation (Section 8) <i>Out of 20 points</i>	Phonics	4.82	24%
	Control	2.63	13%

The data in **Table 4.5** shows that children who were taught synthetic phonics have higher abilities at breaking down words into sounds, identifying what sounds different letters make, reading familiar words, decoding invented words, understanding both oral and written words, and even writing simple words and sentences, than their peers who were taught how to read in the traditional Nigerian way.

It important to note that the size of the average scores cannot be compared across all sections of the assessment because each section is scored out of a different number of points. See the scoring guide details in **Figure 4.6**.

Figure 4.6 - Maximum Points Possible for Each Section of EGRA. (Source: Shepherd, S. 2013)

Section 1 – 100.	Section 2 – 100.	Section 3 - 50.	Section 4 – 50.
Section 5 – 10.	Section 6A – 26.	Section 6B - 4.	Section 7 – 5.
Section 8 – 20.			

There are certain reading skills that the synthetic phonics programme gained more growth in than others. The reading skills, ranked in order from greatest to least change in average score are:

- 1st - Initial Sound Identification (Section 5) – 45% growth
- 2nd - Dictation (Section 8) - 24% growth
- 3rd - Listening Comprehension (Section 7) – 17% growth
- 4th - Oral Passage Reading (Section 6a) – 14% growth
- 4th - Letter Sound Knowledge (Section 2) – 14% growth
- 5th - Reading Comprehension (Section 6b) – 13% growth
- 6th - Familiar word Reading (Section 3) – 11% growth
- 7th - Letter Name Knowledge (Section 1) – 8% growth
- 8th - Invented Word Decoding (Section 4) – 4% growth

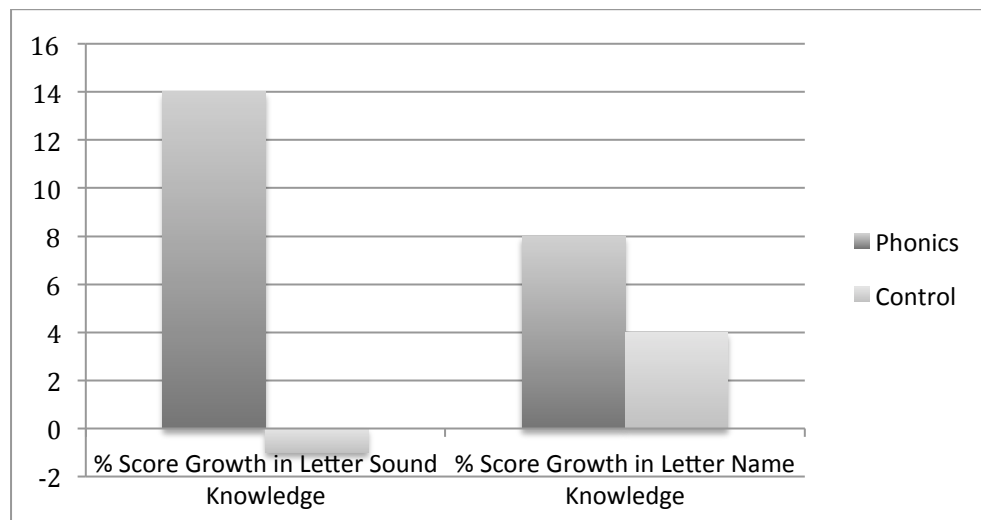
Letter Name and Sound Identification:

Figure 4.7 - Average % Score Growth for Letter Name and Letter Sound Knowledge. (Source: Shepherd, S. 2013)

As shown in **Figure 4.7**, growth in ability to name the letters of the alphabet was only 8% in the phonics group, yet the average scores for letter sound knowledge grew by 14%. This is most likely due to the fact that the Jolly Phonics lessons did not specifically teach or revise the letter names but focused on the individual sounds of the letters. Also, with a letter name knowledge pre test average score of 13.17 out of 26 points, meaning that a lot of the children already knew at least half of the letter names, there was not that much growth to be gained. The posttest average score was 21.13, which meant that despite the fact that the letter names were not specifically taught, the phonics group children knew most of the 26 letter names by the end of the phonics intervention period. Thus meaning that the low percentage of growth could not have been much higher because many reached the maximum score.

See **Appendix K** for data of average score growth for letter name and letter sound knowledge.

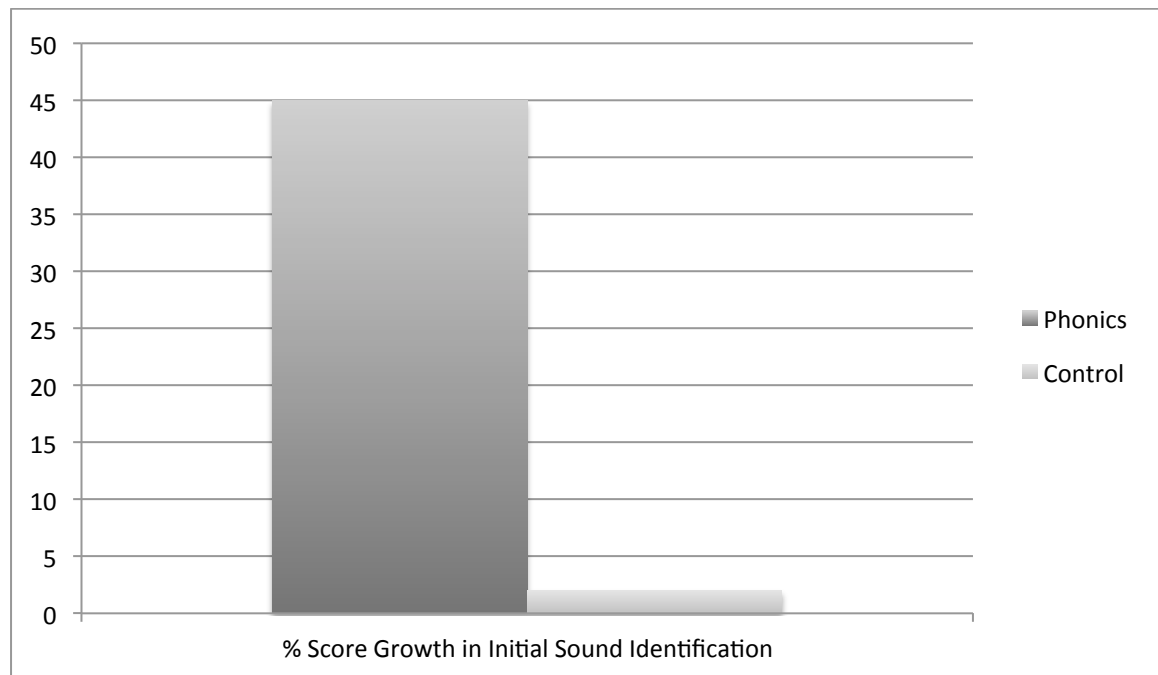
Letter Sound Identification and Decoding Skills:

Figure 4.8 – Average % Score Growth for Initial Sound Identification. (Source: Shepherd, S. 2013)

See **Appendix L** for data of average score growth in initial sound identification.

It is apparent from the above data that synthetic phonics is very effective at teaching how to identify the initial sound in a word. The lessons taught and revised this skill on a daily basis. The high average score growth rate of 45% was possible as the average score at pretest was only 1.13 points, thus meaning that there was not a lot of understanding around initial sounds at pretest, and therefore lots of room to grow. The children most likely had never been taught the skill during the traditional methods prior to the phonics intervention. **Figure 4.9** shows the types of words that the children had to use to identify initial sounds.

Figure 4.9 – Section 5 of the EGRA test. (Source: UNICAL, 2012)

Section 5. Initial Sound Identification

Word	Initial Sound	Correct	Incorrect	Don't know	No response
Map	mmm/	/	/		
Say	/sssss/	/			
Up	/uh/	/			
Go	/g/	/	/		
Now	/nnnn/		/		
Can	/k/		/		
Fish	/ffff/	/	/		
Pig	/p/	/			
Run	/rrrrr/	/	/		
Look	/lllll/	/	/		

