

THE TEACHING OF EXPLICIT PHONICS EFFECTS ON KINDERGARTEN READING  
READINESS SCORES

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements of the Degree

Doctor of Education

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## ABSTRACT

The purpose of this quasi-experimental study was to examine the impact of an explicit phonics program, entitled *Ten Minute Phonics*, on kindergarten reading readiness scores when compared to students receiving phonics through an integrated curriculum approach. The problem studied ways to determine if the *Ten Minute Phonics* program participants' mean overall standard scores, alphabetic principle scores, and phonics scores on the *STAR Early Literacy* test would be significantly higher than kindergarten students who did not complete the program. The population of students was chosen from a school in a suburb of Atlanta. Using a small group format, the treatment group worked ten minutes a day, four days a week, for fifteen weeks completing sixty lessons from the program. One hundred and twenty students completed the program. Data analysis was run in the form of *t* tests to determine if the mean between the two groups were significantly different. Normality, assumption test, and descriptive statistics were run as well. The results were reviewed and the data showed students' who participated in the *Ten Minute Phonics* mean scores were significantly higher in the overall scaled score area and the phonics area. Mean scores for the alphabetic principle subtest were not significantly different between the groups. Further study is encouraged in this area and a three year study would be beneficial to ascertain if the trend toward higher reading scores would continue.

*Keywords:* phonemic awareness, alphabetic principle, phonics, fluency, explicit phonics, whole language, *Star Early Literacy* test

### **Dedication**

I would like to give all praise and glory to my Lord and Savior Jesus Christ. Thank you for the love and compassion you have given me toward children. Thank you for giving me the drive to accomplish all of my goals. I am nothing without you!

I want to dedicate this manuscript to my grandmother, Clarice Tarleton, my Moo Moo! My Moo Moo has prayed for me since the moment she knew I existed. She has always been my rock, my person. She has supported me through this entire process and always has believed in me when others have not. I want to thank her for the times she called and checked on me, visited me, or asked me about the dissertation process when others were not interested.

She took the time to show me what it means to truly love a person completely even when mistakes are made. She is an awesome example of a faithful steward of her time and money. I can only hope and pray to be a light in someone else's life like she has been in mine.

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## Table of Contents

ABSTRACT .....	3
Dedication .....	4
Acknowledgements .....	5
List of Tables .....	10
List of Figures .....	11
List of Abbreviations .....	12
CHAPTER ONE: INTRODUCTION .....	13
Background .....	13
Problem Statement .....	15
Purpose Statement .....	16
Significance of the Study .....	16
Research Questions .....	18
Null Hypotheses .....	19
Research Plan .....	19
Definitions .....	20
CHAPTER TWO: LITERATURE REVIEW .....	23
Introduction .....	23
Theoretical Framework .....	33
Related Literature .....	36
Ten Minute Phonics .....	48
Summary/Gap .....	48
CHAPTER THREE: METHODS .....	53

Introduction .....	53
Design.....	54
Research Questions .....	54
Null Hypotheses .....	54
Participants .....	55
Setting.....	57
Instrumentation.....	59
Procedures .....	60
Data Analysis .....	62
CHAPTER FOUR: FINDINGS.....	63
Research Questions .....	63
Hypotheses .....	64
Descriptive Statistics.....	64
Results.....	67
CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS .....	75
Discussion .....	75
Conclusions.....	78
Implications.....	80
Limitations .....	81
Recommendations for Future Research .....	83
REFERENCES .....	85
APPENDIX A.....	97
APPENDIX B.....	99

APPENDIX C ..... 101

APPENDIX D ..... 102

**List of Tables**

Table 1: Demographic of Sample Population.....	57
Table 2: Descriptive Statistics for Overall Scaled Scores.....	66
Table 3: Descriptive Statistics for Alphabetic Principle .....	67
Table 4: Descriptive Statistics for Phonics .....	68
Table 5: Test of Normality.....	71
Table 6: Independent Samples <i>t</i> test for Research Question 1.....	66
Table 7: Independent Samples <i>t</i> test for Research Question 2.....	70
Table 8: Independent Samples <i>t</i> test for Research Question 3.....	72

**List of Figures**

Figure 1: Normality Control Group Histogram.....	67
Figure 2: Normality Treatment Group Histogram.....	68

**List of Abbreviations**

Basic Literacy Test (BLT)

Dynamic Indicators of Early Literacy Skills (DIBELS)

Common Core State Standards (CCSS)

National Reading Panel (NRP)

## CHAPTER ONE: INTRODUCTION

### Background

The purpose of this study was to investigate the effects of an explicit phonics program entitled *Ten Minute Phonics* by Dr. Cindy Cupp on kindergarten reading readiness scores. The teaching of explicit phonics was a hot topic debate in the late 1990s. Research proved teaching phonics explicitly helped children become better readers. In the past decade, the teaching of phonics has moved from being explicitly taught, as a separate program, to being embedded as part of the existing language arts curriculum. School systems utilizing the embedded methods use literature units to teach all specific reading skills. Many believe this approach to teaching is a form of whole language. According to Traw (1996), whole language can be defined as the “real use of literature and writing in the context meaningful, functional, and cooperative experiences in order to develop student’s motivation and interest in the process of learning” (p. 319).

Basal reading programs, which are purchased by many systems, introduce “phonics and word attack skills as embedded skills inside the shared literature reading or guided reading stories” (Chard & Osborn, 1999, p. 108). Stein, Johnson, and Gutlohn (1999), studied the use of these basal programs and found “that few programs included an explicit phonics approach, and student reading selections often did not correspond to the words children were learning during word-recognition instruction making most of the selections inaccessible to the readers” (p. 276)

The move away from teaching explicit phonics troubles many early childhood educators. Cassidy, Valadez, and Garrett’s (2010) research shows a “growing concern that children are not achieving fluency in reading” (p. 2). According to Kamil (2004), older elementary students are struggling with comprehension. “Some struggling secondary readers lack sufficient advanced

decoding, fluency, vocabulary, and comprehension skills, to master the complex content” presented to them in reading passages (Kamil, 2004, p. 217).

Teaching young children to read is of utmost importance. According to Wonder-McDowell (2010), “Teaching young students to read has been described as one of the most important responsibilities of primary grade teachers and yet a significant number of students struggle to develop proficient skills” (p. 45). “The National Reading Panel (1997) provides evidence supporting the use of teaching explicit phonics in the classroom. Cassidy et al. (2010) reported “the child’s level of phonemic awareness on entering school may be the single most powerful determinant of the success she or he will experience in learning to read and of the likelihood that she or he will fail” (p. 647). A child’s understanding of phonemic awareness has been shown to be of utmost importance to a child’s ability to read.

The National Reading Panel (1997) determined there were five pillars of reading instruction which were scientifically proven through evidenced-based practices to teach children to become proficient readers. Those pillars are: (a) phonemic awareness, (b) phonics, (c) fluency, (d) vocabulary, and (e) comprehension. Without the basic building block of phonemic awareness and phonics instruction, the student will fail at being successful in fluency, vocabulary, and comprehension. The pillars build one to another (as cited by Cassidy et al., 2010).

Reading is one of the most complex tasks the human brain accomplishes. It requires interconnections to be made (Moskal & Keneman, 2011). Determining best practices for reading is important for early childhood educators. The implementation of phonics in a classroom is an important puzzle piece that is missing in many classrooms.

## **Problem Statement**

The National Reading Panel (NRP, 2000) included fluency as one of the necessary elements in an effective reading curriculum. Students who struggle to read fluently may do so even when fluency is being taught in the classroom. Ring, Barefoot, Avrit, Brown, and Black (2012) wrote, “Students with reading difficulty typically struggle to read fluently despite the inclusion of fluency in their core classroom instruction” (p. 101). According to Fien et al. (2010), “The National Reading Panel reached an unequivocal conclusion that systematic phonics instruction should play a major role in teaching children to read” (p. 632).

The teaching of word attack skills can be taught when utilizing an explicit phonics program. There is a plethora of research that shows the teaching of phonics through the use of an explicit program is important, yet so many systems have moved away from this implementation.

The Common Core State Standards (CCSS) use an integrated approach to teaching phonemic awareness, word attack skills, and phonics. It lacks the explicit phonics component. Rupley, Blair, and Nichols (2009) reported the “explicit/direct instruction has been shown to be efficacious in learning and teaching the major components of the reading process—phonemic awareness, phonics, fluency, vocabulary, and comprehension” (p. 126). Reading is a puzzle containing many pieces and according to Salinger (2003), “Students must have understandings, skills, and strategies in these areas because each area represents a piece of what might be called the cognitive puzzle” (p. 76).

Phonics knowledge aids in the development of word recognition. Word recognition, in turn, increases fluency. Reading fluency, then, improves reading comprehension because students are not struggling with decoding and are able to devote their full attention to making

meaning from text. Hudson, Torgesen, Lane, and Turner (2010) describe inadequate decoding as “an indicator of automaticity in the application of the alphabetic principle and a bridge to real world reading” (p. 486). Lack of decoding skills is characteristic of poor readers.

### **Purpose Statement**

It is important for schools to revisit the issue of teaching phonics explicitly. The purpose of this quasi-experimental study was to examine the effects of an explicit phonics program entitled, *Ten Minute Phonics*, on kindergarten students’ reading readiness scores when compared to those students receiving phonics through an embedded curriculum approach.

Students must learn phonemic awareness and phonics skills in order to learn to read efficiently. Rupley et al. (2009), describe direct/explicit phonics instruction as “the active communication and interaction between teacher and student” (p. 127). Likewise, Ehri, Nunes, Willows, and Schuster (2001), held the view that “because research suggests that systematic phonics approaches are more effective than non-systematic phonics approaches children should be provided with systematic phonics as part of a balanced reading program” (p. 394).

The purpose of any reading curriculum is to instruct the student how to read for understanding. Learning to read critically and to read thoughtfully requires the ability to read fluently. If gaining meaning is the purpose, the student must have the ability to decode words. According to Grossen (2012), “Gaining meaning is not possible unless a reader can translate the printed word into the language they represent” (p. 2).

### **Significance of the Study**

Although most research on explicit phonics points to the importance of its use, little research has occurred over the past ten years. Research clearly shows the need for school systems to implement explicit phonics programs, but many have implemented phonics through

an integrated approach. The results from this study will bring the use of explicit phonics back to the forefront. The researcher will ask the school system in rural North Georgia, where the study took place, to examine the results to determine if purchasing an explicit phonics program to implement with the existing current language arts curriculum would be beneficial.

The most influential time for a child to learn to read is in the early grades. The NRP (2000) concluded, “Instruction in reading, phonemic awareness was beneficial to all ages and backgrounds, but particularly beneficial for preschoolers and kindergartners” (as cited in Sonnenschein, Stapleton, & Benson, 2010, p. 359). The new CCSS introduces letters and sounds embedded in the language arts curriculum. CCSS calls for teachers to teach letters and sounds while reading books and conducting activities.

Phonemic awareness is the process of children learning to hear sounds. “Phonemic awareness is knowing that spoken words are made up of individual phonemes (or sounds) that can be heard and manipulated” (Harris and Hodges, 1995, p. 133). Phonological awareness encompasses the skills of onset and rime, rhyming, alliteration, phonemes, and syllabication. Learning phonological awareness is a stepping stone to learn phonics skills.

Phonics is teaching how letters or spelling patterns, known as graphemes, represent the sounds of speech, known as phonemes (Harris and Hodges, 1995). Decodable text is a way to present and teach phonics skills. According to Beverly, Giles, and Buck (2009), there is “research supporting the use of systematic phonics approach often include decodable text, but research is lacking on the attempt to isolate the effect of decodability” (p. 192). The *Ten Minute Phonics* uses decodable text and can fill in the gaps where research is lacking. Presenting past research and introducing new research will give the county involved in the study a reason to revisit the use of an explicit phonics program.

### **Research Questions**

This study explored the use of an explicit phonics program *Ten Minute Phonics* on kindergarten students' readiness scores.

**RQ1:** Does the implementation of *Ten Minute Phonics* increase reading fluency with kindergarten students when compared to those who are taught through an integrated curriculum?

Reading fluency occurs when students fully understand phonemic awareness, the alphabetic principle, and word attack skills. Decoding words is essential in reading fluency. To comprehend a passage, a student must be able to fluently read. Explicit phonics will teach students the vital decoding skills to read fluently and comprehend better.

**RQ2:** Does the implementation of *Ten Minute Phonics* increase kindergarten students' knowledge of the alphabetic principle when compared to those who are taught the alphabetic principle through an integrated curriculum?

The alphabetic principle is the teaching of the name of letters and the sounds they make. It is the basic skill of beginning reading. Children must understand the connections that letters have with sounds. The *Ten Minute Phonics* program works through sounding out nonsense words which is traditionally part of the process of teaching the alphabetic principle. The alphabetic principle, according to Fien et al. (2010), "is comprised of two component skills: (a) alphabetic understanding, which refers to a student's knowledge of letter-sound correspondences, and (b) phonological recording, which refers to a student's ability to blend sounds to read words" (p. 632). Learning to decode words begins with the understanding of the alphabetic principle.

**RQ3:** Does the implementation of the *Ten Minute Phonics* program increase kindergarten students' knowledge of phonics when compared to those who are taught phonics through an integrated curriculum?

Understanding phonics is a vital component for children to become effective readers. Phonics includes learning how to read short and long vowel sounds. It is the teaching of spelling rules. Students learn to understand when to use spelling rules such as when to use the c or k for the /k/ sound. The steps of learning phonemic awareness, the alphabetic principle, and phonics create the perfect formula to have a fluent reader. A fluent reader is able to comprehend more efficiently.

### **Null Hypotheses**

**H<sub>0</sub>1:** There is no significant difference in overall *STAR Early Literacy* Reading scores for students who participated in the *Ten Minute Phonics* program when compared to students' overall *STAR Early Literacy* Reading Scores who did not receive the program.