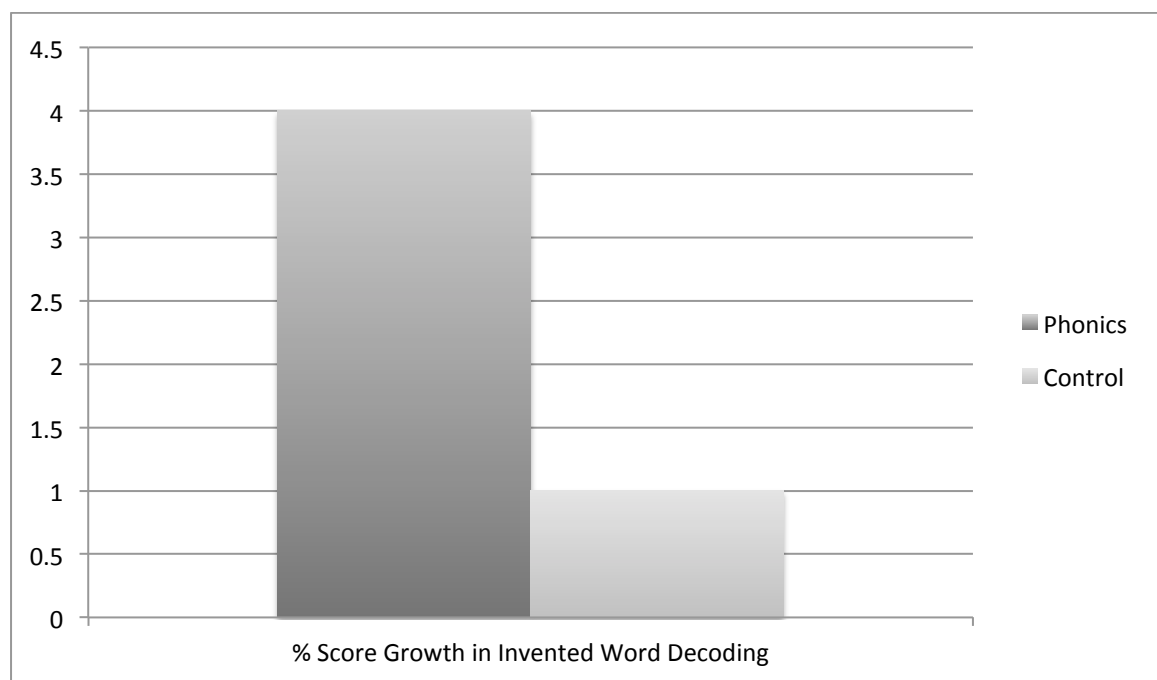


Figure 4.10 – Average % Score Growth for Invented Word Decoding. (Source: Shepherd, S. 2013)

See **Appendix M** for data of average score growth for invented word decoding.

The phonics group did not perform very well in the invented word decoding section of the EGRA test. (See **Figure 4.10**) The phonics lessons teach the children how to blends the sounds together to read words, such as /c/ /a/ /t/ makes cat, but they do not specifically teach decoding “nonsense words” such as /r/ /e/ /b/ says reb. If children are only used to reading words that make sense to them, and have a meaning attached, then reading invented words could be confusing. This could explain the low average score growth of 4%. The image below shows the invented words that the children had to read on section 4 of the assessment.

Figure 4.11 – Section 4 of the EGRA test. (Source: UNICAL, 2012)

Section 4. Invented word decoding					
fut	lus	dit	leb	gax	(5)
huz	jod	kib	mib	tob	(10)
nom	rop	hig	reg	san	(15)
tup	ral	wix	nep	nad	(20)
lut	yod	sim	tat	sig	(25)
et	zon	nup	sen	kad	(30)
taw	rew	paf	sal	zib	(35)
ved	dag	vom	riz	gof	(40)
maz	fol	ver	et	teb	(45)
tib	lef	yag	fim	bif	(50)

If the test ended early, write the second the test stopped on in the box: 44

Word and Sentence Reading Skills:**Table 4.6** – Average Score Growth for Sections 3 and 6a. (Source: Shepherd, S. 2013)

Section	Group	Ave Score Change	Change as a % of Maximum Points Possible
Familiar word Reading (Section 3) <i>Out of 50 points</i>	Phonics	5.36	11%
	Control	1.8	4%
Oral Passage Reading (Section 6a) <i>Out of 26 points</i>	Phonics	3.59	14%
	Control	0.39	2%

Table 4.6 shows that the phonics lessons, not only taught children how to decode words into letter sounds, and blend letter sounds into words, but also taught them how to read whole words and even short sentences. These skills are not as easily learnt thus explaining the lower percentage change in scores than the easier skills such as identifying each letter sound in isolation and at the beginning of a word.

Figure 4.12 – Section 3 of the EGRA test. (Source: UNICAL, 2012)

Pupil's Initials: **A:A**

Section 3. Familiar word reading					
am	bed	cat	dog	ant	(5)
hen	is	it	man	on	(10)
pot	pen	eat	for	in	(15)
did	go	an	fish	big	(20)
ten	his	the	her	tree	(25)
yam	book	car	my	goat	(30)
farm	me	I	bag	he	(35)
and	this	of	she	six	(40)
to	ball	good	has	boy	(45)
girl	was	are	day	five	(50)

If the test ended early, write the second the test stopped on in the box: **60**

Figure 4.12 shows the familiar words that the children had to read for Section 3 of the assessment. There are words in the list that cannot be decoded using the individual letter sounds. For example, if you break down the word /she/ into individual letter sounds, it would not say /she/ it would say /sh/ /e/. This concludes that the children learned how to recognize these familiar words by sight, rather than having to decode them each time they saw them.

Figure 4.13 shows the sentences that the children had to read for Section 6a of the assessment. To read all of the words in the sentences children have to use a mixture of decoding skills for the words that can be broken down into individual letters sounds, and sight recognition skills for the words that cannot be decoded. The results of this section show that the phonics lessons (with 14% score growth) teaches children how to read simple sentences, much better than the traditional teaching that the control group experienced (with 2% score growth).

Figure 4.13 –Section 6a of the EGRA test. (Source: UNICAL, 2012)

<u>Section 6a: Oral passage reading</u>	
Sam is a dog. He runs to the farm. 7	8
Sam gets stuck in the mud at the farm.	18
A boy helps him out of the mud.	37

Comprehension Skills:**Table 4.7** Average Score Growth for Sections 6b and 7. (Source: Shepherd, S. 2013)

Section	Group	Ave Score Change	Change as a % of Maximum Points Possible
Reading Comprehension (Section 6b) <i>Out of 4 points</i>	Phonics	0.51	13%
	Control	0.06	2%
Listening Comprehension (Section 7) <i>Out of 5 points</i>	Phonics	0.86	17%
	Control	0.34	7%

As shown in **Table 4.7**, the growth rates of 13% and 17% suggest that, although the comprehension skills of the children did not grow as much as the skills of decoding and blending, there was some progress made towards the understanding of what they were reading. If the average score changes from pretest to posttest were 5% or lower then one could state that comprehension was not enhanced through the Jolly Phonics instruction, but with improvements of 13 and 17% one must agree that reading for meaning is part of learning to read with phonics.

Figure 4.14 shows the questions that the children were asked after being read a simple story about Sam the dog. If children were just decoding the words and pronouncing them correctly, but not understanding what the words meant, they would not be able to score any points on this section of the assessment.

Figure 4.14 – Section 6b of the EGRA test. (Source: UNICAL, 2012)

Pupil's Initials: *A.A.I*

Section 6b. Reading Comprehension	Correct	Incorrect	Don't Know	No Response
What is Sam? <i>[A dog]</i>				/
What happens to Sam at the farm? <i>[He gets stuck in the mud]</i>				/
How does he get out of the mud? <i>[A boy helps him out]</i>				/
Do you think that Sam was happy? <i>[No because he was stuck in the mud/ Yes because he was helped out of the mud]</i>				/

Write the correct the test stopped on in the box:

The children performed better in the listening comprehension assessment than the reading comprehension. In Section 7 of the test the children had to listen to the assessor read the story about the hen and the dog, and then answer questions to show they understood what they had listened to. (See **Figure 4.15**) For many children, for whom English is not spoken at home, this is a difficult exercise and they would not score any points unless understanding what the words meant.

Figure 4.15 – Section 7 of the EGRA test. (Source: UNICAL, 2012)

Section 7. Listening Comprehension				
The hen went to the market. Then the dog went to the market. The goat was too fat to walk to the market. The dog came back to the farm and then the hen came back.				
Question	Correct	Incorrect	Don't Know	No Response
What is a hen? [bird; animal]	/			
What is a market? [where people sell /buy things]	/			
Who went to the market first? [hen]	/			
Who did not go to the market? [goat]	/			
Who came back from the market first? [dog]		/		

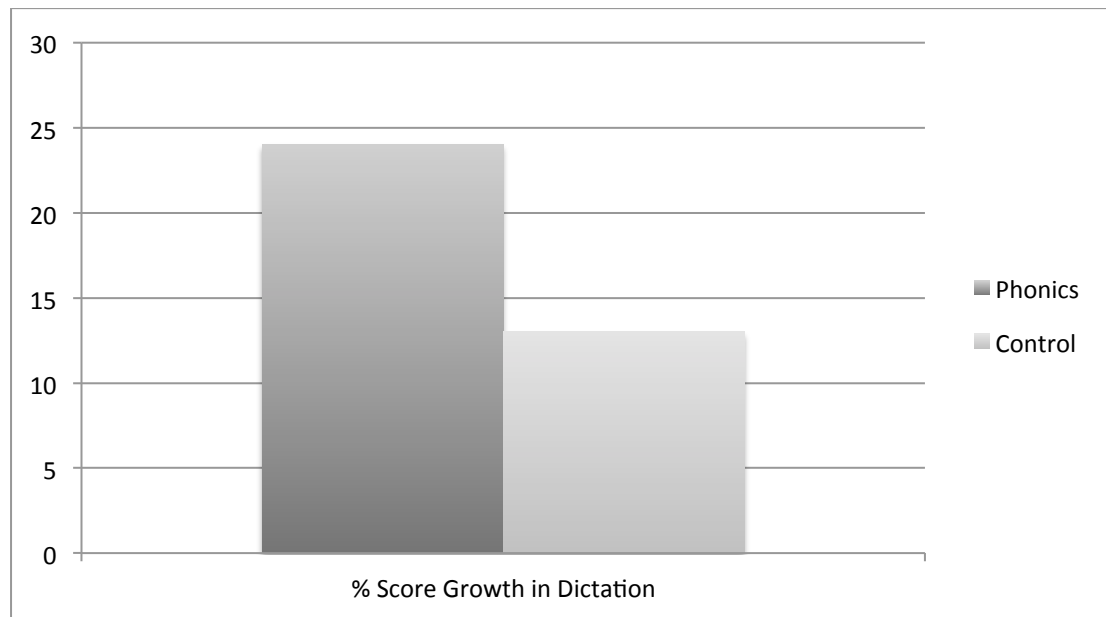
Writing Skills:

Figure 4.16 – Average % Score Growth in Dictation. (Source: Shepherd, S. 2013)

The last, and arguably the most challenging part of the EGRA test, is the writing section where the assessor reads a simple sentence “The cat sat on a bed.” to the child who has to write it down. **Figure 4.17** shows an example of this section of the assessment. As shown in **Figure 4.16**, the children performed remarkably well with an average score growth of 24%, the second highest growth in the entire assessment. It is difficult to use this assessment to confidently argue that children can write with meaning. It may be possible for children to just use their decoding and blending skills to write the words that they hear, without any understanding of what they are writing and what the print represents. Children can hear the word cat and segment it into /c/ /a/ /t/ and write those letters down, but if asked what does the sentence mean – they might not have any understanding. A child who hears the whole sentence and then writes “The cat sat on the bed”, using their contextual understanding and the meaning of the words, is far more advanced than a child who sounds out every individual sound, but they would each get the same number of points on this assessment if they did not make any errors.

Figure 4.17 Section 8 of the EGRA test. (Source: UNICAL, 2012)

Section 8. Dictation – PUPILS TO WRITE AT THE BOTTOM OF THE FOLLOWING PAGE. DO NOT FILL IN THE GRID BELOW. THIS WILL BE DONE BY THE ACADEMICS AT A LATER DATE.

Evaluation criteria	Correct = 2	Partially Correct = 1	Incorrect = 0	Score
Wrote "The" correctly (use of capital not relevant at this point – see below)		(eg, th)	0	0
Wrote "cat" correctly	2			2
Wrote "sat" correctly		1		1
Wrote "on" correctly	2			2
Wrote "a" correctly			0	0
Wrote "bed" correctly.		1		1
Used spacing between words.	5 spaces	3-4 spaces	0-2 spaces	2
Used appropriate direction of text (left to right)	2	Do not mark here		2
Used capital letter for the word "The"		Do not mark here	0	0
Used full stop (.) at the end of sentence.		Do not mark here.	0	0
Total Score				10

See **Appendix N** for data of average score growth for dictation.

To conclude this section, the data highlights that the synthetic phonics instruction improves a range of reading skills, but some skills are definitely developed more greatly as a result of the Jolly Phonics curriculum than others.

Does the synthetic phonics instruction develop the reading skills of children who do not speak English as their first language?

The data displayed in **Figure 4.18** shows the average score growth, for all sections of the assessment, from pretest to posttest of the phonics groups children, based on the main language that is spoken at home.

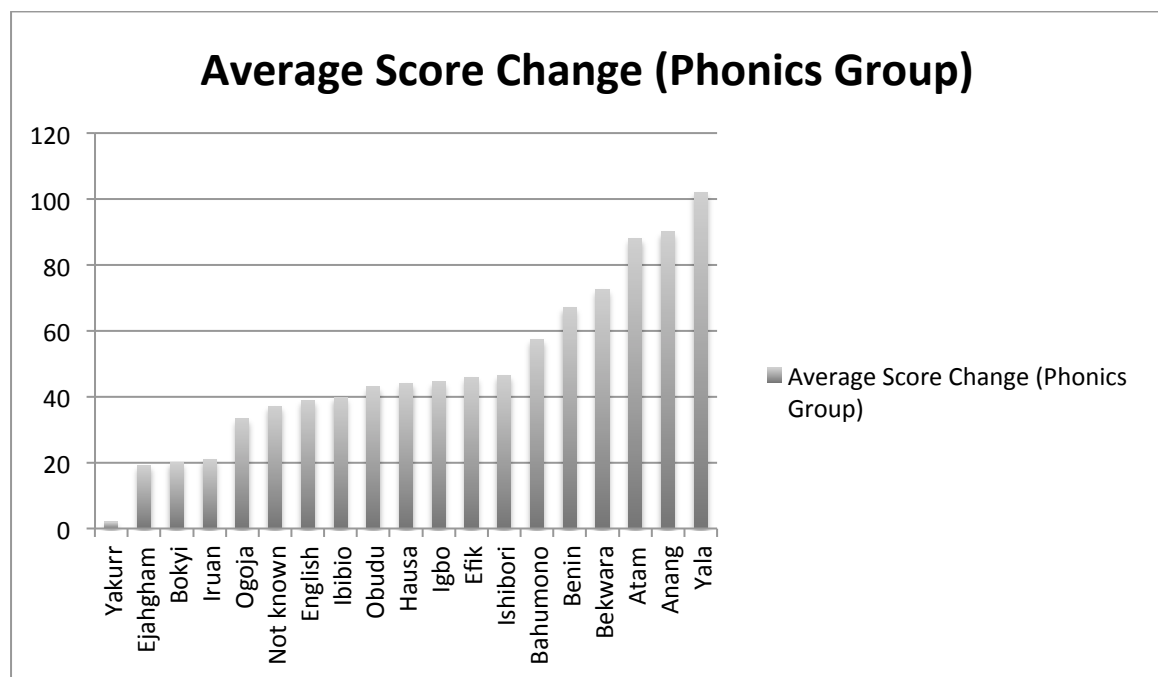


Figure 4.18 The Average Score Change in the Phonics Group – Main Language Spoken at Home. (Source: Shepherd, S. 2013)

See **Appendix O** for data of the average score change in the phonics group and main language spoken at home.

There are clearly differences between the performance of some main languages spoken and others. For example, the average score growth of the ten children who speak Ibibio was almost 50% more than the eleven children who speak Bokyi at home. The children who speak Yala at home had an average score growth of 102 points, where as the children who speak Yakurr only increased their average pretest score by 2 points.

It could be argued that for the languages spoken by only one child, that child could have exceptionally strong reading abilities or very weak reading abilities and thus affecting the average score growth for that language.

One other surprising result is that the sixteen children whose main language at home is English did not improve the most. Given that the phonics instruction and materials are in English, one could presume that they would gain more points over the intervention period than those who did not speak English at home.

In order to fully understand the influence that the home language can have on the success of learning phonics in English the pretest scores need to be analysed. As shown in **Figure 4.19**, English, Atam, Obudu and Anang started the intervention in much stronger positions than children who spoke other languages at home.

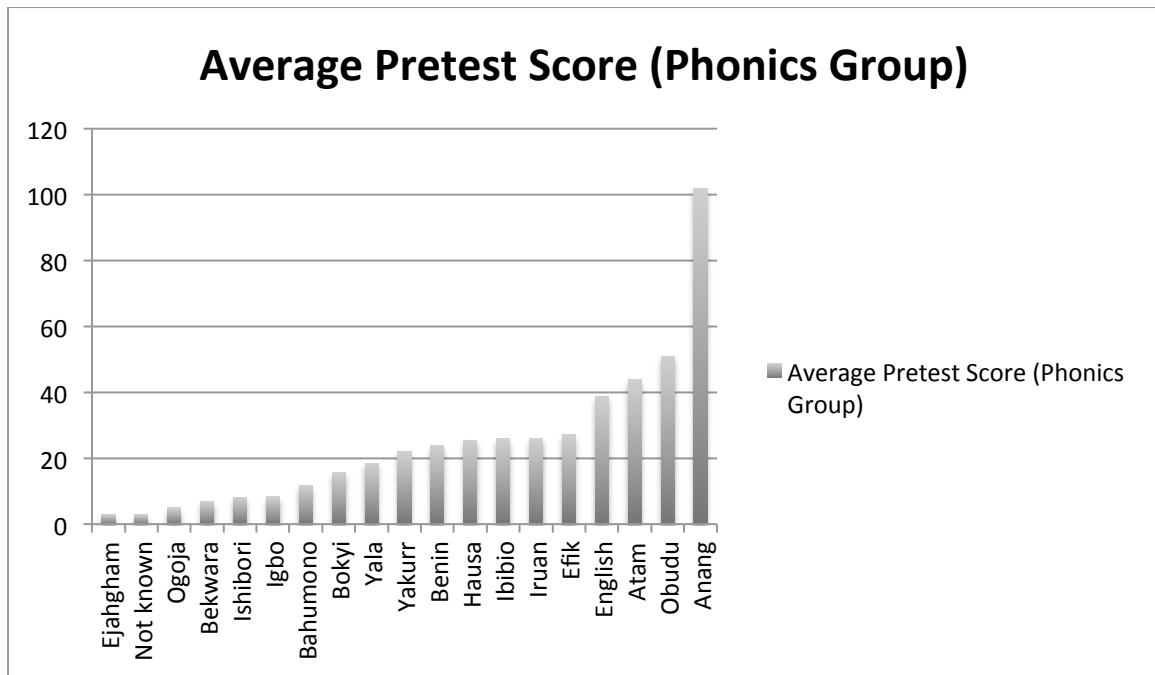


Figure 4.19 - The Average Pretest Score in the Phonics Group – Main Language Spoken at Home. (Source: Shepherd, S. 2013)