**H<sub>0</sub>2:** There is no significant difference in the alphabetic principle subdomain scores on the *STAR Early Literacy* Reading for students who participated in the *Ten Minute Phonics* program when compared to students' alphabetic principle subdomain of the *STAR Early Literacy* Reading who did not receive the program.

**H<sub>0</sub>3:** There is no significant difference in the phonics subdomain scores on the *STAR Early Literacy* Reading for students who participated in the *Ten Minute Phonics* program when compared to students' phonics subdomain scores on the *STAR Early Literacy* Reading who did not receive the program.

### **Research Plan**

The quasi-experimental study was conducted using static group comparison design. The kindergarten participants were placed in their individual classes by the administration. A quasi-experimental study was the correct method to use in this case due to the fact students were not

randomly able to be assigned to specific classes. Three classes were chosen to be the experimental groups and receive the explicit phonics program, *Ten Minute Phonics*. The control group classes participated in the regular language arts curriculum.

The program utilizes sixty lessons on the teaching of explicit phonics. This program was completed during the regular language arts time. No extra time was added to the regular language arts schedule.

Three classes were chosen to be the control group. These classes implemented the regular integrated curriculum. Their phonics lessons were embedded in the curriculum and taught through the reading of leveled books. These lessons were completed during the regular language arts time.

In the three experimental classrooms, teachers taught four lessons a week for fifteen weeks to cover all sixty lessons. After the implementation of the lessons, a posttest was administered and an overall composite scaled score and sub-domain scores were gathered and compared to the control groups.

The independent variable is the program *Ten Minute Phonics*. The dependent variables are the composite scaled scores and the scores on the two domain tests: alphabetic principle and phonics. Independent samples *t* tests were run to determine if there was a significant difference in the mean scores of the experimental group when compared to the control group. Assumption tests were run to show normality of the groups.

### **Definitions**

1. *Phonemic Awareness* - Phonemic awareness refers to recognizing, thinking about, and manipulating sounds and parts of words (Armbruster, 2010). Understanding onset and rime is an important part of phonemic awareness. Onset is the beginning chunk of the

word and rime is the ending part of the word. Phonemic awareness begins to work with phonemes. Phonemes are the smallest unit of phonics. Teaching phonemes is working with single letters to make a distinction of sound. It is counting the numbers of words and learning letters make sounds to create those same words.

2. *Alphabetic Principle* - Alphabetic principle refers to the naming of the letter and the creating of the sound the letter makes. It is a beginning step in the phonological process of teaching children to read. The alphabetic principle involves “understanding knowledge of letter-sound correspondences, and the students’ ability to blend sounds to make words” (Fien et al., 2010, p. 634).
3. *Phonics* - Phonics is the process of teaching children to read words. It is teaching children the rules and skills of sounding out words. In Marilyn Adams’ (1990) landmark research, she defined phonics as instruction intended to help children to understand the fundamentally alphabetic nature of our writing system and, through that understanding, to internalize the correspondences between frequent spelling patterns and the speech patterns – the words, syllables, and phonemes – that those spellings represent. (p. 29)  
Phonics teaches children how to spell words phonetically until they learn to spell correctly. Phonetic spelling helps children begin to learn to read and write better. According to Rupley et al. (2009), teaching explicit phonics “will help students interact with, comprehend, and understand written language” (p. 134).
4. *Fluency* - Fluency is reading fluid without halting and breaking. It is the rate of speed in which a passage is read. Cassidy et al. (2010) discussed fluency as a student who reads with automaticity. Automaticity requires a student to read with speed and accuracy.

5. *Explicit Phonics* - Explicit phonics is the teaching of phonics through systematic rules and sequenced steps. It is the teaching of sounding out letters and words by moving from the small parts to the whole. It is learning to decode from part to whole. The U.S. Department of Education (2002) described explicit phonics as “instruction in a carefully selected and useful set of letter-sound relationships and then organizes the introduction of these relationships into a logical instructional sequence” (U.S. Department of Education, 2002, p. 1).
6. *Whole Language* - Whole language curriculums and integrated curriculums are ways of teaching letters, sounds, and reading through integrated language. Goodman (2005), describes whole language as “dealing with ‘letters, sounds, phrases, and sentences in the context of real language” (p. 5). Most researchers view this process as teaching the letters and sounds through reading stories to children and discussing words and sounding out words while reading literature to students.
7. *STAR Early Literacy Test* - The *STAR Early Literacy Test* was created by Renaissance Learning as an adaptive technology test. The difficulty of the test increases and decreases as the students correctly or incorrectly answer test questions. According to Renaissance Learning Inc. (2012),

The Star Early Literacy assessment is a computer-based literacy test which measures students overall reading readiness by utilizing questions in the areas of alphabetic principle, concept of word, visual discrimination, phonics, structural analysis, vocabulary, sentence-level comprehension, phonemic awareness, paragraph-level comprehension, and early numeracy (p. 3).

## CHAPTER TWO: LITERATURE REVIEW

### Introduction

Years of research show a correlation between students' understanding of phonemic awareness, the alphabetic principle, phonetic skills and their reading comprehension ability (Adams, 1990; Ehri, 1998; McKay & Thompson, 2009; National Reading Panel, 2000; Perfetti, Beck, Bell, & Hughes, 1987; Wagner & Torgesen, 1987). Reading is a complex process (Bashir & Hook, 2009). Reading comprehension problems can stem from a lack of phonics skills and fluency.

According to Pinnell et al. (1995), The National Assessment of Educational Progress in Reading's correlational study on fluency and comprehension showed a "significant and positive correlation between oral fluency and reading comprehension" (p. 24). The NRP (2000) found "what teachers teach and what they place emphasis on is not always on what they know works but is instead driven by politics, by the pendulum swing of what is popular at the moment, and the economy" (p. 2-1). The NRP (2000) discussed the importance of studying the research and following best practices when deciding on curriculum.

Comprehension is a critical skill that is achieved by students who possess the ability to read words automatically, accurately, and with little effort (Adams, 1990). A lack of fluency occurs when a child cannot attack unknown words and reads haltingly with broken text.

Students must master skills in order to pass national and state mandated tests. Those who cannot comprehend what they read, do not have success on these tests. So much emphasis is placed on test scores; students must be able to comprehend what they read in order to be deemed successful in reading on these mandated tests. Due to the importance placed on these tests, teachers must begin to systematically and adequately teach students the necessary steps to be a

successful reader. Those steps begin with phonemic awareness, the alphabetic principle, phonics, and vocabulary skills.

The NRP (2000) concluded, “Instruction in phonemic awareness was beneficial to all ages and backgrounds, but particularly beneficial for preschoolers and kindergartners” (as cited in Sonnenschein et al., 2010, p. 359). In this report, the NRP (2000) indicated there was a “growing concern that children are not achieving fluency in reading” (as cited in Cassidy et al., 2010, p. 2). Students’ comprehension skills decline when they are unable to read fluently.

The task for early grade teachers is to determine the child’s phonemic awareness ability. Once each student’s knowledge of the alphabetic principle is ascertained, the teacher can build on those skills and begin to move through the steps of teaching the alphabetic principle, phonics, vocabulary, and reading comprehension. It is important to shore up the skills in each step to help children become fluent readers.

The building blocks of reading begin at home and in the early grades. The first building block is students acquiring phonemic awareness. Flett and Conderman (2002) believed a child’s success with phonemic awareness is a predictor of a child’s later reading success. If a child lacks phonemic awareness, “he or she may be at risk for future reading failure” (p. 242). Many students begin to learn phonemic awareness skills through the use of nursery rhymes. Incorporating phonemic awareness skills is an easy task for teachers to do in the classroom using read-alouds, nursery rhymes, and chart stories (p. 242).

The second building block to becoming a fluent reader, in the early grades, is the teaching and acquiring of the alphabetic principle. Introducing letters and the sounds that correspond to each letter is a very important step to being a successful reader. Learning to connect letter sounds to create words leads easily into learning to decode simple consonant-

vowel-consonant words. A student who does not adequately gain this important step in the process struggles to read fluently later (Ehri, 1995).

The third building block to becoming a fluent reader, in the early grades, is the acquiring of phonics skills. Phonics is teaching students the process of reading words. Phonics takes all the components of phonemic awareness and the alphabetic principle and begins to teach spelling and decoding skills to students. Once phonics skills are learned, decoding skills are automatic which in turn creates fluent readers.

The expression in a student's voice while reading orally is "fluency's connection to meaning or comprehension" (Rasinski, 2014, p. 258). A student must be able to comprehend, to some extent, the meaning of the passage in order to read with expression that imitates the writer's point of view or voice. While reading orally, if the student learns to express the voice of the reader, the student is amplifying his or her own comprehension (Rasinski, 2014).

### **Step One - Phonemic Awareness**

Understanding phonemic awareness is vital for teachers as they teach students to read. Ukrainetz, Nuspl, Wilkerson, and Beddes (2011) describe the place phonemic awareness holds as "falling within the larger umbrella of phonological awareness" (p. 50). Teaching a student to read and comprehend is a complex process. The first part of this process involves teaching phonemic awareness where students learn that sounds make words, and students are introduced to onset and rime.

The NRP (2000) findings showed children who are taught phonemic awareness effectively are able to manipulate the phonemes in letters and are more successful when the instruction is "explicitly focused on one or two types of phoneme manipulations rather than multiple types" (p. 2-6). Students learn these skills when instruction occurs in a small group

setting. When teaching the phonemic awareness skills, the teacher must gauge the students' capabilities using easier skills for young beginner students and increase the difficulty with more mature learners (NRP, 2000).

Walsh (2009) discussed the issues that derive from a lack of clarity of the definition of phonemic awareness and list it as a major contributing factor to the debate about its importance to helping children read. In this case, Walsh (2009) defined phonemic awareness as “the scientific study of spoken words and their features” and believed defining it as such provides clarity (p. 213).

First, children must understand how the small sounds in words work together and how those sounds make a difference in the meaning of a word, before the children learn to read in print (Zeece, 2006). The understanding of phonemic awareness is not a step to be forgotten when teaching a child to read. Without a clear understanding of phonemic awareness and phonics, teachers may mistake both for being the same skills.

It is important to train teachers to understand the difference between the terms phonemic awareness and phonics. Furthermore, these phonological steps must be taught in a strategic order. Richgels (2001) stated, “Very few phonemic awareness programs or methods provide teachers with the background information about phonemes and awareness” (p. 274). As such, when teachers do not understand the importance of building background knowledge in phonemic awareness, a major stepping stone is missing from the learning to read step ladder.

Children who acquire phonemic awareness skills are able to break words apart and combine words orally. The use of nursery rhymes is an easy first step to introducing phonemic awareness skills. Flett and Conderman (2002) discussed using nursery rhymes as an essential component of phonemic awareness (p. 244). Using nursery rhymes in songs, chants, and books

will help students acquire phonemic awareness.

Teachers have a plethora of ways to introduce and teach phonemic awareness. Using beginning books is one way to teach this skill. Zeece (2006) listed different ways to use books to teach children to recognize words with the same beginning sound, and provided tips on how to isolate the beginning and last sound in a word, how to combine or blend the separate sounds in a word, and break and segment words into parts (p. 170).

Many researchers believed phonemic awareness is necessary and is a precursor to reading (Flett & Conderman, 2002; NRP, 2000; Snow, Burns, & Griffin, 1998). Others believed it was a “consequence of learning” (Ehri, 1984; Ehri, Nunes, Stahl, & Willows, 2001; Foorman et al., 2003). Having firm phonemic awareness foundations, are important to a student’s overall reading comprehension (Ehri ., 2001).

### **Step Two-The Alphabetic Principle**

The second area, the alphabetic principle, requires the learning of letters and sounds. Being able to “grasp the alphabetic principle is a rather sophisticated intellectual achievement” (Shankweiler, 1992, p. 222). According to research, it is “recognized that an understanding of the phonological organizations of language, generally termed, phonemic awareness, underpins the acquisition of the alphabetic principle and hence of reading skill” (Bradley & Bryant, 1983, p. 805).

Acquiring the alphabetic principle is a key step in learning to read fluently (Bradley & Bryant, 1983; Byrne & Fielding-Barnsley, 1989; Byrne, & Fielding-Barnsley, 1990; Juel, Griffith, & Gough, 1986; Tunmer, Herriman, & Nesdale, 1988). Students work toward becoming proficient with phonemic awareness and the alphabetical principle and use those phonological skills to learn the art of phonics.

Students begin learning the alphabetic principle by learning letter sounds and progressing to more complex letter combinations. As students further progress through the early grades, they begin to learn to sound out consonant-vowel-consonant words (CVC) and eventually to compound words, sight words, and multi-syllable words (Oregon Reading First, 2015).

Children who lack an understanding of the alphabetic principle struggle to comprehend that letters form words. They have difficulty connecting the sound the letter makes to the actual letter. They are unable to break words into segments and identify the three sounds that comprise a CVC word. Students who struggle with the alphabetic principle are unable to sound out three letter nonsense words or “pseudowords” (Oregon Reading First, 2015, p. 1).

### **Step Three-Phonics Instruction**

The third major component involves explicit phonics instruction. Webster in 1798 created *The Blue Back Speller* in order to provide American students with rules for standardized speech. Around the time of the Revolutionary war, a “letter-sound approach was put into practice” (Emans, 1968, p. 603). For nearly forty years, the use of phonics was rarely questioned.

Horace Mann, in the 1840s, visited schools in Prussia and Switzerland, and liked what he observed with pictures being shown with the correct word (Emans, 1968). Mann spearheaded government education and ensured children would receive an education funded by taxpayers. During this time period, the teaching of phonics fell by the wayside for the next forty-five years.

The shift in the 1890s was to bring phonics instruction back to the forefront of American education and to begin to teach word families, not just letter sound recognition. As the years went on, the phonics debate continued. Some researchers believed children who were not taught phonics read more smoothly and were superior in comprehension (Emans, 1968). Other

researchers, in the 1940s, found phonics could not be blamed for the lack of comprehension. The great debate over phonics instruction has persisted throughout the years.