As the children who spoke English at home started out with such a high pretest score, it could be argued that they had less room to grow, so made less growth during the intervention period. On the other hand, the child who spoke Anang at home started off with the highest pretest score *and* made the second highest growth out of all home languages. That exceptional growth could also be due to the child being an exceptionally quick learner and able student. Another possible explanation for this is that some of the local languages might have similar phonetic systems to English and thus make the learning to read in English easier. This requires more research.

See **Appendix P** for data of the average pretest scores in the phonics group and main language spoken at home.

Table 4.8 – Average Change in Score for Phonics Group - Use Of English At Home.
(Source: Shepherd, S. 2013)

Use of English at home	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6a	Section 6b	Section 7	Section 8	Total Av score change	No of children
All of the time (4)	-5.56	5.56	6	3.89	2.56	3.22	0.33	0.56	7	23.56	9
Rarely (1)	15.35	11.55	2.7	0.6	4.5	0.45	0.2	1.35	2.2	38.9	20
Some of the time (2)	7.57	13.36	6.22	2.17	4.52	4.22	0.52	1.5	5.16	45.24	58
Most of the time (3)	3.26	21.37	4.21	2.67	4.53	5.84	1	0.47	4.74	48.09	19
Never (0)	22.17	15.33	8.5	2.17	8	1.33	0.17	3	7.33	68	6

From an analysis of the data in **Table 4.8**, it is clear that the more English spoken at home, the less improvement the phonics group children made from pretest to posttest. For example, children who speak English at home all the time had one third of the score growth that the children who never speak English at home experienced. One explanation for this can be seen in **Figure 4.20** below. The children who spoke more English at home, scored higher scores in the pretest assessments and so possibly had less room to grow. Those who started with low pretest scores had a lot to learn and potentially had the most score growth to gain. For example, the children who speak English at home all the time had an average pretest score of 50 points, as opposed to the average pretest score of 8 of those who never speak English at home.

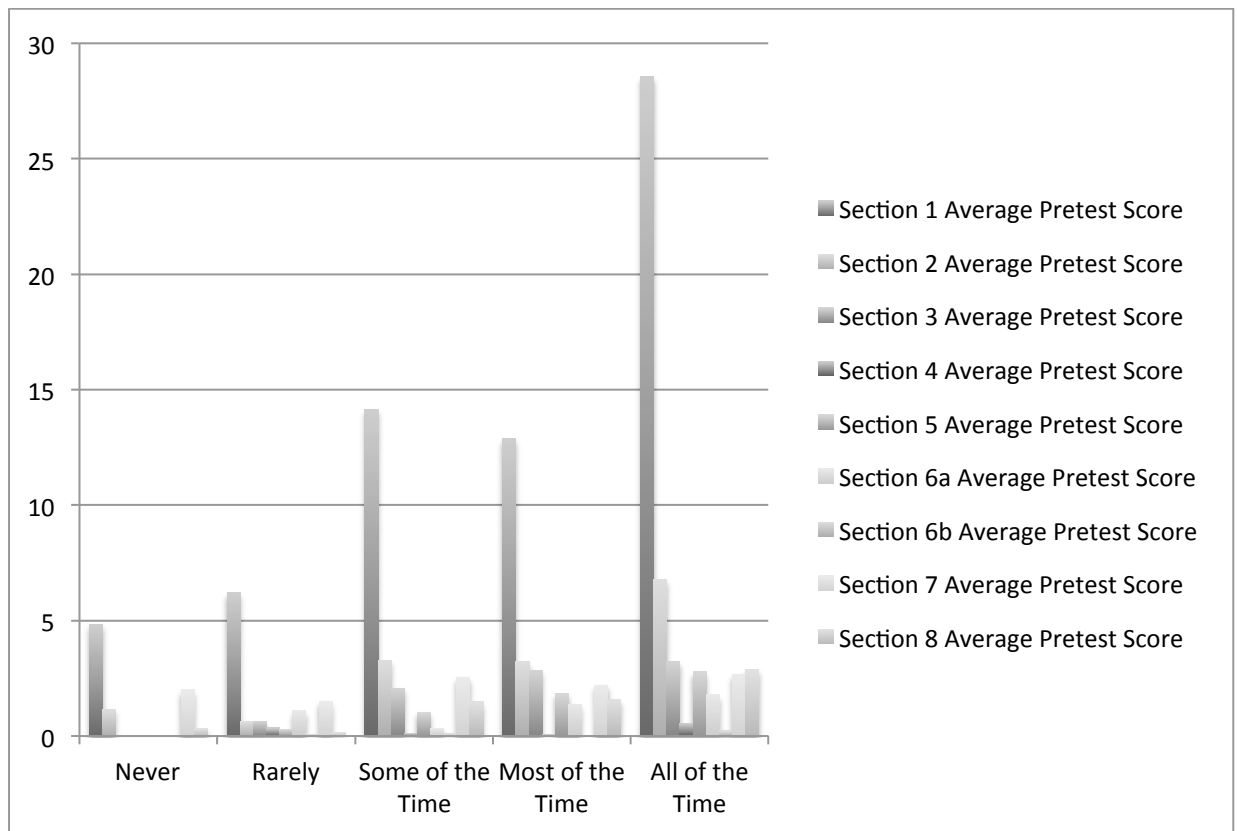


Figure 4.20 – Average Pretest Scores of Phonics Group and Use of English at Home. (Source: Shepherd, S. 2013)

Table 4.8 shows that the children, who spoke the least amount of English, and who also made the greatest gains in score growth, did extremely well on Section 1 (naming the letters) and Section 2 (stating the letter sounds) of the EGRA test. These sections are arguably the easiest part of the test, and can create large gains in average points.

See **Appendix Q** for data of pretest scores for the phonics group and use of English at home.

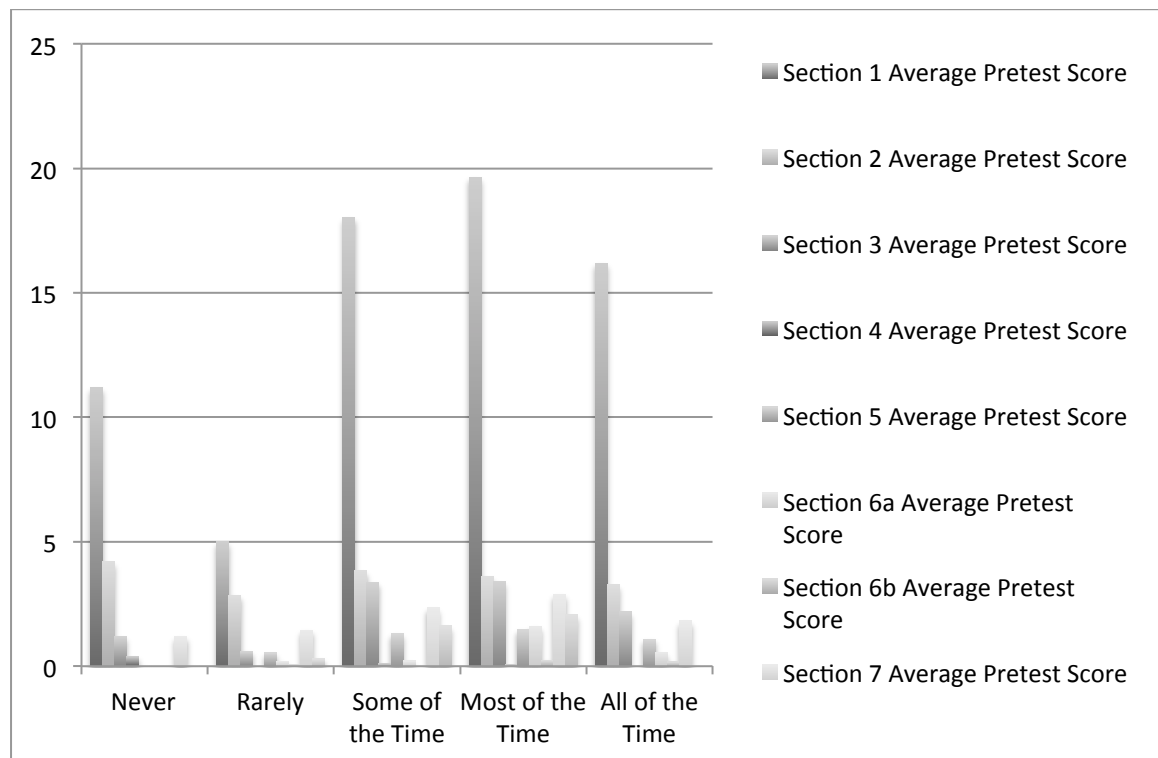


Figure 4.21 – Average Pretest Scores of Control Group – Use of English at Home. (Source: Shepherd, S. 2013)

See **Appendix R** for pretest scores of control group and use of English at home.