The teaching of explicit phonics can be described as teaching students the relationship between letters and sounds and how to use these skills to recognize words (Adams 1990; Harris & Hodges 1995; Mesmer & Griffith 2006; Stahl, Duffy-Hester, & Stahl, 1998). The instruction begins to focus on short vowel words (e.g., bat, bit, but), long vowel words (e.g., cake, coke, bake), controlled vowels (e.g., car, stir, per), diagraphs (e.g., chief, bee, nail), and diphthongs (e.g., diet, oil) (Gates & Yale, 2011).

#### **Step Four-Vocabulary**

The fourth area involves vocabulary. Research showed students need to know “98% of words in spoken discourse in order to understand it well” (Schmitt, 2009, p. 9). The teaching of high frequency words becomes important to beginning readers’ fluency. Hulstijn and Laufer (2001) believed knowing a word in order is important to understanding the passage. The more vocabulary words a child knows by sight the more automatic they will be in their reading. A few principles are given by Schmitt (2009) on the best practices for teaching vocabulary. He believed teachers should follow these guidelines:

Students should build a broad sight vocabulary, integrate new words with the old, be provided with numerous encounters with a word, promote a deep level of processing, make connections to the new word and things they know, and be provided opportunities to develop fluency with the new word (p. 11).

The NRP (2000) looked at the teaching and learning of vocabulary and if the teaching of vocabulary improves students’ comprehension. The Panel concluded “vocabulary should be taught both directly and indirectly” (p. 2-2). The more students see and use the vocabulary

words increases their learning. The Panel concluded it is better to use a combination of teaching methods to help increase student achievement. Using comprehension techniques such as “question and answering, question generation, and summarization” (p. 2-3). Once students are able to use these skills, they perform better on comprehension tests.

The NRP (2000) found that intensive professional development is necessary so that teachers can learn to use reading comprehension strategies effectively. Preferably, teachers should receive formal instruction on strategies to teach reading comprehension as early as pre-service. More research is needed on a number of issues, including which components of teacher preparation are most effective.

### **Fluency in Reading**

Fluency becomes more automatic when students master the above four areas. Comprehension becomes easier when a passage is read fluently (Rupley et al., 2009). One important contribution to a child becoming a fluent reader is phonics (Schwanenflugel, Hamilton, Kuhn, Wisenbaker, and Stahl, 2004). Children who can decode words well are in turn better fluent readers. Being a fluent reader is an important component to comprehension (Gough & Tunmer, 1986; Hoover & Gough 1990).

Fluency occurs when a child can read automatically. Teachers build these reading skills in steps. Phonemic awareness is the beginning step to teaching a child to read. In a study done by Ehri, Nunes, Willows, Schuster, Yaghoub-Zadeh, and Shanahan, the teaching of phonemic awareness made an impact in all areas studied. Phonemic awareness benefits not only word recognition but reading comprehension (2001).

Phonemic awareness consists of individual phonemes where the student learns to break apart each individual sound. Without phonemic awareness, students do not have the skills to

move toward phonics. Without word attack skills, students' fluency suffers along with comprehension. The best practices of teaching phonemic awareness based on research reveals phonemic awareness tasks should be taught explicitly and directly for students to become effective and fluent readers and writers (Castles, Wilson, & Coltheart, 2011).

The next step in teaching a child to read is learning the letters, sounds, and how they work together to make words. The alphabetic principle focuses on teaching the internal structure of words and letter strings. According to Fien et al. (2010), the alphabetic principle is composed of "a student's knowledge of letter-sound correspondences, and phonological recording" (p. 2). This phonological recording refers to how the student blends sounds to make words. A student's ability to blend sounds is a foundational skill of reading proficiency (Fien et al., 2010).

The kindergarten student is immersed in a world of print. "Immersing children in a rich print environment without teaching letter-sound skills and using these skills while reading decodable text dooms a large percentage to reading failure" (Beverly, Giles, & Buck, 2009, p. 5). Cunningham (1990) discussed the importance of children interacting with print and how these experiences further children's learning of language structure (p. 430). A print-rich environment helps students become familiar with texts and begin to interact with the language around them. Utilizing this print-rich environment is a unique way to introduce language and phonemic awareness.

According to Cassidy et al. (2010), there is a "growing concern that children are not achieving fluency in reading" (p. 2). Without fluency, the text becomes broken. Students, who do not possess the phonics skills to decode words, spend too much time focused on those unknown words and results in loss of meaning of the text. Juel (1991) and Adams (1990) concluded that students should learn through the use of explicit instruction in phonemic

awareness, develop an appreciation of the alphabetic principle, and become immersed in text with decodable words which allow students to use their phonics skills.

The Common Core State Standard has been developed so the nation's students will focus on the same learning standards. The CCSS has taken an integrated approach to the introduction of phonemic awareness, the alphabetic principle, and word attack skills, as interpreted by many school systems. According to Brady (2012), the CCSS does not "wish to recommend particular instructional methods, but sufficient specification of the content that students must learn would at least make it clear what should be taught and assessed" (p. 21).

The CCSS creates foundational lessons where skills are to be taught. Phonemic awareness, the alphabetic principle, and phonics lessons fall in these categories (Brady, 2012). However, no explicit way to teach these skills is mandated. Although these skills are broken down separately, as standards, the use of an explicit phonics program is not recommended, and the recommendation is for these skills to be taught through integration of the literature.

According to Wonder-McDowell (2010), teachers should not teach phonics instruction as a fragmented part of the curriculum. Students must understand that phonics skills are necessary and carry over to all subjects. At the kindergarten level, an explicit approach helps shore up the student's phonics knowledge so that in later years integration across the curriculum can be successful. Fox (2012), a renowned author of phonics instruction, offered these strategies to teaching phonics: "Teach phonics directly, systematically, early, in meaningful ways, and incorporate phonics training in reading and spelling" (p. 6).

In order for children to become successful readers, they must build a large and wide range of vocabulary and automatically recognized words (Fox, 2012). Reading programs must dedicate large portions of their time to phonics instruction in the early grades. An integrated

program is more appropriate for children in third grade and above only after phonics has been explicitly taught in the younger grades (p. 9).

The instructional delivery of phonics has become a major debate over the past decade. Different approaches have been utilized over the years. A great debate over teaching phonics through whole language versus explicit phonics has taken place, and now more recently an integration model has been presented through the introduction of the Common Core. This research will strive to show if an explicit phonics program, entitled *Ten Minute Phonics*, delivers a significant increase in early reading readiness scores for readers when compared to an integrated model of phonics delivery (Cupp, 2008).

### **Theoretical Framework**

The social constructivist theory is the theoretical framework focus of the study. Wang, Bruce, and Hughes (2011) described social constructivism as “society providing students with the background of cultural history, social context, and language skills in order to acquire knowledge. Individual development is based on societal influence” (p. 297). Lev Vygotsky was the theorist who influenced the social constructivist theory immensely (Au, 1998).

Vygotsky’s theory called for “mediated instruction providing guidance to a student in learning a particular skill” (Rupley et al., 2009, p. 128). Teachers provide reading instruction by guiding students through phonemic awareness, phonics, fluency, vocabulary, and comprehension. The basic skills of learning to read build one to another.

In Vygotsky’s (1978) Zone of Proximal Development, scaffolding in education practices is encouraged. With the Zone of Proximal Development, tools are given by the teacher, and information is learned by the student (Martin, 2001). The information presented is through scaffolding as the concepts are introduced by the teacher. The student takes this information and

uses problem solving skills to construct new learning. Vygotsky's goal is to use the student's own social history and the surrounding environment to use problem solving activities to reach the mastery level of Zone of Proximal Learning (Glassman, 2001).

Rupley et al. (2009) believed scaffolding supports students' learning of concepts. Connections are important in order for students to bridge the learning gap. Teachers should begin by teaching phonemic awareness. From there, students should build connections between the letter names and sounds.

Phonemic awareness naturally builds oral word connections, while moving toward phonetic skills. Students, who understand the decoding process, read fluently and comprehend better (Sonnenschein et al., 2009).

Effective teachers were described by Rupley et al. (2009) as those that "provide varied, meaningful practice to ensure students' mastery and transfer of skill to other meaningful reading situations" (p. 128). Working through the steps of teaching phonemic awareness, phonics, and word attack skills, is an effective practice to helping students make meaningful connections and become highly effective readers.

LaBerge and Samuels (1974) wrote a research piece, entitled *Toward a Theory of Automatic Information Processing in Reading*. Their research focused on visual memory skills such as letter recognition, shape of letters and words, spelling patterns and spelling codes found in words. In order for a child to learn to read, they must first build from one subset of skills to the next as in recognizing letters to letter patterns. Learning to build from one subset to another allows for scaffolding of these skills and helps the student become a more fluent reader.

Marzano, Pickering, and Pollock (2010) discussed ways to teach scaffolding skills. They shared nine strategies for teachers to utilize in order to help children build background

knowledge. Along with Vygotsky's theory that children learn from one another, Marzano (2009) discussed how children learn through social interactions. In order to build background knowledge, Marzano (2009) argued students must interact with one another through activities that allow them to construct new connections and learning.

Phonetic skills require this scaffolding in order to learn to read fluently. Another strategy presented by Marzano et al. (2010) was for students to play games with the new information. Phonics easily lends itself to being taught in a game format. These authors also discussed the importance of allowing students to talk through what they are learning in order for them to develop true understanding.

B.F. Skinner's work with stimulus response and operant conditioning has also been linked to phonics instruction. According to Lana (2002), Skinner's work with echoic behavior goes hand in hand with language acquisition. The example used by Lana (2002) was based on a mother repeating to the child, "you want a *cookie* and the child responding back with the word *cookie*" (p. 53). This same behavior helps a child build vocabulary and phonemic awareness. Skinner believed, "all language can be considered behavior that is conditioned and learned" (Lana, 2002, p. 54). Skinner's behavior theory attempts to explain how students acquire language and learn to communicate.

Phonemic awareness and phonics teach the child how to communicate and comprehend language by learning word attack skills through repetitive teachings and activities. According to Yopp (1992), phonemic awareness tasks require students to "treat speech as an object and that they shift their attention away from the content of the speech to the form of speech" (p. 696). Skinner's behavior theory falls in line with Yopp's (1992) belief on how children learn to comprehend language.

### **Related Literature**

Phonemic awareness and the teaching of phonics have been caught up in a great debate over the past few decades. Is it important for children to be able to recognize phonemes and graphemes in order to read? Is a lack of word attack skills the culprit of fluency and comprehension issues? The NRP reached an “unequivocal conclusion that systematic phonics instruction should play a major role in teaching children to read” (as cited in Fien et al., 2010, p. 1).

The teaching of phonemic awareness comes in many stages. Phonemic awareness is one of the strongest predictors of reading and spelling performance (Høien, Lundberg, Stanovich, & Bjaalid, 1995; Stanovich 2000; Torgesen Otaiba, & Grek, 2005; Ukrainetz et al., 2011). According to Manning (2005), it takes less than “three minutes to determine the level of a student’s phonemic awareness” (p. 68). Giving the child a few examples of how to break apart a word such as “desk and breaking it apart into d-es-k, and asking the child to segment the phonemes with you to practice and then giving students words to do on their own” will give the teacher or observer a quick overview of the present level of the child’s phonemic awareness (p. 69).

Research also showed teaching rhyming and alliteration helps students comprehend language better. Goswami and Mead (1992), through their research believed that “measures of rhyming and alliteration are especially strong predictors of later reading progress” (p. 153). Research by Goswami (1988) proved beginning readers see the connection between rhymes and spelling patterns. Bryant, MacLean, Bradley, and Crossland (1990) found through their research “a strong correlation between children’s early phonological skills, such as rhyme and alliteration, but only if there is an intervening development in phoneme detection” (p. 430).

Wyatt-Smith and Gunn (2007), discuss the importance of building from part to whole when teaching. They state, “Within the skills based approach to reading, knowledge of words is built from part to whole” (p. 7). This building from part to whole affords students the opportunity to learn “phonological awareness, common letter-strings, and initial sound blending and helps students decode and write text better” (p. 7). According to Fox (2012), “it is important to teach phonics within the context of words that illustrate certain phonics letter-sound relationships and patterns (p. 6).

The teaching of reading involves gathering meaning from print. According to Sonnenschein et al. (2010), “it requires decoding as well as comprehension skills” (p. 360). The teaching of reading also begins at home before the student ever enters a classroom. “Talking with others, listening to and telling stories, and other similar interactions help children develop phonological awareness, knowledge of what print is and how it is used, knowledge of story structure, and an interest in reading” (p. 360).

### **Phonemic Awareness**

Phonemic awareness is the acquisition of requisite skills a student must grasp in order for a teacher to move toward the teaching of phonics. Armbruster (2010), discussed the difference in phonemic awareness as “not the teaching of phonics (p. 4). Armbruster (2010) defined phonemic awareness as “the ability to notice, think about, and work with the individual sounds in spoken words” (p. 4). Yopp, and Yopp (2000) defined it as “the awareness that the speech stream consists of a sequence of sounds---specifically phonemes, the smallest unit of sound that makes a difference in communication” (p. 130).

A student with adequate phonemic awareness is being able to manipulate, hear, and identify different phonemes, or sounds, in words. According to Cunningham (1990), “Phonemic

awareness is the ability to explicitly manipulate speech segments at the phoneme level” (p. 429). It is an early critical step in learning a language (Yopp & Yopp, 2000). Phonemic awareness is the basic building block to reading.

The NRP (2000) discussed the importance of teaching phonemic awareness to young children and ties the learning of phonemic awareness to success to learning to read because of the structure of the English language (p. 2-2). “Being able to distinguish the separate phonemes in pronunciation of words so they can be matched to graphemes is difficult and discovering phonemic units require instruction to learn how the system works” (p. 2-2).

Phonemic awareness is a critical step in the reading process. According to Chappell, Stephens, Kinnison, and Pettigrew (2009), “Phonological awareness is the most critical part of reading development” (p. 25). Phonemes are “any abstract units of the phonetic system of a language that correspond to a set of similar speech sounds which are perceived to be a single distinctive sound in the language (*Merriam-Webster’s Online Dictionary*, n.d.).