Interestingly, **Figure 4.21** highlights a different trend in pretest scores of the control group. The children, who speak English at home all of the time, did not perform the highest on the pretest assessment. But the children who rarely or never speak English at home scored the lowest on the pretest assessments, which one might expect as the whole assessment and curriculum is delivered in English. These results create many questions that need further research to delve into possible explanations.

What other factors influence the success of a child's reading development through synthetic phonics?

Oral Vocabulary at Pretest:

Figures 4.22 and 4.23 show that the level of oral vocabulary a child possessed at pretest had very significant impact on how well they did both at pretest and posttest. The higher the oral vocabulary score, the higher the pretest scores for all 8 sections were. Generally speaking, those who started with higher vocabulary scores also performed better on all of the post-test assessments than those who had lower vocabulary scores.

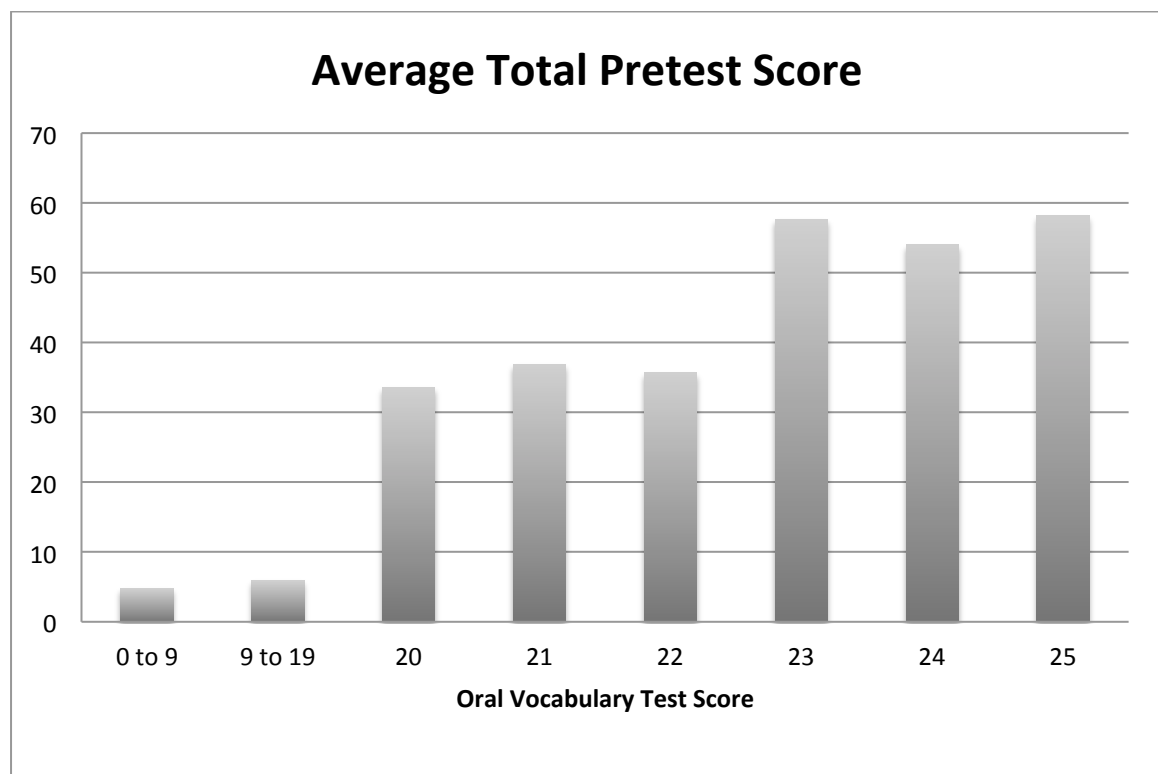


Figure 4.22 – Average Pretest Score and Oral Vocabulary Score. (Source: Shepherd, S. 2013)

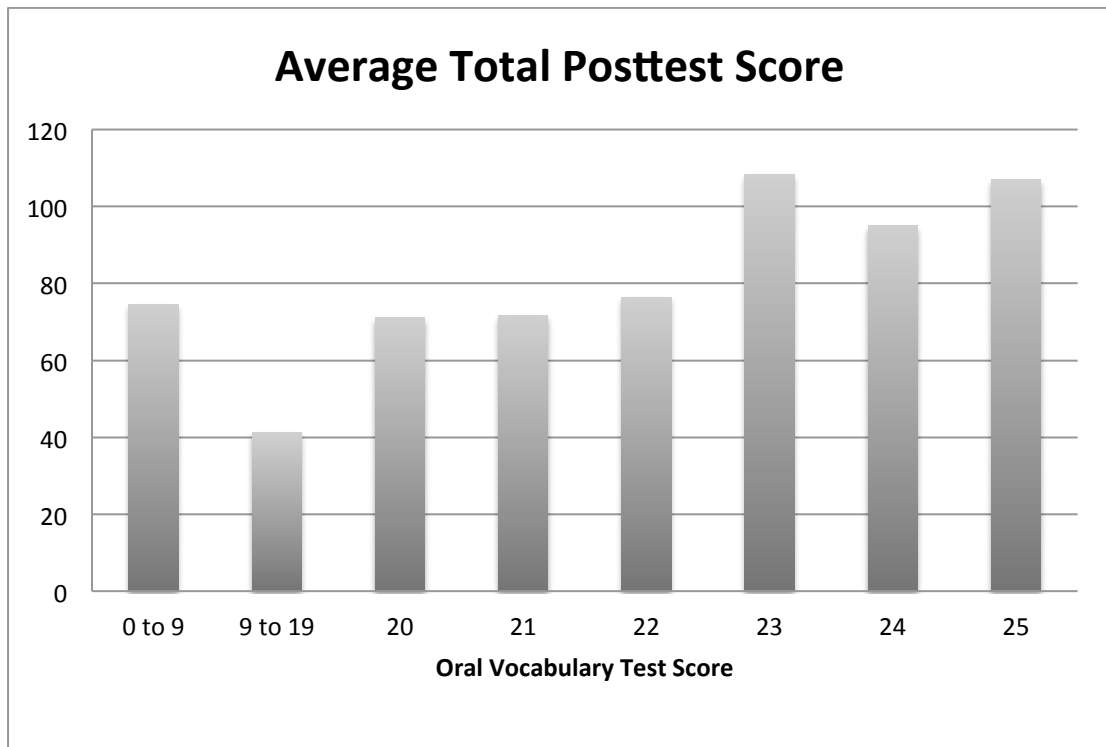


Figure 4.23 - Average Posttest Score and Oral Vocabulary Score. (Source: Shepherd, S. 2013)