Bishop and Bishop (2004) discussed the need for the teaching of phonemic awareness and the alphabet before the teaching of phonics can ever take place. “We must remember that one goal of phonics instruction is to assist the students in understanding the relationship between the printed letters and speech sounds” (p. 9). Teaching this phonemic awareness first will help students make real world connections with sound manipulation before moving forward to phonics in the written form.

The teaching of phonemes usually begins with the “semantic tasks (e.g., counting the words in sentences) to intermediate tasks involving syllables, to onset-rime, and then on to isolating the beginning, medial, and final sounds in words” (Ukrainetz, 2009, p. 345). Onset and rime involve the student hearing the first part of a word and distinguishing the first sound from

the rest of the word.

Language acquisition games are great models for children who are learning phonemic awareness. Chapman's (2002) research supported the use of language based strategies when teaching phonemic awareness. The use of appropriate, child-centered, language based resources in supporting children's phonemic awareness is important. Most children exposed to these child-centered language programs will acquire an adequate phonemic awareness (Chapman, 2002).

Learning phonemic awareness helps students read better in the upper grades. According to Armbruster (2010), the National Institute of Literacy claims, "Children who have phonemic awareness skills are likely to have an easier time learning to read and spell than children who have few or none of these skills" (p. 6). Armbruster (2010) also gathered through his research that "if children are to benefit from phonics instruction, they need phonemic awareness" (p. 12). Ukrainetz (2009) believed, "With expectations for earlier acquisition of reading and writing, explicit instruction in phonemic awareness" is recommended and important (p. 344).

In summary, phonemic awareness is the first basic step for students in acquiring, developing, and understanding language. With phonemic awareness skills, students begin to learn the alphabet and the sounds of the letters. The step for students is to move from phonemic awareness skills to the alphabetic principle.

### **The Alphabetic Principle**

The alphabetic principle is the second step in the building blocks of reading. According to Uppstad and Tonnessen (2012), "An alphabetic writing system consists of two individual letters that correspond to spoken language units at a similar level of analysis. The systematic relationships between units of these two systems are collectively referred to as the alphabetic principle" (p. 109).

According to Fien et al. (2010), “The alphabetic principle is composed of two components: Understanding knowledge of letter-sound correspondences, and the students’ ability to blend sounds to make words” (p. 634). The alphabetic principle is an important step that cannot be overlooked when teaching children to read. After students grasp phonemic awareness, the alphabetic principle is the next step in linking sounds and letters and learning to read consonant-vowel-consonant words. Once students read decodable words, they can begin to read decodable text and are on their way to becoming fluent readers.

Byrne and Fielding-Barnsley (1990) believed, “Understanding of the phonological organization of language, generally termed phonemic awareness, underpins the acquisition of the alphabetic principle and hence of reading skill” (p. 805). The alphabetic principle builds from phonemic awareness skills.

Teaching how the letters make specific sounds and how these sounds combine to make phonemes is the first building blocks of learning to read and write. Beverly et al. (2009) believed, “Immersing children in a print environment without instruction in letter-sound correspondences and practice in decodable text dooms a large percentage of children to reading failure” (p. 5).

Children must learn phonemic awareness skills and how those skills work with the alphabetic principle in order to be ready to learn phonics and spelling skills. Being sure these skills are taught in order and hand-in-hand is so important to the success of the students. Asking students to gather these skills on their own as they are reading through basal-reader programs can be a detrimental mistake for educators to make. The NRP (2000) study concluded that these steps, taught systematically, produce more fluent readers when compared to those who learn through whole language approaches and basal-readers only.

When a student has a complete understanding of the alphabetic principle, the student is able to sound out a nonsense word. Administering a nonsense word fluency test will help the teacher “gauge a student’s ability to accurately decode novel words” (Fien et al., 2010, p. 632). Nonsense word tests are “pseudo-word measures” and are a part of many tests that are administered such as the Woodcock Johnson, the Dynamic Indicators of Basic Early Literacy Skills, and the Basic Literacy Test.

### **Phonics**

Armbruster (2010) defined phonics as “an understanding that there is a predictable relationship between phonemes and graphemes (p. 8). Phonics is teaching students how to read and write words. It involves all the skills of phonemic awareness, the alphabetic principle, and phonological knowledge. The National Institute for Literacy (2010) proposed “without the prior knowledge of these skills, the teaching of phonics will not be successful” (p. 16).

The phonics process teaches students how to read words. According to Elokin (1971), “Characters follow one another spatially in the same succession as sounds do in time in the spoken word” (p. 558). Mesmer and Griffin (2006) stated, “In English, the letter-to-sound written model can be a one-to-one correspondence (e.g., bag, step, trip); a two-to-one-letter to sound pattern (e.g., this, beat); or a more complex pattern (e.g., straight, ax, like)” (p. 367).

The phonics process teaches students to phonetically spell words. According to Rupley et al. (2009), “Teaching explicit phonics will help students interact with, comprehend, and understand written language” (p. 134). The NRP (2000) concluded the teaching of phonics early proved much more effective than introducing them after first grade (p. 2-93). The NRP (2000) found through their research that there were various ways to teach systematic phonics and all were deemed more successful than a non-phonics approach to learning (p. 2-93).

Distinguishing between the differences in short vowel words and long vowel words provides a good example of phonics. When a student can identify phonemes and understand them in words, they learn to adequately decode words. Adequately learning to decode words and having the skills to attack unknown words will increase a student's fluency. When a child can read fluently, comprehension does not suffer from a lack of word attack skills.

### **Fluency**

Fluent readers are a goal of every reading program. Defined by Ashby, Dix, Bontrager, Dey, and Archer (2013), "Fluency is the ability to read sentences accurately and at the rate of speech with appropriate intonation and comprehension" (p.157). According to the NRP (2000), children who are not fluent readers by third grade will most likely struggle with reading the rest of their lives. Rasinski (2014) described fluency as having two components. He stated:

Reading fluency is made up of two distinct components at two ends of the reading spectrum—automaticity in word recognition and expression in oral reading that reflects the meaning of the text. In a sense, reading fluency is the essential link between word recognition at one end of the spectrum and reading comprehension at the other. (p. 4)

Fluent readers comprehend what they are reading better than those students who lack fluency. Kuhn and Stahl's (2003) research showed fluency interventions did produce positive results on students' comprehension scores. Therrian, Gormley and Kubina (2006) state, "Research has indicated that unlike good readers, poor readers do not automatically monitor their comprehension while reading" (p. 24). Reading with expression can increase the student's comprehension of a passage. The student must read automatically and fluently to understand what they are reading. All of the components of reading come together to help a student become a successful fluent reader.

Along with phonemic awareness, phonics, and word attack skills being an integral part of fluency, most research points to the need for vocabulary development and processing skills to be added if a child is to comprehend text. Teaching vocabulary is an essential element to the building blocks of reading. With the decoding skills of phonics and the background knowledge of vocabulary, students read fluently and accurately.

A curriculum that includes phonemic awareness, the alphabetic principle, phonics, and vocabulary development will result in fluent readers who comprehend text (Rasinski, 2004). A fluent reader will be a more competent reader. According to Fuchs, Fuchs, and Compton (2004),

A reader's skill at automatically translating letters into coherent sound representations, unitizing those sound components into recognizable wholes and automatically accessing lexical representations, processing meaningful connections within and between sentences, relating text meaning to prior information, and making inferences to supply missing information determines his level of competence in reading. (p. 8)

Sonneschein et al.'s (2010) research discussed further the role that prior knowledge has in a student's ability to comprehend text. "Students who are socioeconomically challenged have less schemata to build on than their fellow classmates and therefore, struggle in the beginning" (p. 2). Sonneschein et al. also stated:

Children who came from families living below the poverty line were less likely to make transitions to higher reading levels than their non-poor counterparts. However, poor children who entered kindergarten with at least early phonological processing skills showed progress similar to their non-poor counterparts. (p. 2)

The study's findings are important for educators. If there is little prior knowledge of phonemic awareness, and the alphabetic principle, the educator must start from square one and

help these students establish building blocks in which to build upon later. Once this background knowledge is established, the student can then tackle decoding words.

Fluent readers spend little time decoding words and are able to focus more on the meaning of the text. Pikulski and Chard (2005) discussed, “as part of the developmental process of building decodable skills, fluency can form a bridge to comprehension” (p. 510). Non-fluent readers spend much of their time decoding and deciphering words. Pikulski and Chard (2005), describe fluent readers as “readers who achieve some fluency read more extensively than readers who lack fluency because the latter find reading difficult”

Vadasy and Sanders (2010), in their meta-analysis, discussed that “research from intervention studies clearly supports the benefits of systematic phonics instruction, especially with students at risk for reading difficulties due to limited home literacy or phonological awareness skills” (p. 3). Children who begin kindergarten with little prior knowledge of onset and rime, phonemic awareness, and the alphabetic principle struggle with reading comprehension later. Shoring up those skills is a must for at-risk children to be successful with reading (Vadasy & Sanders, 2010).

Children must learn to read with automaticity. Automaticity requires a student to read with speed and accuracy. Children who can read decodable words and use word attack skills successfully become fluent readers. Cassidy et al. (2010) believed, “Children are not achieving fluency in reading” (p. 2). The children who can decode words quickly and automatically become more fluent readers.

Hiebert and Fisher (2005) stated, “By fourth grade, all but a small percentage of U.S. school children can recognize the words in a fourth-grade text with reasonable accuracy. However, approximately two thirds of these students recognize words slowly enough to

jeopardize their comprehension” (p. 443). If a student continues to struggle with word recognition or automaticity, comprehension suffers.

Hiebert and Fisher (2005) argued that when “readers devote considerable attention to identifying words, their comprehension suffers. Once decoding becomes automatic, readers can devote their attention to comprehending” (p. 444). Students who read haltingly or brokenly lose automaticity which leads to a lack of comprehension.

In another study conducted by Leppänen, Aunola, Nieminen and Nurmi (2008), research showed how important learning to decode is to younger aged readers because it builds automaticity (p. 548). Only after these decoding skills are learned can comprehension take place (Leppänen et al., 2008). Comprehension is better when reading is fluent.

The reading process flows through a natural process of stages. Decoding of the words accurately and automatically leads to a more fluent reader, which leads to better comprehension. According to Leppänen et al. (2008), “The process of learning to read begins by learning to read words accurately, and through reading practice” (p. 548). Once these skills are achieved, decoding becomes automatic. The more accurate and smoother a child reads, the more the child will comprehend.

All of these skills combined, teach children to be better, more successful readers. According to Duke (2001), good readers are active readers, with goals in mind. They “evaluate the text by looking over the structure of the writing, before and decoding unknown words ahead of time” (p. 3). Active readers look ahead to what they are reading and use context cues to determine unknown words. Children, who can become active readers, learn to decode quickly and use context cues to help determine unknown words.

Rupley et al. (2009) also believed reading acquisition happens in five stages and those

stages build on one another. Those stages are phonemic awareness, phonics, fluency, vocabulary, and comprehension (p. 135). If the students are struggling with one of these scaffolding areas, they have trouble building connections to the next stage.

### **Whole Language/Integration/Explicit**

Whole language involves the learning of phonics through an “emphasis on literature, composition, inquiry, and processed centered instruction” (Dahl & Scharer, 2000, p. 584).

Whole language focused on reading literature, discussing the makeup of the literature, and then pulling words from the literature to teach phonics. Phonics was not thrown out of the curriculum, but the teaching of phonics directly and explicitly was removed from the whole language classroom.

According to the NRP (2000), whole language can be defined as “programs that do not teach phonics explicitly and systematically, but emphasis is upon meaning-based reading and writing activities” (p. 2-90). In these classrooms, phonics is embedded into these meaning-based reading and writing activities, and is taught only when the teacher finds it necessary. The findings of the NRP (2000) showed teaching phonics explicitly and systematically works and produces better fluent readers.

The debate on which method works best continues. A combination of both teaching phonics explicitly in conjunction with whole language has been touted by some researchers to be the best method. Goodman (2005) stated,

The problem with teaching explicit phonics only is we took apart the language, and turned it into words, syllables, and isolated sounds. Unfortunately, we also postponed its natural purpose the communication of meaning and turned it into a set of abstractions, unrelated to the needs and experiences of the children we sought to help. (p. 24)

Whole language teachers deal with “letters, sounds, phrases, and sentences in the context of real language” (Goodman, 2005, p. 5). Most proponents of whole language claim students only learn phonetically because they are forced to by teachers. Smith (1994) maintained students who can read fluently have no reason to learn the alphabetic principle. He believed students who read fluently rely on background knowledge, cues from the reading, and their decoding skills only when necessary (p. 1). Whole language advocates like Goodman (1994), want children to learn through experiences. The NRP (2000) disagreed with all of the above findings. The Panel called for the systematic teaching of the alphabetic principle and phonics in order to become fluent readers.

How can a teacher, who believes in literature based teaching style, incorporate explicit phonics into the lesson? The new CCSS has been written to help teachers learn to correctly integrate phonics skills into their lessons and allows for the explicit teaching of phonics. The problem with the CCSS integration approach is it still pulls away from adding an explicit phonics program for the classroom. It is a whole language approach, in disguise.

Presently, the term whole language has a negative connotation attached to it; therefore, the education world has turned to more useful phrases such as balanced literacy (Petrilli, 2007). The CCSS uses the integrated literacy approach in all units and frameworks, as reported by the Georgia Professional Standards (Georgiastandards.org, 2013). The question remains, if much of the research points away from whole language, then why are the standards written to teach phonics integrated and not explicitly through a program?

The term balanced literacy has been interpreted by Wicker (2007) to be “a balance between phonics and the whole language approach” (p. 4). Phonics should be used as one approach to helping children decipher words. It should not be the only approach. In order for a

student to become proficient in phonics skills, an explicit approach works best (NRP, 2000). A balanced approach can be beneficial if the educator sets aside a time to explicitly and systematically teach phonics.