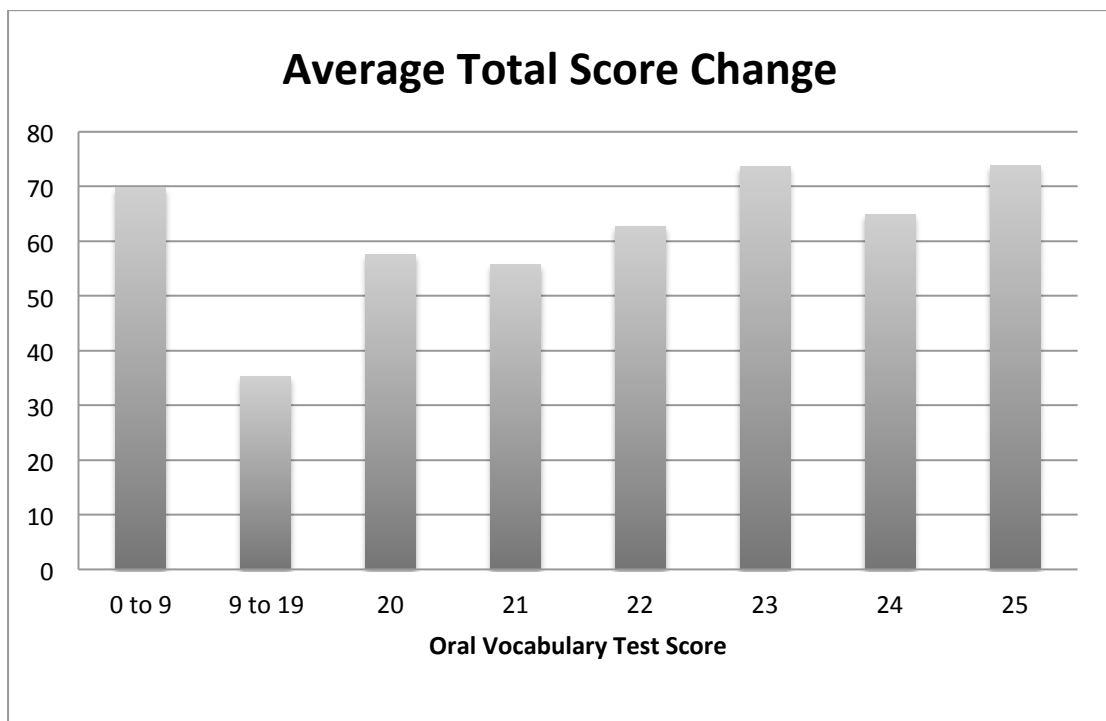


Figure 4.24 - Average Score Change and Oral Vocabulary Score. (Source: Shepherd, S. 2013)

The average change in scores from pre-test to post-test were also higher among children who started the pilot study with higher vocabulary scores. (See **Figure 4.24**) If a child has a high oral vocabulary score it means they are language ready and developmentally able to turn their spoken languages into written languages. This means that a child who scored twenty-five on the oral vocabulary test is more ready to access the phonics curriculum and learn the letter sounds and various reading skills, than a child who scored eight points.

This finding has huge implications for the success of a synthetic phonics programme. If children are provided with a strong oral vocabulary, either from home or from a nursery school setting, then early reading skills should be easier to develop.

The children with the very lowest vocabulary scores also achieved great growth in their average score. This could be due to the fact that they were starting at such a basic literacy level that their potential for improvement was high. With good synthetic phonics instruction, regardless of a low oral vocabulary, these children still progressed.

See **Appendix S (i, ii & iii)** for data of oral vocabulary levels and scores.

The Location of the Schools:

The average pretest scores for urban children (both control and phonics) were noticeably higher than the pretest scores of the rural children. The total pretest average score for the phonics group in the rural schools is 7.97, as opposed to a score of 31.59 for the urban children. See **Appendix T** for the average pretest scores for urban and rural children.

This clearly indicates that the level of education that Cross River children are receiving differs greatly depending on their location. Levels of educational support from home may also differ depending on where the children live, with more education and economically successful families living near to cities.

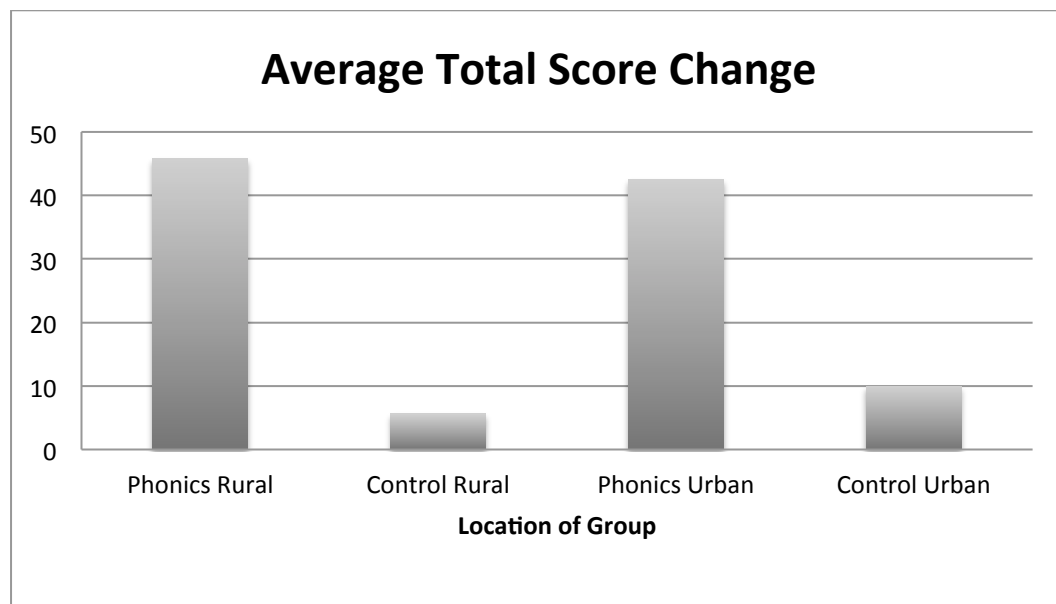


Figure 4.25 – Average Score Change Based on School Location. (Source: Shepherd, S. 2013)

Figure 4.25 shows that growth was slightly higher in rural areas in the phonics group, but considering the rural students started at such a lower level, they will not have ended the pilot study with the same amount of skills. Growth in the urban control schools was significantly higher than growth in the rural control schools. Considering the much lower starting point of the rural control schools, this means that the urban control schools learned a lot more reading skills during the pilot study. This could be due to proximity to resources and training in the urban areas. There could be a higher caliber of teachers who work in more urban settings, who deliver higher levels of instruction and are possibly more invested in the success of their students and so are more likely to borrow ideas from the phonics teachers in the school. The urban environment may also offer a richer range of stimuli and reading material in the external environment. These suggestions lack evidence to support them, but these ideas suggest a need for more research into the impact of location on reading skills.

Education Levels of Children and their Parents:

This last section investigates how the child's and their parents' levels of education effects the outcomes of the synthetic phonics intervention. This information was gathered at pretest and the results are too striking to ignore.

Nursery Education:

Table 4.9 – Nursery School Attendance - Average Pretest Scores. (Source: Shepherd, S. 2013)

Attended Nursery	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6a	Section 6b	Section 7	Section 8	Average Total Pre Test Score
0 - No - Phonics	10.51	2.75	1.47	0.16	0.64	0.47	0.04	2.11	1.11	19.26
1 - Yes - Phonics	15.74	3.19	2.37	0.19	1.60	1.02	0.11	2.44	1.51	28.17
0 - No - Control	7.85	2.76	1.09	0.06	0.70	0.19	0.02	1.76	0.41	14.84
1 - Yes - Control	23.16	4.41	4.24	0.10	1.55	0.75	0.12	2.57	2.02	38.92

As shown in **Table 4.9**, the reading skills of the students (control and phonics) at the start of the pilot study are dramatically lower in the students who did not attend nursery school. Despite these differences, as shown in **Table 4.10**, the phonics group children who did not attend nursery have similar posttest results to those who did attend nursery. The children, who attended nursery in the control group, maintained their significantly higher scores at posttest than their control group peers who did not attend nursery. These results suggest that although nursery education is powerful, and sets children up for a successful primary education, the synthetic phonics programme is strong enough to develop the reading skills of children who start behind their peers who attended nursery school.

Table 4.10 – Nursery School Attendance - Average Posttest Scores. (Source: Shepherd, S. 2013)

Attended Nursery	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6a	Section 6b	Section 7	Section 8	Average Total Post Test Score
0 - No - Phonics	22.05	15.64	6.71	2.05	5.35	4.42	0.58	2.98	5.96	65.74
1 - Yes - Phonics	20.23	18.02	7.84	2.53	5.98	4.26	0.58	3.32	6.30	69.06
0 - No - Control	13.87	2.56	2.87	0.80	0.89	0.65	0.09	2.41	2.70	26.84
1 - Yes - Control	24.31	3.06	6.06	0.18	1.84	1.06	0.16	2.61	5	44.28

Another possible explanation for these results is that for children who score well on the pretest, the opportunity for them to improve dramatically in points is less as they have already scored well. This could explain the data that is shown in **Table 4.11**, where the children who did not attend nursery, in both control and phonics groups, managed to gain more points over the course of the intervention, than their peers who attended nursery. These figures reinforce the ability of the phonics programme to teach children the reading skills, regardless of nursery education.

Table 4.11 – Nursery School Attendance - Average Score Change. (Source: Shepherd, S. 2013)

Attended Nursery	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6a	Section 6b	Section 7	Section 8	Average Total Change Score
0 - No - Phonics	11.54	12.89	5.24	1.89	4.71	3.95	0.55	0.87	4.85	46.49
1 - Yes - Phonics	4.49	14.82	5.47	2.33	4.39	3.25	0.47	0.88	4.79	40.89
0 - No - Control	6.02	-0.20	1.78	0.74	0.19	0.46	0.07	0.65	2.30	12.01
1 - Yes - Control	1.16	-1.35	1.82	0.08	0.29	0.31	0.04	0.04	2.98	5.37

Previous Primary School Attendance:

Previous primary school attendance does not seem to have as much impact on test results as nursery education. The children in the phonics group, who did not have previous primary school attendance, scored an average of 1.28 points lower than the children who had previously attended primary school. In the control group, there was only a difference of 0.16 points.