### ***Ten Minute Phonics***

The *Ten Minute Phonics* program was written by Dr. Cindy Cupp to help build phonemic awareness, phonological awareness, and fluency (Cupp, 2008). This program was published in 2008. The research behind the *Ten Minute Phonics* program proves the program to be beneficial, and this study strived to replicate previous findings. The program, according to [cindycupp.com](http://cindycupp.com), uses sixty scripted phonics lessons and phonemic awareness games to help children become fluent readers. Games and music are incorporated into the program. A previous study by Wicker (2007) proved the program to be useful in raising test scores.

The program is taught in sequential steps, introducing students to the beginning first steps of phonics and increases the intensity of the skills as the program progresses. Students using this program have improved their reading readiness scores in previous studies ([cindycupp.com](http://cindycupp.com), 2012). The successful component to this program is the systematic and explicit approach it takes to teach students phonics.

### **Summary/Gap**

In order for children to learn to read well, they must develop several skills. The NRP (2000) said the focus of “systematic phonics instruction is on helping children acquire knowledge of the alphabetic system and its use to decode new words, and to recognize familiar words accurately and automatically” (p. 2-90). The report continued on to discuss the need for students to know “how letters respond to phonemes and larger subunits of words” and how these work together to help young readers learn to sound out word “segments and blend these parts to

form recognizable words” (p. 2-90). Students knowing and understanding the alphabetic system greatly contributes to their success in reading words in isolation or in connected text.

Wicker’s (2007) study used Dr. Cindy Cupp’s, *Jack and Jilly Readers*, to show that the teaching of phonics plays a role in creating fluent readers. Wicker (2007) suggests a larger sample size and a replication of the study be conducted in the same school district. The *Ten Minute Phonics* program is a piece of the overall program written by Dr. Cindy Cupp. Combined together with *Jack and Jilly Readers*, a teacher has the explicit phonics program, sight word recognition, spelling, and phonics in total program (Cupp, 2004).

This study used the *Ten Minute Phonics* program to see if positive results could be reached in the rural school system in North Georgia. Results from the study were gathered and will be shared with the county in North Georgia. At the conclusion of the research, the researcher will present the findings to the appropriate curriculum directors and ask for a larger scaled study across the elementary schools. The researcher hopes to see if the results from this study could be replicated throughout the county schools.

The gap in the research appears to lie not in the necessary importance of phonemic awareness, the alphabetic principle, and the teaching of phonics but the delivery methods. A large amount of research is available on these skills, but this study focuses on teaching phonics explicitly and systematically for ten minutes every day. The NRP (2000) report showed that students who spend as little as ten minutes a day learning phonics explicitly have higher reading scores than those who learn through whole language based programs.

The NRP (2000) determined instruction in explicit phonics instruction was beneficial to all students in grades kindergarten through sixth grade. When phonics was taught explicitly, students, who initially exhibited reading difficulties, showed gains. Students in kindergarten

showed positive improvements in the ability to spell and decode words. Comprehension for these younger students likewise showed improvements. The Panel concluded phonics helped upper grade students to decode and spell words better but did not necessarily improve their comprehension skills (2000).

Dr. Cindy Cupp originally worked for the school system, where the research was conducted, as the curriculum director and ended her educational career as the reading and curriculum director for the Georgia Department of Education. The Basic Literacy Test (BLT) was created by the study's school system under her watchful eye. The BLT is used across the nation to assess students' learning. Dr. Cindy Cupp created the *Ten Minute Phonics* program and then created "*Jack and Jilly Readers*." The "*Jack and Jilly Readers*" are the next step in Dr. Cupp's programs to building confident and successful readers.

Due to the creation and implementation of the Common Core State Standards, states involved have moved away from teaching explicit phonics. With the creation of the CCSS, it is suggested phonics lessons be taught through an integrated method. (Common Core State Standards Commission, 2015). The debate over which method is best continues. Thus, this study focused on the differences between delivery methods. The county school system being used for this research utilizes the embedded approach. This study utilized an explicit phonics approach for only ten minutes a day.

For years, teachers in this rural suburb in North Georgia have requested local administration look into changing this policy. Recently, administrators have begun to see the need for an explicit program to be implemented back into the schools. Many teachers, when asked by the researcher, listed a lack of phonics training as one of their concerns with students reading comprehension issues.

The early intervention teachers and the response to intervention (RTI) teams have access to the *Ten Minute Phonics* program. A new study showing a significant gain in the area of fluency and comprehension through the younger grades could help the county make a decision to once again provide an explicit phonics program to the children in the county.

A plethora of the published research involving phonics is over ten years old. Curriculum has moved away from the teaching of explicit phonics and moved to a more embedded approach. Some of the new researchers and authors of phonics suggest a systematic approach.

The NRP (2000) research concluded the use of an explicit phonics program just ten minutes a day helped children become successful readers. The NRP (2000) study concluded various phonics programs, as long as they were explicitly delivered, were all successful. The important component was to teach the skills of reading systematically and explicitly (2-93). This approach moves away from the embedded delivery model and basal readers without a time to explicitly teach phonemic awareness, the alphabetic principle, phonics, and vocabulary.

Fox (2012) believed the teaching of sounds and letters should be interconnected so the children easily learn to apply the phonics skills when they read and spell. The need for new research showing the teaching of phonics explicitly is more efficient than teaching phonics in an embedded curriculum is the driving force behind this study.

The areas of phonemic awareness, alphabetic principle, phonics, fluency, vocabulary, and comprehension are “major instructional tasks and are inseparable parts of one total instructional process” (Rupley et al., 2009, p. 135). Embedding these important skills into an integrated curriculum does not always provide students the opportunity to grasp these concepts. If the students do not know these simple but important concepts, they could become struggling readers. An explicit approach, with as little as ten minutes a day, will help facilitate more fluent reading

(NRP, 2000).

Rasinski (2014) wrote that “those who are identified as struggling readers or who perform poorly on high stakes silent reading comprehension tests has found that poor reading fluency appears to be a major contributing factor to their poor reading” (p. 5). The CCSS identifies reading fluency as a foundational skill for reading, but an expanding body of research has shown that older grade students do not have adequate fluency levels in reading. Therefore, these students are experiencing difficulties with reading comprehension (Rasinski, 2014; Rasinski & Padak, 1998; Valencia & Buly, 2014).

A student must have the basic skills and foundational building blocks in order to become a successful, fluent reader. It is process that researchers have shown can be taught in a variety of ways. There is no overall consensus as to the best way to deliver these building blocks. The latest pendulum swing is to teach the skills in an embedded curriculum, but there is also a plethora of research showing teaching these steps of phonemic awareness, the alphabetic principle, and phonics skills systematically and explicitly works best for reading comprehension.

Debate, inevitably, will continue throughout the years. The proverbial pendulum will continue to swing as new research continues to be conducted. The important thing for educators is to be confident they have taught their students the basics of phonemic awareness, the alphabetic principle, and phonics in order for their students to become healthy, fluent readers.

## CHAPTER THREE: METHODS

### Introduction

The purpose of this study was to examine the effects of an explicit, systematic phonics reading program entitled, *Ten Minute Phonics*, written by Dr. Cindy Cupp on the reading fluency of kindergarten students. The program consisted of sixty pre-scripted lessons. The lessons incorporated music for teaching the alphabetic principle and games to teach phonics. The sample population consisted of students in six kindergarten classrooms. The study took place in a rural suburb in Georgia, about forty miles east of Atlanta. The target elementary school had approximately 1100 students. Seventy-five percent of the students qualified for free and reduced lunch.

The quasi-experimental study was conducted using a static group comparison design. The participants were placed in their kindergarten classrooms by the administration. The children were ranked based on their entrance exam on the Brigance (2010) test before being placed into their classrooms. The nine classes were balanced classes. Two classes, including students with special needs in the inclusion setting, were co-teaching classes and did not take part in this study. The researcher's class did not participate in the study.

This quasi-experimental quantitative study implemented a program, entitled *Ten Minute Phonics*, to examine the effects on reading fluency of kindergarten students. In the past ten years, most textbook companies embedded the teaching of phonics into the curriculum. Some research showed that students' fluency was better when phonics was taught explicitly. This study compared the students in the treatment groups' scores on the *STAR Early Literacy* to the students' scores in the control group classes. Three research questions drove this study, using the *STAR Early Literacy* test to measure the comparative achievement differences between the

treatment group and the control group. The research questions also examined the subdomains: alphabetic principle and phonics.

### **Design**

This quasi-experimental design is the most widely used in educational research because it does not disrupt preexisting, intact groups (Gall et al., 2007). The quasi-experimental design was used in this study because it was not possible to randomly assign participants to classrooms; therefore, this is considered a static group comparison design. The Brigance entrance exam (2010) was used by the administration to help balance each classroom. The classes appeared balanced.

The research attempted to show the teaching of explicit phonics is important to a student's overall reading readiness score when compared to students who are taught phonics through an embedded program.

### **Research Questions**

**RQ1:** Does the implementation of an explicit phonics program *Ten Minute Phonics* increase reading fluency with kindergarten students when compared to those who are taught through an integrated curriculum?

**RQ2:** Does the implementation of an explicit phonics program *Ten Minute Phonics* increase kindergarten students' knowledge of the alphabetic principle when compared to those who are taught the alphabetic principle through an integrated curriculum?

**RQ3:** Does the implementation of the phonics program *Ten Minute Phonics* increase kindergarten students' knowledge of phonics significantly when compared to those who are taught phonics through an embedded approach?

### **Null Hypotheses**

**H<sub>0</sub>1:** There is no significant difference in overall *STAR Early Literacy* Scores for students who participated in the *Ten Minute Phonics* program when compared to students' overall *STAR Early Literacy* Scores who did not receive the program.

**H<sub>0</sub>2:** There is no significant difference in the alphabetic principle subdomain scores on the *STAR Early Literacy* for students who participated in the *Ten Minute Phonics* program when compared to students' alphabetic principle subdomain of the *STAR Early Literacy* who did not receive the program.

**H<sub>0</sub>3:** There is no significant difference in the phonics subdomain scores on the *STAR Early Literacy* for students who participated in the *Ten Minute Phonics* when compared to students' phonics subdomain scores on the *STAR Early Literacy* who did not receive the program.

### **Participants**

At the end of the previous school year, all entering kindergarteners participated in the Brigance (2010) entrance exam for kindergarten. These scores were ranked by the administration. Children were placed in classrooms systematically to help ensure a balance between higher and lower performing students. Two classrooms reflected a co-teaching model. These two classrooms included students with special needs with Individualized Education Plans (IEPs) that called for inclusion.

The accessible population was nine kindergarten classrooms in the host school. The researcher eliminated her class as an option from this study, and also eliminated the co-teaching special education inclusion classes. Six of the remaining classes became a part of this study. Three classes were chosen as the control group. Three classes were chosen to be the treatment group.

The researcher met with the six teachers to gather data regarding their years of teaching experience, years of teaching kindergarten, and their thoughts on teaching phonics. After having all the information, the researcher determined which teachers would be included in the treatment group and which teachers would be in the control group. The researcher felt the most balanced approach would be to take the two with the most experience and place one in the treatment and one in the control group. The researcher also took the two teachers who were perceived by administration to be the strongest teachers and placed one in the treatment group and one in the control group. The other two were then placed randomly in the treatment and control group.

Four classrooms began the year with 22-23 children. Two classes began with 21. Sixty children participated in the treatment group, and 60 children participated in the control group. These were static groups, utilizing a cluster sampling. The 60 students chosen to participate in the treatment group and the 60 from the control group were determined by random selection (see Table 1).

The children ranged from age five to age seven. There were 64 males in the study and 56 females (see Table 1). Each classroom was serviced by the Early Intervention Program (EIP). Those students who qualified in the bottom 10% worked with the EIP teacher forty-five minutes a day. The school utilized a pull-out model for those students. They were included in the group population numbers.

Table 1

*Demographic of Sample Population*

Student Gender	Treatment	Control
Male	34	30
Female	26	30
Total	60	50

All six classroom teachers agreed to be a part of this study. The researcher gathered data from the six teachers regarding their years of teaching experience, years of teaching kindergarten, and interest in the phonics program before selecting which teachers would be the treatment groups. This strategy was used to help control internal validity by keeping those variables consistent among the treatment and the control groups.

### **Setting**

The elementary school was built four years ago. It sits in a rural suburb of Atlanta. Two smaller schools were completely closed and a third downsized to create the staff and children presently at the school. The enrollment is close to 1100. The school has one principal, three assistant principals, two counselors, two teacher leader coaches, and a technology coach.

The school's ethnic breakdown is 43% African American, 45% Caucasian, 7% Hispanic, 1% other, 4% Multi-Racial and 52% Male and 48% Female. The free and reduced lunch population consists of 75.8% (Georgia Department of Education, 2012). Early Intervention numbers show that 23% of the children qualify for extra support (SACS, 2012).

The school is a state of the art technology facility with two complete computer labs and

two smaller computer labs. Each classroom is equipped with a touch screen Promethean ActivBoard. The ActivBoard includes dual pens and a wand for students to use. Each classroom consists of four student computers and one teacher computer. The school has 150 iPads, 120 netbooks available in four separate labs, and 31 iPod-Touches for teachers to check out for classroom lessons.

Each classroom is equipped with an auditory system. Teachers have Promethean audio enhancing systems to wear around their necks while teaching, and each classroom has a handheld microphone as well. Teachers have access to either the Promethean ActivVotes or ActivExpressions voting systems to use with their children, too.

There are nine kindergarten classes in this particular school. Each class averages around 22 students. The administration attempts to balance the classes with entrance exam scores at the beginning of the year. As new children enter the school, they are placed in the classroom with the fewest children. The only exception is the two co-teaching special education classrooms.