See **Appendix U (i)** for data of average pretest scores and previous primary school attendance.

In terms of average posttest results, the phonics children who had previous primary school experience did not score as well (62.42 points) as those who had not attended primary school before (68.66 points). Yet in the control group, the children with previous primary school experience scored better (44.08 points) than their peers who did not attend primary school the year before (33.08 points).

See **Appendix U (ii)** for data showing average posttest scores and previous primary school attendance.

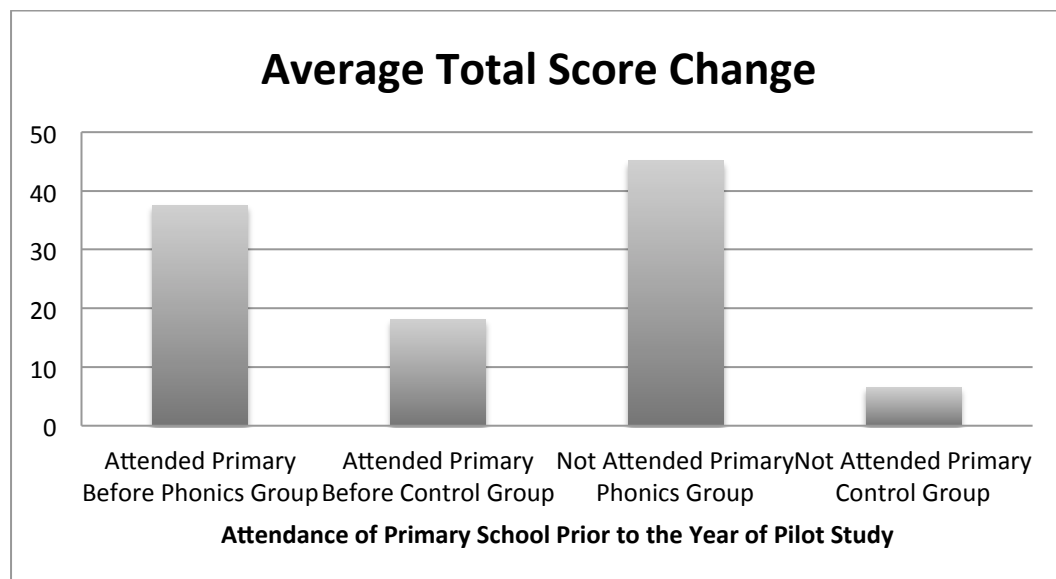


Figure 4.26 Average Total Score Change and Previous Primary School Attendance (Source: Shepherd, S. 2013)

As displayed in **Figure 4.26**, the benefits of previous primary education seems to benefit the control group much more than the phonics group. With the control group children those who had previously attended primary school had a higher average score growth that was 11.57 points higher than those who did not attend primary school. With the phonics group the average score growth was 7.53 points higher for those who had not previously attended primary school.

See **Appendix U (iii)** for data showing average score growth and previous primary school attendance.

The reasons for these results, based on previous primary education, are not obvious but it is possible that it is the quality of the previous primary education that has most impact on how well the child performed at pretest, and as this information is not available, further investigation is required.

Level of Mothers' Education:

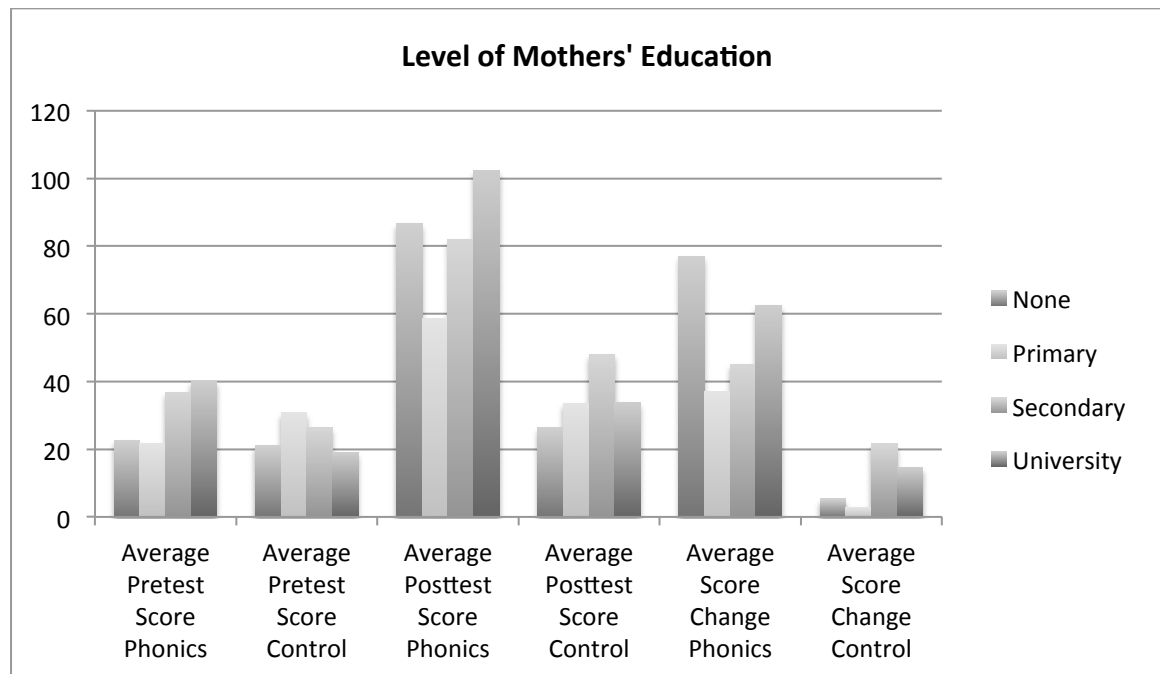


Figure 4.27 - Level of Mothers' Education and Scores.(Source: Shepherd, S. 2013)

As **Figure 4.27** shows, the pretest and posttest average scores of the phonics children were the highest when their mothers had a university education. These same phonics children made the second highest amount of growth between the pretest and posttest.

The phonics children with mothers who had just a primary education scored the lowest average pretest, posttest and growth scores.

The phonics children of mothers who had no education scored the second lowest average pretest score, the second highest average posttest score and made the most growth between pretest and posttest.

The children from the control group showed slightly different results to the phonics group with regards to their scores and their mothers' level of education.

The children with mothers who had no education scored the second lowest average pretest score, the lowest average posttest score, and made the second lowest amount of growth.

The control group children of mothers who had a primary education only scored the highest average pretest scores but made the lowest amount of growth between the assessments.

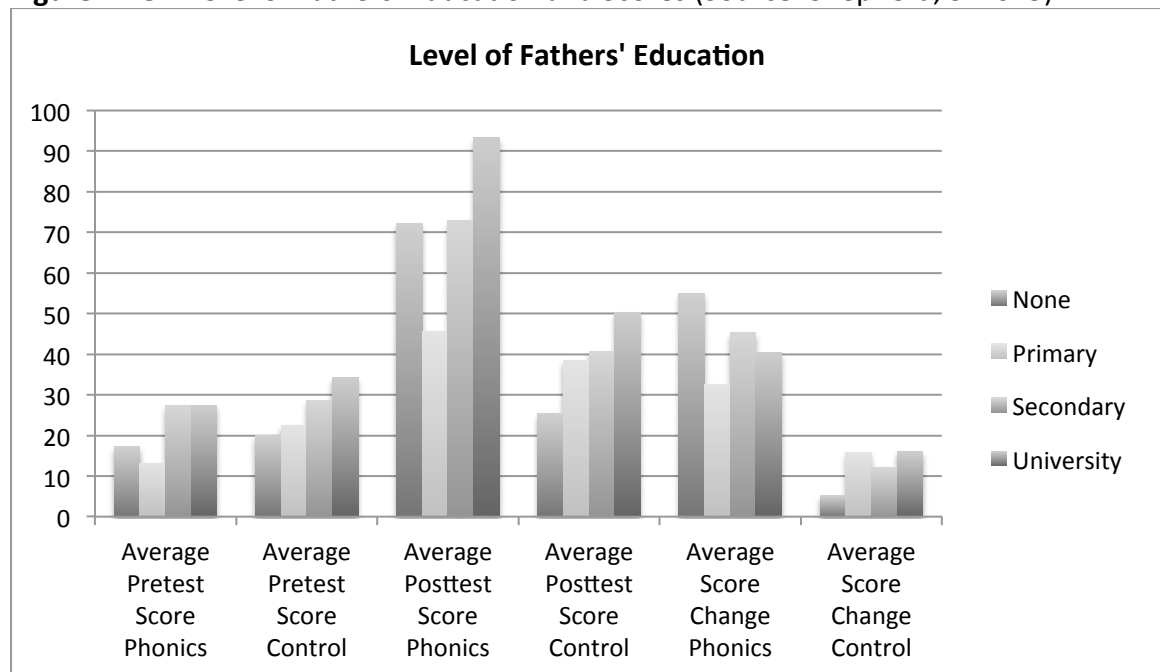
The control group children, whose mothers went to university, scored the lowest on the pretest assessment, second highest on the posttest assessment and made an average score growth that was the second highest.