Of the nine classes, three were chosen as the treatment group. The teachers were given instructions to complete four lessons a week. The lessons were ten minute explicit phonics lessons. They were scripted and easy to understand. There was a music element involved where children learned the alphabet through a phonetic song. There were games built into the lessons. The teachers in the treatment group were provided with all the materials and teacher's manuals needed to complete all sixty lessons.

These sixty lessons were conducted in a small group setting during the regular reading and language arts time, so no extra language arts time was added to the treatment groups than the control groups. The control group followed the lesson plans provided by the county during small group time.

### **Instrumentation**

The *STAR Early Literacy* test was administered as a posttest after the implementation of the phonics program. The *STAR Early Literacy* test is a computer-based reading test that examines ten domains and computes the scores on those ten domains for an overall student reading readiness score.

The *STAR Early Literacy* assessment is a computer-based literacy test which measures students' overall reading readiness by utilizing questions in the areas of the alphabetic principle, concept of word, visual discrimination, phonics, structural analysis, vocabulary, sentence-level comprehension, phonemic awareness, paragraph-level comprehension, and early numeracy (Renaissance Learning, Inc., 2012). The *STAR Early Literacy* assessment uses adaptive methods technology. As a student answers a question, the test adapts by giving more difficult questions or easier questions. According to the Renaissance Learning, Inc. website (2012), "In order to compare the scores and determine a normed-reference score, all scores are converted to a common scale. This score is then reported as a scale score to the teacher" (Renaissance Learning, Inc., 2012).

The scaled score places the child in one of four areas: Early Emergent Reader, Late Emergent Reader, Transitional Reader, or Probable Reader. The scores can range from 0-900. An oral reading fluency score is available for first through third graders, but is not available for kindergarten students.

During the beginning benchmark a student who scores between a 0-388 on the overall scaled score is considered in need of urgent intervention or immediate Response to Intervention (RTI). A student who scores in the range from 389-431 is in need of intervention but not urgent. A student who scores in the range from 432-468 is considered a child to be watched for possible

academic intervention. A student who scores 469 or above on the STAR's scaled score is considered at or above benchmark. At each benchmark, the goal increases, and the students must achieve higher scaled scores to assess at or above the benchmark (Renaissance Learning, Inc., 2012).

According to Gall et al. (2007), "Test-retest reliability is an approach to estimating test score reliability that involves examination of the occasion of test administration (p. 201).

Published findings from Renaissance Learning, Inc. (2012) showed the *STAR Early Literacy* assessment to be valid and reliable. The overall reliability of the STAR test, as reported by Renaissance Learning, Inc. (2012), ranges from .91 to .92. Graham and Ward, reviewers listed in the Mental Measurement Yearbook (2001-2006), reported the test-retest reliability of the *STAR Early Literacy* at .87 and .86 respectively. In the Mental Measurement Yearbook (2001-2006) Graham stated, "It is appropriate to use the *STAR Early Literacy* for individual readiness screening and overall early literacy assessment (p. 240).

According to Gall et al. (2007), "Validity is the degree to which evidence and theory support the interpretation of test scores entailed by proposed use of other test" (p. 195).

Renaissance conducted validity studies by using different normed criterion-referenced tests and found those to be in a .64-.90 range depending on the test. Renaissance Learning Inc. also provided reliability numbers broken down by gender and race on their website (2012). The reliability numbers for *STAR Early Literacy* assessment ranged from .88-.92 (Renaissance Learning, Inc., 2012).

### **Procedures**

The researcher gained proper permission from the Principal to conduct the research. The researcher obtained permission from Liberty University's Institutional Review Board (IRB).

(See Appendix C). According to the guidelines, no permission from parents or students was required because the students would be participating in the regular curriculum.

The classes were formed before the study by the administration. The researcher chose three classes to be the treatment group and three classes to be the control group. The treatment group utilized the program *Ten Minute Phonics* written by Dr. Cindy Cupp to teach explicit phonics. The control group taught phonics utilizing the embedded curriculum already in place.

The treatment group implemented sixty lessons from Dr. Cindy Cupp's, *Ten Minute Phonics* activities. The treatment group teachers were provided with the teacher's manual, which included scripted lessons, the toolbox, and the game materials. The teachers were instructed to teach the lessons for only ten minutes a day, four days a week, in small group settings during the regular reading time period. It took fifteen weeks for the treatment group to finish the sixty lesson plans. The four days a week gave teachers flexibility in case of unforeseen conflicts in their schedules. The treatment group taught the Common Core lessons provided by the county, but taught the phonics portion of their lesson plans by following the treatment program. The fifth day of the week, the teachers followed the regular Common Core activities. No additional time was added to the treatment groups reading program.

The control group began teaching the reading curriculum using the Common Core lesson plans provided by the county. Phonics is embedded as part of this curriculum. Reading groups are required to be taught in small groups in the county. This ensured the treatment and the control groups both introduced the lessons in the small group form. At the conclusion of the fifteen weeks, a posttest was conducted using the *STAR Early Literacy* Reading test. The *STAR Early Literacy* Reading test provided an overall scaled score and scores on each subtest for each student. The computer-based program helped to control for internal validity because the test was

conducted individually with no adult interaction.

### **Data Analysis**

The purpose of this study was to examine the effects of an explicit, systematic phonics reading program entitled, *Ten Minute Phonics*, written by Dr. Cindy Cupp, on the reading fluency of kindergarten students. This study utilized a static group comparison design. The students were administered the *STAR Early Literacy* test as a posttest to determine if there is a statistical difference between the overall mean scores of the treatment group and control group in the overall scaled scores, alphabetic principle, and phonics subdomains.

The independent variable in this study was the program, *Ten Minute Phonics*. The dependent variable is the mean scores on the *STAR Early Literacy* test. All data were analyzed using the Statistical Package for the Social Sciences (SPSS) Version 22.

Descriptive statistics were run to determine the mean and the standard deviations. The Shapiro Wilks Assumptions test was conducted to check for normality between the groups with a significance level set at  $p > .05$ . A Levene's test was run to check for homogeneity of variance with the significance level set at  $p > .05$ .

Independent sample *t* tests were conducted on overall scaled scores and the subdomain scores of alphabetic principle and phonics to determine if there was no significant difference between the control group and the experimental group. Warner (2013) suggested the use of independent samples *t* test to determine if the means differ between two groups.

## CHAPTER FOUR: FINDINGS

### Research Questions

As stated in chapter one, the researcher undertook this study to ascertain the effects of the program, *Ten Minute Phonics*, on kindergarten reading readiness scores when compared to students who did not participate in the program. The purpose of this study was to determine if the *Ten Minute Phonics* program affected kindergarten reading readiness scores. The information will assist the county in deciding whether an explicit phonics program is useful for the schools.

All data analysis was run utilizing the SPSS PASW Statistical 22.0 software. The findings of this study are reported in this chapter and address these three research questions presented in chapter one:

**RQ1:** Does the implementation of *Ten Minute Phonics* increase reading fluency with kindergarten students when compared to those who are taught through an integrated curriculum?

**RQ2:** Does the implementation of *Ten Minute Phonics* increase kindergarten students' knowledge of the alphabetic principle when compared to those who are taught the alphabetic principle through an integrated curriculum?

**RQ3:** Does the implementation of *Ten Minute Phonics* increase kindergarten students' knowledge of phonics when compared to those who are taught phonics through an integrated curriculum?

The data collected from this quasi-experimental quantitative study were analyzed to determine if the mean difference between the treatment and control group were significant. The results were examined to determine if the phonics program, *Ten Minute Phonics*, raised kindergarten reading readiness scores significantly when compared to students who participated in the integrated curriculum.

The dependent variable was the overall scaled score on the STAR Early Literacy test, the alphabetic principle subtest, and the phonics subtest. The independent variable was the program *Ten Minute Phonics* by Dr. Cindy Cupp. Three classes were in the treatment group, and three classes were in the control group.

### **Hypotheses**

The researcher developed these hypotheses based on the research questions presented:

**H<sub>0</sub>1:** There is no significant difference in overall *STAR Early Literacy* Reading Scores for students who participated in the *Ten Minute Phonics* program when compared to students' overall *STAR Early Literacy* Reading Scores who did not receive the program.

**H<sub>0</sub>2:** There is no significant difference in the alphabetic principle subdomain scores on the *STAR Early Literacy* Reading for students who participated in the *Ten Minute Phonics* program when compared to students' alphabetic principle subdomain of the *STAR Early Literacy* Reading who did not receive the program.

**H<sub>0</sub>3:** There is no significant difference in the phonics subdomain scores on the STAR Early Literacy Reading for students who participated in the *Ten Minute Phonics* program when compared to students' phonics subdomain scores on the *STAR Early Literacy* Reading who did not receive the program.

### **Descriptive Statistics**

The sample involved included 128 students. Eight students moved during the course of the research, and 120 students completed the program. Sixty-four students were males and 62 were females. Both groups had a total of 60 students who completed the program. The overall mean was 600.58, the median was 601, and the mode was 560 for the overall scaled scores as reported by SPSS Version 22. The treatment group scaled score statistics report as ( $N_0 = 60$ )  $M$

= 616.45,  $SD = 85.76$ . Of those 60 students, 34 were males and 26 were females. The control group scaled statistics report as ( $N_1 = 60$ )  $M = 584.70$ ,  $SD = 82.50$  (see Table 2). Of those 60 students in the control group 30 were males and 30 were females.

Table 2

*Descriptive Statistics for Overall Scaled Scores*

	Group	$N$	$M$	$SD$	$SEM$
Ss	0	60	616.45	85.760	11.072
	1	60	584.70	82.503	10.651

*Note.* ( $N_0 = 60$ )  $M = 616.45$ ,  $SD = 85.76$ ; ( $N_1 = 60$ )  $M = 584.70$ ,  $SD = 82.50$

The descriptive statistics for the alphabetic principle subdomain group were as follows: The mean was 79.12, the median was 75, and the mode was 69 as reported by SPSS Version 22. The descriptive statistics for the treatment group in the alphabetic principle subdomain were reported as ( $N_0 = 60$ )  $M = 75.38$ ,  $SD = 11.83$ . In the control group for the alphabetic principle, the descriptive statistics are ( $N_1 = 60$ )  $M = 71.60$ ,  $SD = 11.59$  (see Table 3).

Table 3

*Descriptive Statistics for Alphabetic Principle*

	Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
AP	0	60	75.38	11.827	1.527
	1	60	71.60	11.588	1.496

*Note.* ( $N_0 = 60$ )  $M = 75.35$ ,  $SD = 11.83$ ; ( $N_1 = 60$ )  $M = 71.60$ ,  $SD = 82.50$

The descriptive statistics for the phonics subdomain group were as follows: The mean was 49.26, the median was 49, and the mode was 43 as reported by SPSS Version 22. The descriptive statistics for the treatment group were reported as ( $N_{01} = 60$ )  $M = 52.30$ ,  $SD = 14.57$  and for the control group were reported as ( $N_1 = 60$ )  $M = 46.22$ ,  $SD = 13.57$  (see Table 4).

Table 4

*Descriptive Statistics for Phonics*

	Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
PH	0	60	52.30	14.569	1.881
	1	60	46.22	13.565	1.751

*Note.* ( $N_0 = 60$ )  $M = 52.30$ ,  $SD = 14.57$ ; ( $N_1 = 60$ )  $M = 46.22$ ,  $SD = 13.57$

## Results

### Normality Testing

Test of normality were completed, and histograms, normal QQ plots, scatter plots, and box plots were produced for each group. All data were normally distributed. The histograms below show the data fell within the bell-shaped curve, and can be referenced in Figure 1 and Figure 2. Thus, normality is tenable.

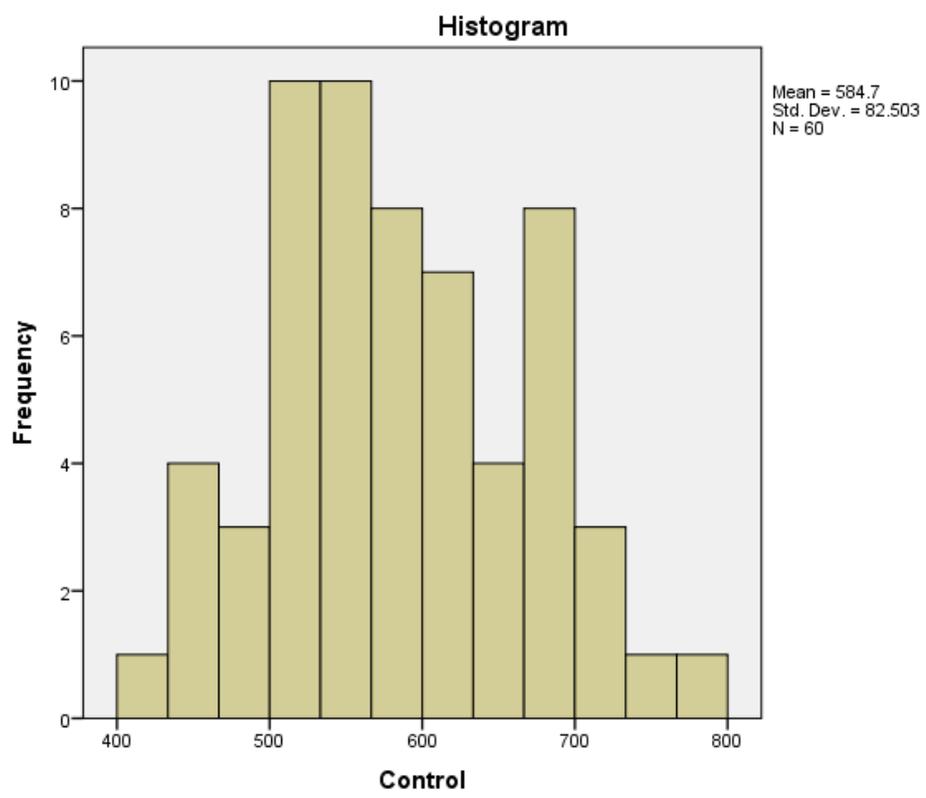
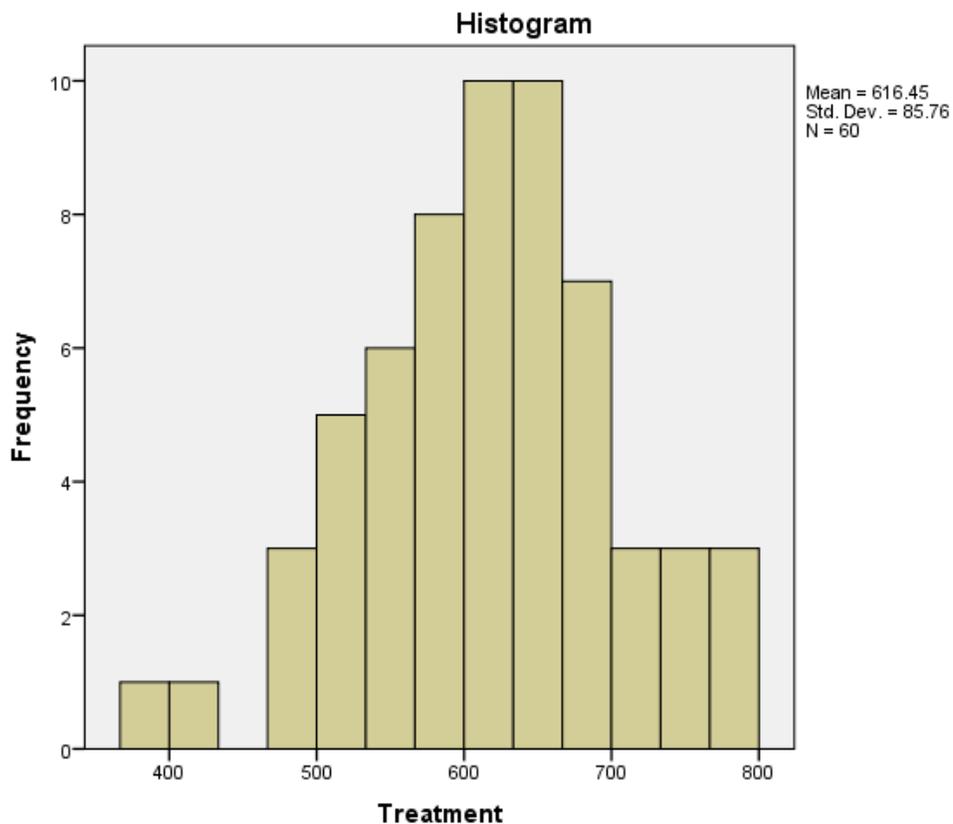