See **Appendix V (i to vi)** for data of mothers' level of education and average scores.

Level of Fathers' Education:

As shown in **Figure 4.28**, the impact on test performance of having a father with a university education was very consistent across both the phonics and control groups. The phonics and control children with fathers who had university degrees scored the highest average scores for pretest, posttest and score growth.

Figure 4.28 – Level of Fathers' Education and Scores (Source: Shepherd, S. 2013)



The phonics children with fathers who had no education scored second lowest on the pretest and posttest, but made the second highest amount of growth between assessments.

The control children with fathers who had no education scored the lowest average pretest and posttest scores, and made the least amount of progress between assessments.

See **Appendix W (i to vi)** for data of fathers' education and scores.

It is obvious that there is a correlation between parent education levels and ability to learn reading skills quickly when taught synthetic phonics, but it is also clear that parental education levels heavily influence children's developing reading skills when they are taught literacy through traditional methods too.

Conclusions from the Presentation of Findings:

The phonics and control groups were well matched at pretest making the findings of this study more reliable.

Synthetic phonics develops reading skills better than traditional teaching of literacy in Cross River Primary One classrooms.

Not all reading skills develop at the same rate using synthetic phonics. Some reading skills, such as letter sound identification, are more developed than others, such as invented word decoding, through the synthetic phonics curriculum.

The mother tongue of the learner impacts the rate at which a child can learn reading skills through a synthetic phonics programme. Some local languages set children up for greater success.

The level of English spoken at home had a strong effect on pretest scores but the more English spoken at home did not create the greatest amount of growth in reading skills during the intervention period. Children who do not speak English at home, made significant gains in reading skills. Synthetic phonics appears to make learning to read in English accessible, regardless of the level of English already spoken.

Children with higher levels of oral vocabulary, in any language, have a much stronger starting position in terms of reading skills and generally have more success learning how to read in English using synthetic phonics. However, children with very low oral vocabularies were still able to access the synthetic phonics curriculum and in some cases made the most growth during the intervention period.

Children who live in urban areas started the synthetic phonics programme with far greater reading abilities than their rural peers, yet both groups made good progress.

Nursery education sets children up for reading success, and the stronger start resulted in stronger reading skills at the end of the intervention, but the synthetic phonics programme can still effectively develop the reading skills of those who did not attend nursery education. In many cases the growth of those without nursery education was the highest.

The previous primary education experience appears to have some influence on the success of children when learning to read, but the results are not conclusive.

Generally speaking, the higher the level of parental education, the more successful a child will be when learning to read at school. This does not, however, mean that all children from uneducated backgrounds cannot learn to read using synthetic phonics, as some made the greatest gains during the intervention period.

Chapter Five

The Conclusion

Chapter 5 – The Conclusion

Chapter 5:

The Main Data Findings:

For the Primary One children in Cross River Schools in Nigeria a synthetic phonics programme in English has resulted in dramatic improvements in their basic literacy skills. The synthetic phonics lessons taught some reading skills better than others, but the overall benefits are much greater than those of traditional Nigerian methods of literacy teaching. This is the first study of its kind to take place in Cross River State.

Despite the programme being taught in English, knowledge of the English language is not a prerequisite for reading development using synthetic phonics. The reading skills of children who spoke no English at home improved greatly. The children who started the programme speaking English, made reading improvements too, but interestingly not the greatest amount of growth. Children who spoke certain Nigerian languages also benefitted more from the synthetic phonics programme in English.

There are other variables that appear to influence the success of the synthetic phonics intervention but the weight of these has not been determined. A higher oral vocabulary, an urban location, previous nursery and primary education, and a higher level of parental education, all have a positive influence on children's reading abilities, but children who do not benefit from these variables showed that synthetic phonics is still an accessible and beneficial method of teaching reading regardless of the initial reading skills.

Relation to the Literature:

The positive results from the first study of its kind in Cross River, Nigeria, support the findings of other synthetic phonics studies that have taken place in different Nigerian states and other low-income countries such as India, The Gambia and Liberia. These improvements of reading skills go against what many studies have shown that children do not learn to read with synthetic phonics alone.

The intervention, however, is comparing the teaching of synthetic phonics to the traditional rote learning methods of teaching reading that currently take place. The larger debate surrounding the question, “What is the best way to teach children to read?” discusses the benefits of synthetic phonics in relation to a more balanced, and whole language approaches. This study cannot comment on such comparisons.

The literature that highlights the various benefits of learning to read and write in the mother tongue are not completely supported by the findings of this Cross River Study. Although children, who already speak English, had greater access to the synthetic phonics programme initially, those who did not speak any English still developed their reading skills through the intervention, sometimes to a greater degree. The study does not compare children who are taught synthetic phonics in English to those who are taught synthetic phonics in their mother tongue, so a conclusion to the argument cannot be made.

The results of this study also support the literature that states that synthetic phonics does develop reading comprehension skills. Although comprehension was not the skill that the programme developed the most, there were definitely improvements in understanding that cannot be ignored.

Research that supports the use of synthetic phonics in the early years cannot be fully supported by this study as only Primary one was taught. A study, across multiple school years is needed.

The contribution that this research makes is that it further supports the argument that synthetic phonics teaches early reading skills in low-income countries, in a language that is not the mother tongue of the students. The more studies that exist of its kind, that show similar results, the more reliable the findings are. The study has also opened up many doors for future possible research.

Future Research Opportunities:

Many new emerging research questions have come out of this study.

It has been shown that Primary One Children in Cross River State can learn certain reading skills through the intense instructions of phonics in primary one. It is important to note, however, that the children are not independent and fluent readers after one short eight month burst of synthetic phonics instruction. To truly know the effects of the programme a longitudinal study is required to track the literacy skills of these students over the course of their entire Primary education and to evaluate if they become fluent and comprehending readers.

To fully investigate the impact that synthetic phonics, taught in English, has on children for whom English is not their mother tongue, a study comparing the outcomes of synthetic phonics instruction in English, and the same lessons taught in the mother tongue, is needed.

A third sample group in the study – those taught using a whole language approach, is also recommended. This would give great evidence about whether pure phonics, traditional methods or whole language approaches reap more rewards in literacy skills in Cross River schools. The implications this would have on training and resources are huge, but the findings would be worthwhile.

An opportunity to learn more about the impact of teacher and pupil motivation was missed through a lack of observation in the classroom during the phonics intervention period. It is important to determine whether it is the nature of synthetic phonics lessons, that teach the specific reading skills, that improves reading, or whether it is the interactive nature of the lessons, the brightly colored materials provided, the motivation of the teachers who feel more invested and supported by being part of the pilot study, or the extra training that the teachers received.

Another avenue of investigation could be determining whether the teachers in the phonics classes were just better classroom teachers and managers than those in the control classes. More details into how those teachers were chosen, and the effectiveness of their teaching skills, could be very informative.

Methodology Recommendations:

In addition to the above mentioned emerging research questions, there are some improvements that could be made to the methodology of this study in order to improve the reliability and detail of the study's findings.

Being personally on the ground during various stages of the study is of great importance as analysing the raw data from a distance only tells one part of the story. In order to be truly analytical of the effectiveness of the synthetic phonics programme it is integral that more observations of the training, the assessments and the teaching take place.

Discussions with teachers, assessors and children would also be very beneficial in analyzing the success of the programme, and reasons for such growth in reading skills.

The study discussed some of the influencing factors affecting the outcomes of the phonics intervention but more statistical regression analysis of the data would give more details into which particular variable (gender, location of school, main language at home, degree of English spoken at home, oral vocabulary, prior nursery or primary education, or level of parental education) has the greatest outcome in terms of improved reading skills. This information is integral to the success of the roll out of such an intervention.

Policy implications:

The positive findings of the reading intervention have already resulted in a roll out of synthetic phonics being taught in Primary One and Two in all schools in Cross River State. The roll out training has already started, and to date, two thousand teachers have been trained.

The findings have also resulted in additional pilot studies being implemented in other Nigerian states.

Through the publication of the study's results more attention is being given to teaching reading skills through a synthetic phonics programme in English, to children for whom English is not their mother tongue.

Unfortunately, such clear cut positive results from the intervention can often lead to a rushed implementation of an instructional approach, before more specifics have been investigated. Therefore it is the hope that further research, in order to create more specific findings, will also be encouraged due to this pilot study.

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