Figure 1. Histogram of control group.



*Figure 2.* Histogram of treatment group.

Shapiro-Wilk's test ( $p > .05$ ) was conducted to further determine if the groups were normally distributed because the sample was less than 5000. The test shows no significant difference between the treatment and the control group due to reported values being above  $p > .05$ . Therefore the assumption is made that groups are normally distributed. The results of the Shapiro-Wilk's test are shown in table six

Table 5

*Tests of Normality*

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	<i>Df</i>	Sig.	Statistic	<i>df</i>	Sig.
Treatment	.061	60	.200*	.982	60	.515
Control	.068	60	.200*	.982	60	.505

*Note.* \*This is a lower bound of the true significance.

**Null Hypothesis One**

The first research question attempted to ascertain whether or not the *Ten Minute Phonics* program had a significant effect on overall kindergarten reading readiness scores. The first  $H_0$  states, “There is no significant difference in overall STAR Early Reading Scores for students who participated in the *Ten Minute Phonics* program when compared to students’ overall STAR Early Literacy Reading Scores who did not receive the program.” To obtain the answer to this question, both the treatment group and the control group took the STAR Early Literacy Reading test, and the overall scaled scores were compared to determine if a significant difference between means was shown.

An independent samples *t* test was performed to assess if there was a statistical significant difference in the treatment group mean, who received the *Ten Minute Phonics* program, and the control group mean. The test of homoscedasticity was conducted to assess the equality of the variances between the two groups using the Levene test,  $F = .008$ ,  $p = .930$ ,  $\alpha < .05$ , which indicated no significant violation of the equal variance assumption; therefore, the pooled variances version of the independent samples *t* test was used. According to the results,

(see Table 6), the mean of the treatment group differed significantly,  $t(118) = 2.07$ ,  $p = .041$ ,  $\alpha < .05$ , two tailed. The mean for the treatment group ( $M = 52.30$ ,  $SD = 14.57$ ) was a little more than six points higher than the control group mean ( $M = 46.22$ ,  $SD = 13.57$ ). The effect size, as indexed by  $\eta^2$ , was .04 which is small effect size. The 95% CI for the difference between sample means,  $M_1 - M_2$ , had an upper bound of 62.17 and a lower bound of 1.33. According to Warner (2013), “Researchers hope to find a relatively large difference between  $M_1 - M_2$ ” (p. 188). The degrees of freedom for this study were greater than 100 and  $\alpha = .05$ . When the two-tailed,  $t$  ratio is greater than 1.96 in absolute value, according to Warner (2013), the  $t$  value is large enough to be judged statistically significant. In this study,  $t$  critical is 1.98 with 120 participants. Therefore, a  $t$  score of 2.07 is considered significant with  $\alpha = .05$ . This study suggested that participating in the *Ten Minute Phonics* program may significantly increase kindergarten reading readiness overall scores. Therefore, the null hypothesis is rejected.

Table 6

*Independent Samples t test for Overall Scaled Scores*

		<i>t</i> test for Equality of Means						
		T	Df	Sig. (2-tailed)	M difference	SE difference	95% Confidence Interval of the Difference	
							Lower	Upper
ss	Equal variances assumed	2.067	118	.041	31.750	15.363	1.327	62.173

## Null Hypothesis Two

The second research question attempted to ascertain if the subdomain, alphabetic principle, is statistically significantly affected by the *Ten Minute Phonics* program. The second H<sub>0</sub>2 stated, “There is no significant difference in the alphabetic principle subdomain scores on the *STAR Early Literacy* Reading for students who participated in the *Ten Minute Phonics* program when compared to students’ alphabetic principle subdomain of the *STAR Early Literacy* Reading who did not receive the program.” To obtain the answer to this question, both the treatment group and the control group took the *STAR Early Literacy* Reading test, and the alphabetic subdomain scores were evaluated and compared to determine if a significant difference between means was evident.

An independent samples *t* test was performed to assess if there was a statistical significant difference in the treatment group mean, who received the *Ten Minute Phonics* program, and the control group mean. The test of homoscedasticity was conducted to assess the equality of the variances between the two groups using the Levene test,  $F = 1.36, p = .71, \alpha < .05$ , which indicated no significant violation of the equal variance assumption; therefore, the pooled variances version of the independent samples *t* test was used. According to the results, (see Table 7), the mean of the treatment group did not differ significantly,  $t(118) = 1.77, p = .08, \alpha < .05$ , two tailed (see Table 5). The mean for the treatment group ( $M = 75.38, SD = 11.83$ ) was a little more than 3 points higher than the control group mean ( $M = 71.60, SD = 11.59$ ). The effect size, as indexed by  $\eta^2$ , was .03 which is small effect size. The 95% CI for the difference between sample means,  $M_1 - M_2$ , had an upper bound of 8.01 and a lower bound of -.450. According to Warner (2013), “Researchers hope to find a relatively large difference between  $M_1 - M_2$ ” (p. 188). The degrees of freedom for this study were greater than 100 and  $\alpha = .05$ . When

the two-tailed,  $t$  ratio is greater than 1.96 in absolute value, according to Warner (2013), the  $t$  value is large enough to be judged statistically significant. In this study  $t$  critical is 1.98 with 120 participants. Therefore, a  $t$  score of 1.77 is considered not to be significant with  $\alpha = .05$ . This study suggested that participating in the *Ten Minute Phonics* program may not significantly increase kindergarteners' alphabetic principle knowledge. Therefore, the researcher failed to reject  $H_02$ .

Table 7

*Independent Samples t test for Alphabetic Principle*

<i>t</i> test for Equality of Means								
AP	Sig.	T	<i>df</i>	Sig. (2-tailed)	<i>M</i> difference	<i>SE</i> difference	95% Confidence Interval of the Difference	
							Lower	Upper
Equal variances assumed	.713	1.770	119	.079	3.783	2.138	-.450	8.016

**Null Hypothesis Three**

The third research question attempted to ascertain if the subdomain, phonics, is statistically significantly affected by the *Ten Minute Phonics* program. The second  $H_03$  stated, "There is no significant difference in the phonics subdomain scores on the *STAR Early Literacy Reading* for students who participated in the *Ten Minute Phonics* program when compared to students' phonics subdomain of the *STAR Early Literacy Reading* who did not receive the program." To obtain the answer to this question, both the treatment group and the control group

took the *STAR Early Literacy Reading* test, and the phonics subdomain scores were evaluated and compared to determine if a significant difference between means was evident.

An independent samples *t* test was performed to assess if there was a statistical significant difference in the treatment group mean, who received the *Ten Minute Phonics* program, and the control group mean. The test of homoscedasticity was conducted to assess the equality of the variances between the two groups using the Levene test,  $F = .02$ ,  $p = .89$ ,  $\alpha < .05$ , which indicated no significant violation of the equal variance assumption; therefore, the pooled variances version of the independent samples *t* test was used. According to the results, (see Table 8), the mean of the treatment group differed significantly,  $t(118) = 2.37$ ,  $I = .02$ ,  $\alpha < .05$ , two tailed. The mean for the treatment group ( $M = 52.30$ ,  $SD = 14.57$ ) was a little more than six points higher than the control group mean ( $M = 46.22$ ,  $SD = 13.57$ ). The effect size, as indexed by  $\eta^2$ , was .05 which is small effect size. The 95% CI for the difference between sample means,  $M_1 - M_2$ , had an upper bound of 11.17 and a lower bound of .994. According to Warner (2013), “Researchers hope to find a relatively large difference between  $M_1 - M_2$ ” (p. 188). The degrees of freedom for this study were greater than 100 and  $\alpha = .05$ . When the two-tailed, *t* ratio is greater than 1.96 in absolute value, according to Warner (2013), the *t* value is large enough to be judged statistically significant. In this study *t* critical is 1.98 with 120 participants. Therefore, a *t* score of 2.37 is considered to be significant with  $\alpha = .05$ . This study suggested that participating in the *Ten Minute Phonics* program may significantly increase kindergarteners’ phonics knowledge. Therefore, the null hypothesis is rejected.

Table 8

*Independent Samples t test for Phonics*

		<i>t</i> test for Equality of Means						95% Confidence Interval of the Difference	
		Sig.	T	<i>df</i>	Sig. (2-tailed)	<i>M</i> difference	<i>SE</i> difference	Lower	Upper
PH	Equal variances assumed	.889	2.367	118	.020	6.083	2.570	.994	11.172

## CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

### Discussion

The purpose of this study was to determine if the program *Ten Minute Phonics* made a significant impact on overall kindergarten reading readiness scores, and in the areas of the alphabetic principle, and phonics as determined by the *STAR Early Literacy* reading assessment. The study involved 120 kindergarten students in heterogeneous classrooms. Three classrooms participated in an explicit phonics program, *Ten Minute Phonics*. Three classrooms participated in the regular curriculum. At the conclusion of the study, the students completed the *STAR Early Literacy* exam, and the data was gathered and analyzed to determine if significant differences in the mean scores of the two groups were present.

Many researchers concluded teaching phonics, directly and explicitly, is an important step to a child's reading readiness (Beverly et al., 2009; McKay & Thompson, 2009; NRP, 2000; Schwanenflugel et al., 2004). This study sought to bring the research back to the forefront and to determine if the *Ten Minute Phonics* program would raise reading readiness scores.

The first research question, "Does the implementation of an explicit phonics program increase reading fluency with kindergarten students when compared to those who are taught through an integrated curriculum?" was created to ascertain if the overall scaled scores between the treatment group and the control group were significantly different. The data showed a significant difference in the mean overall scaled scores of the treatment group versus the overall scaled scores of the control group.

According to Villaume and Brabham (2003), "A systematic, planned schedule for phonics lessons is an important feature of effective phonics instruction" (p. 481). Phonics teaching is "too important to leave to chance" (p. 482). The study findings concurred with much

of the research available that teaching phonics directly and explicitly is important to students' reading readiness and helps foster better fluency. The treatment group participated in an explicit phonics program, and their mean overall scaled scores were higher than those in the control group who were not taught phonics through an explicit phonics program.

The overall scaled scores encompassed eight sub areas that tested thirty-two skills in order to compute a clear reading readiness score. To look at the overall reading readiness score was important for the researcher to determine if there was a significant difference between the treatment and control group. In this study, the overall scaled mean scores of the treatment group were higher than the control group. After controlling for internal and external validity, the researcher believed the *Ten Minute Phonics* program implementation was the reason for the differences in the mean of the treatment group and the control group. Vadasy and Sanders' (2008) meta-analysis study showed that the teaching of systematic phonics increases reading ability. Fuchs' et al. (2004) research showed that students who were better phonetic decoders were more fluent readers. The *STAR Early Literacy* test scores showed that students, who decode better, have higher reading readiness scores.

The second research question focused on the subdomain of the alphabetic principle. The question, "Does the implementation of an explicit phonics program, *Ten Minute Phonics*, increase kindergarten students' knowledge of the alphabetic principle when compared to those who are taught the alphabetic principle through an integrated curriculum?" looked specifically to determine if the program increased the treatment groups' mean alphabetic principle score when compared to the control group.

The results determined there was no significant difference between the treatment group mean and the control group. According to Juel (1991), "The alphabetic principle teaches

children the name of the letters and the sounds letters make. Letter-sound knowledge is prerequisite to effective word identification” (p. 778).

The results from the study showed that kindergarten students learn letters and sounds in a variety of ways in the classroom, and the explicit phonics program could not be deemed better at teaching these skills than an embedded curriculum.

Children must grasp the sounds the letters make in order to learn to phonetically sound out and spell words. Learning these skills is the beginning of being able to attack unknown words. Juel (1991) stated, “A primary difference between good and poor readers is the ability to use letter-sound correspondence to identify words” (p. 782). The steps to reading builds one to another and missing one of these important skills can be detrimental to a reader, especially a struggling reader.

The alphabetic principle initially comprises the individual letter sounds and progress to more complex letter combinations. It then moves to sounding out consonant vowel consonant (CVC) words and progresses to more compound words (Kamil, 2004). Ehri (1995) believed, “During the alphabetic phase, reading must have lots of practice phonologically recoding the same words to become familiar with spelling patterns” (p. 120). The children in the treatment group performed just as well on this subdomain of the test as did the control group. The *Ten Minute Phonics* program taught the alphabetic principle to the treatment group as well as the embedded curriculum did for the control group. Thus, as shown by the data, the alphabetic principle can be taught successfully in a multitude of ways.

The third research question focused on the phonics subdomain of the test. “Does the implementation of the phonics program, *Ten Minute Phonics*, increase kindergarten students’ knowledge of phonics significantly when compared to those who are taught phonics through an

embedded approach?” The study data showed a significant difference in the treatment group’s phonics subdomain score and the control group’s subdomain score.

Phonics is explained as the understanding that a predictable relationship exists between the sounds of spoken language, letters, and spellings that represent the sounds in the written language. It begins when written print is introduced with these spelling patterns (Jones & McDonald, 2007). The teaching of phonics moves the alphabetic principle from being phonemes and letter patterns to the written word. Spelling rules are introduced. The data in this study showed the treatment group, who were taught phonics directly and explicitly, had a mean score higher than those who were taught simply through the regular language arts curriculum. According to Ehri et al. (2001), “systematic phonics instruction helped children learn to read better than all forms of the control groups including whole language” (p. 393).

The findings of this study add to the plethora of research available that points to the benefits of teaching explicit phonics instruction for young children and especially at risk students (Blachman et al., 2004; Kamil, 2004; NRP, 2000; Torgesen et al., 1999; Vadasy & Sanders, 2010).

### **Conclusions**

This study added to the previous research on the teaching of explicit phonics and showed the use of the phonics program, *Ten Minute Phonics*, made a significant difference in overall mean scaled scores and phonics mean subdomain scores of the *STAR Early Literacy Reading* test. It should be noted that the phonics subdomain mean scores in the treatment group were significantly higher than the control group. The students in the treatment group’s mean scores were higher in two of the three readiness scores than those in the control group.

It is also noteworthy to mention the alphabetic principle subdomain mean score was not

significant in the treatment group when compared to the control group. It was determined that the focus on letter recognition is taught well in kindergarten despite not having an explicit phonics program that included the learning of letters and their sounds.

Teaching letters and sounds are part of the basic foundation of reading in kindergarten. The study showed no significant difference between the two groups. The researcher believed this outcome supports the efforts of teaching the letters and the sounds the letters make in a variety of ways. At the study school, both the treatment and the experimental teachers were doing an adequate job of teaching this skill with or without a phonics program in place.

The teaching of phonics in the classroom has been a major topic of contention for decades. Much of the published research showed the benefits of teaching phonics and labels it an invaluable piece to a child's ability to read (Adams 1990; Armbruster, 2010; Beverly et al., 2009; Cassidy et al., 2010; Pikulski & Chard, 2007). However, researchers still do not agree on the best method to deliver this invaluable piece of the puzzle to children.

Although an embedded curriculum seeks to teach phonics skills, an explicit phonics program targets specific decoding skills that are not taught necessarily through direct instruction in an embedded curriculum. An explicit program seeks to teach students specific skills in spelling and decoding (Rasinski, Rupley, Nichols, 2008a). These skills help the student read more fluently. A good, fluent reader learns to not decode every word, but to quickly attack the unknown words to decipher the meaning (Devault, & Joseph, 2004; Rasinski et al., 2008b; Thompson et al., 2008). A student who reads fluently comprehends more efficiently.

This study affirmed that taking ten minutes a day to teach specific phonics skills could significantly raise a group of kindergarten students' reading readiness scores. The phonics subdomain scores were overwhelmingly higher in the treatment group when compared to those

in the control group. The study added more positive research to the debate between the importance of teaching phonics explicitly or teaching the skill in an embedded curriculum. The research affirmed the kindergarten students' need to acquire phonetic skills in order to become a successful reader.

The researcher believed the rise in the phonics subsection attributed to the rise in the overall scaled scores of the group. The treatment group's success on the decoding section of the *STAR Early Literacy* test raised their overall early literacy score. The researcher looks at this as a positive outcome and adds more positive research to the debate over teaching phonics explicitly, embedded, or not at all. The researcher showed in this study that the teaching of phonics in a direct way is important to helping children develop the alphabetic principle and build toward better fluency in reading.

### **Implications**

Learning to read is the core of every child's ability to become successful in life. Children learn to read through systematic steps. Children who learn phonics systematically and learn to apply those skills in all curriculum areas become better readers (Blachman et al., 2004; Bradley & Bryant, 1983; Byrne & Fielding-Barnsley, 1989; Kamil, 2004; NRP, 2000; Torgesen et al., 1999; Vadasy & Sanders, 2010).

This study showed that the teaching of phonics in an explicit, scripted manner helped kindergarten students' reading readiness scores to rise. The question of whether the teaching of phonics is important has gone through the proverbial pendulum swing through the last several decades. This study sought to add newer research to the mix of past research. Not many studies have been conducted lately on the delivery methods of phonics and which one works best. This researcher examined the differences in an explicit phonics program and an embedded curriculum

plan.

Although the study showed that kindergarten students, who were taught phonics explicitly, did better than those taught through an embedded curriculum, it would be interesting to perform more research and to expand this study to other test such as *Dynamic Indicators of Basic Early Literacy Skills*, or the *Basic Literacy Test* to see if the results could be duplicated. Utilizing this research, the school system should do an internal study to see if the other ten elementary schools in the county obtained the same results.

Both delivery methods have their merits, according to research. In this study, the students in the treatment group, who received the explicit phonics instruction, performed better on the *STAR Early Literacy* test than those who learned phonics in the embedded curriculum. The county utilizes the *STAR Early Literacy* test as the benchmark test for kindergarten students. The county also uses these benchmarks as part of the teachers' effectiveness evaluations. This program definitely will benefit teachers' evaluation if the results can be duplicated. The researcher will present these new findings to the school system and show the benefits of teaching phonics systematically.

### **Limitations**

The assumption was made that all kindergarten teachers were trained on the *STAR Early Literacy* test. The assumption was made that all kindergarten teachers had been trained on the regular curriculum for kindergarten.

The researcher believed there were several limitations that could have affected the outcome of the study. The study had eight participants, three from the control group and five from the treatment group, withdraw from the host school during the treatment. The loss of participants was low considering the transient nature of this school. However, experimental

mortality, or attrition, can threaten internal validity if it causes “differential loss of participants across treatments” (Gall et al., 2007, p. 396). The researcher had no control of the number of students who withdrew from the school due to county residential policies. Students must attend school within the district they reside.

History could have affected the outcome of the study. The students completed the *Ten Minute Phonics* program over a fifteen week period. The students were learning and gaining knowledge in other areas such as sight word recognition and writing skills. Students who excel quickly could have learned phonics skills in other areas of the curriculum naturally in the control group or treatment groups. Gall et al. (2007) believed history, or the learning over a period of time, can be reflected in students’ scores.

Students who have better learning environments or better teachers can gain more knowledge than those in other classes. The researcher attempted to control this threat to internal validity by evenly matching teachers to the control or treatment groups. The researcher was not available to monitor the classroom environment to determine if the learning environments greatly differed.

The study participants all hailed from one elementary school. The sample population could be generalized to all other elementary schools in this particular suburban school district, but the results may not be a representation of all kindergarten students. The population selected was from an “experimentally accessible population” (Gall et al., 2007, p. 388). According to Gall et al. (2007), it is acceptable to have a smaller sample population chosen from an experimentally accessible population but generalizing the results to a target population could be risky (p. 389).

The researcher determined which teachers would be in the control group and which teachers would be in the treatment groups. Based on the number of years a teacher had worked, had taught kindergarten, and their preference for phonics determined which group they were placed. This helped to keep a balance between veteran teachers and newer teachers.

### **Recommendations for Future Research**

This study sought to bring back to the forefront the debate between explicit phonics and phonics taught through integrated units. Much of the benchmark and the milestones research on the teaching of traditional phonics are over ten years old. The debate continues. The researcher attempted to provide more current evidence on the benefits of teaching phonics through an explicit program.

This study looked at a small sample population from one elementary school. The researcher would recommend a broader study with a bigger population across the county schools or other county elementary schools to attempt to replicate the results.

Replicating this study with a review of mean gain scores between a pretest and a posttest after the implementation of the *Ten Minute Phonics* program would be beneficial. The county looks at benchmarks three times a year to determine if students are progressing. If the gain scores were significant between the control group and treatment group, it would be easier to contribute the differences to the phonics program rather than outside influences.

Other reading based assessments such as the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) could be used to verify the results of this study. DIBELS is an individual based test that requires an individual teacher to interact and record results. DIBELS are comprised of seven measures, much like the *STAR Early Literacy* test, to function as indicators of phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading

comprehension, and vocabulary. Thus, many of the same outcomes can be determined by using the DIBELS test. The *STAR Early Literacy* test, however, required no teacher interaction; therefore, it was chosen for this study to eliminate tester bias.

A study that followed these same groups of students through second grade would be beneficial to determine if the treatment groups' reading scores would stay higher than the control groups' scores. A study that taught explicit phonics to the treatment group over the course of three years compared to the control group would be interesting to determine if the treatment group had higher reading test scores than the control group on any given standardized test.

Studies that implement a true experimental design should be conducted to determine if the program *Ten Minute Phonics* is responsible for the significant differences in the mean scores or if the treatment groups' results were caused by another contributing factor. The researcher should pay close attention to the delivery method, the testing method, and the data collection to control for any possible internal and external validity issues.

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**APPENDIX A: Treatment Groups Data**

STUDENT	SCALED SCORE	ALPHABETIC PRINCIPLE	PHONICS
TREATMENT			
1	591	74	48
2	649	81	58
3	609	76	51
4	608	76	51
5	629	78	54
6	684	84	64
7	596	74	49
8	635	79	55
9	643	80	57
10	657	82	59
11	712	87	68
12	549	68	41
13	583	72	46
14	577	72	46
15	621	77	53
16	560	69	43
17	753	91	76
18	616	77	52
19	767	92	78
20	681	84	63
21	599	75	49
22	519	63	36
23	718	88	69
24	689	85	65
25	557	69	42
26	633	79	55
27	636	79	56
28	475	55	28
29	497	59	32
30	778	93	80
31	391	34	14
32	765	92	78
33	501	60	33
34	504	60	33
35	691	85	65
36	574	71	45
37	619	77	53

38	645	80	57
39	640	80	56
40	675	84	62
41	410	39	17
42	775	93	79
43	761	91	77
44	642	80	57
45	668	83	61
46	556	69	42
47	620	77	53
48	581	72	46
49	665	82	60
50	632	79	55
51	513	62	35
52	500	59	33
53	609	76	51
54	535	66	39
55	645	80	57
56	689	85	65
57	705	86	67
58	523	63	36
59	560	69	43
60	572	71	45

**APPENDIX B: Control Groups Data**

CONTROL GROUP	SCALED SCORE	ALPHABETIC PRINCIPLE	PHONICS
61	591	74	48
62	616	77	52
63	698	86	66
64	604	75	50
65	574	71	45
66	536	66	39
67	562	70	43
68	751	91	75
69	552	68	41
70	518	63	36
71	528	64	37
72	693	85	65
73	605	75	50
74	642	80	57
75	571	71	45
76	709	87	68
77	603	75	50
78	451	49	24
79	505	60	33
80	457	51	25
81	669	83	61
82	546	67	40
83	590	73	48
84	693	85	65
85	588	73	47
86	427	44	20
87	657	82	59
88	564	70	43
89	526	64	37
90	514	62	35
91	523	63	36
92	678	84	63
93	559	69	42
94	683	84	64
95	614	77	52
96	588	73	47
97	778	93	80

98	670	83	61
99	653	81	58
100	540	66	39
101	709	87	68
102	569	71	44
103	624	78	53
104	488	57	31
105	627	78	54
106	689	85	65
107	532	65	38
108	524	64	37
109	517	62	35
110	509	61	34
111	649	81	58
112	561	69	43
113	439	47	22
114	710	87	68
115	439	47	22
116	483	56	30
117	560	69	43
118	595	74	49
119	482	56	30
120	550	68	41

**APPENDIX C: IRB Permission****LIBERTY UNIVERSITY  
INSTITUTIONAL REVIEW BOARD**

June 3, 2014

Shannon Price

IRB Exemption 1894.060314: The Teaching of Explicit Phonics and Its Effect on Kindergarten Reading Readiness Scores

Dear Shannon,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and that no further IRB oversight is required.

Your study falls under exemption category 46.101 (b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please note that this exemption only applies to your current research application, and that any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption, or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at [irb@liberty.edu](mailto:irb@liberty.edu).

Sincerely,

**Fernando Garzon, Psy.D.** *Professor, IRB Chair* **Counseling (434) 592-4054** *Liberty*

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**APPENDIX D: School Permission**

Date: May 19, 2014

Dear IRB committee at Liberty University:

Shannon Price has my permission to conduct research at (school name omitted to protect privacy) as part of her requirements for her doctoral program. I understand the research will involve kindergarten students and the use of data from Star Early Literacy scores.

Mrs. Price has presented her plan to secure data, to acquire parental permission, and student's permission to participate in the study. I understand that taking part in this study is completely voluntary and participants may discontinue participation at any time.

I look forward to Mrs. Price completing her research at (school name omitted to protect privacy), in (county omitted to protect privacy), GA.

Sincerely,

Dr. LT (changed to protect privacy of county)