Spring 2024

The Impact of the Science of Reading Required Training on the Reading Proficiency Levels of Third-Grade African American Male Students

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THE IMPACT OF THE SCIENCE OF READING REQUIRED TRAINING ON THE
READING PROFICIENCY LEVELS OF THIRD-GRADE AFRICAN AMERICAN
MALE STUDENTS

By
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A Dissertation Submitted to the
Gardner-Webb University College of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Gardner-Webb University
2024

Approval Page

This dissertation was submitted by Tonya Campbell under the direction of the persons listed below. It was submitted to the Gardner-Webb University College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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Acknowledgements

First and foremost, giving all honor to God who gave me strength daily to continue my education and finish this prestigious degree. Without Him, nothing was possible.

I would like to thank my chair, Dr. Melessa Widener, for her countless hours of dedication to helping me succeed and for giving me those subtle pushes when I needed them. Thank you to my other committee members, Dr. Alisha Green and Dr. Mitch Porter, for your phone conversations, comments on my dissertation, and overall happiness to see me persevere.

Most importantly I would like to thank my children for their patience on the days mama could not cook dinner, attend football games, or help with your homework. You all saw my drive and determination to finish, and thankfully, my oldest two were right there to fill in the gaps for their younger brother. I will forever be indebted to my boys, and I hope and pray I have made you proud.

Finally, I accept this degree on behalf of my mother! This woman is the epitome of a backbone. When I was down or feeling like I could not continue, her words were what kept me pushing through to the finish line. She will never know how much I love her and how I would choose her repeatedly as my mother.

To my cohort at Gardner-Webb University, thank you for cheering for me and simply being present in this process. To my family and friends, I am eternally thankful that I have you all in my life.

Abstract

THE IMPACT OF THE SCIENCE OF READING REQUIRED TRAINING ON THE READING PROFICIENCY LEVELS OF THIRD-GRADE AFRICAN AMERICAN MALE STUDENTS. Campbell, Tonya, 2024: Dissertation, Gardner-Webb University. Proficiency in reading is an essential skill for achieving success in the modern era, and African American students have struggled with reading due to insufficient support during literacy instruction. Through the implementation of the Science of Reading™ course, this research aimed to examine the effect of the Language Essentials for Teachers of Reading and Spelling (LETRS™) curriculum on the success of African American third-grade males based on the South Carolina College- and Career-Ready (SC READY™) summative assessments and Northwest Academic Evaluation Measures of Academic Progress (NWEA MAP™) data. This study followed the year before LETRS™ was introduced (2019), the 2 years of training (2021 and 2022), and the year after the teachers completed the training (2023). Piaget's (1964) cognitive development theory explains the steps and paths children go through as they learn to think and reason. As an important part of teaching reading, the schema theory also supported this study by explaining how well someone understands the world through comprehension. This quantitative study suggests that the LETRS™ professional development course and Science of Reading™ practices did not show an immediate impact on student performance scores, but they showed statistical significance over time as indicated by SC READY™ summative assessments in 2023; hence, it may be inferred that LETRS™ has a favorable effect on teacher knowledge and student accomplishment. There was no statistical significance found on the NWEA MAP™ tests due to the test being adaptable.

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Chapter 1: Introduction

A person's ability to read is a compulsory talent for success in the 21st century. Poor reading skills are frequently linked to lower levels of adult education and income, which, in turn, are linked to societal evils including dropping out of school, having less access to healthcare, and unintended teen pregnancies (Moats & Tolman, 2019). Research shows African American male students have failed in reading as a result of receiving inadequate support during literacy teaching (Wright & Counsell, 2018). As primary teachers of reading in the early grades, it is important to recognize factors such as the learning styles of all students, specifically African American children, as well as the need to look into how understanding the Science of Reading™ may impact the reading proficiency of African American male students.

High dropout rates among African American male students are indicative of cultural racism, defined as "the behavior and values of the dominant group reflected in society's norms" (Fenzel & Richardson, 2019, p. 19). As defined by Hicken et al. (2019), cultural racism occurs when the ideals of the wealthy and powerful dominant group become the recognized standards in society and the institutions that serve them. In order to succeed in environments that have traditionally been reserved for Caucasian people, African Americans have found the need to develop new coping mechanisms to effectively learn to read (Hing et al., 2018). Those who do not fit the prevailing culture's mold are stereotyped and treated poorly. Racism of any kind has a negative effect on social structures and can even have a hand in perpetuating educational disparities (Fenzel & Richardson, 2019).

Through the 2-year Language Essentials for Teachers of Reading and Spelling

(LETRS)™ initiative in a rural school district in South Carolina during the 2021-2022 and 2022-2023 school years, the South Carolina Department of Education mandated that teachers receive this professional development and a list of resources to help students who are having difficulty reading before the third grade. An educator who is passionate about reading instruction and has keen observational skills may notice children struggling to read; therefore, they understand the need to acquire the fundamental reading training necessary to help struggling readers.

Statement of the Problem

For many years, a major worry for educators in the United States has been the overall reading competency of all students in the country. Unfortunately, students have been left behind in academics ever since the creation of the No Child Left Behind initiative (Yeh, 2020). This has been especially true for African American male students. Research has been conducted on several occasions to investigate the many hypotheses that have been put forward to explain the dismal performance of African American males on standardized tests. In light of this information, the problem of low reading competency among African American male students in the United States has, for a significant amount of time, been unaddressed, neglected, and unmet (Dennis, 2019; Kafele, 2009). The likelihood that a student will complete high school on time or at all is lower for those who are reading below grade level at the end of the third grade (Walz, 2020).

A student's academic trajectory can be gleaned from their achievement in primary school. As early as third grade, a student's reading skills can set the bar for the rest of their education (Walz, 2020). Third-grade reading competency is especially consequential because of the dramatic shift in focus from reading to writing that occurs at

the end of the year (Stanley et al., 2018). The emphasis of the curriculum shifts from teaching students to read to read in order to teach them. Those who have not mastered reading by the end of third grade lack the rudimentary skills to participate in lessons on the same level as their fourth- through 12th-grade colleagues (Walz, 2020).

Phonemic awareness, phonics, fluency, vocabulary, and comprehension have been identified as the five necessary components of effective reading education as a major cornerstone of the Science of Reading™. This identification of the importance of learning the basics of how students read and the importance of teaching students strategies are crucial components of the Science of Reading™ – "the interdisciplinary body of scientifically-based research about reading and issues related to reading and writing" (The Reading League, 2023). These components are referred to as the pillars of the Science of Reading™ rather frequently. Phonemic awareness and phonics are two of the most crucial building blocks that research has shown are necessary for pupils to be successful with reading. In the second chapter, I analyze what theorists and researchers had to say about why African American males score so low on standardized tests when compared to other races and genders, and I do so in comparison to the findings of those studies. In addition, I used the five pillars of the Science of Reading™ and the reasons why educators must understand how the five pillars work in tandem to create skilled readers.

Purpose of Study

The analysis of the impact of the Science of Reading™ professional learning course (LETRS™) took place in a small, rural Title I school district in South Carolina. An analysis of how it impacts student achievement in reading, more specifically, African

American male students in third grade, was the focus of this study. African American male students were selected for this study as they historically are a subgroup that underperforms on standardized assessments compared to students of other races and genders, according to Tatum et al. (2021).

According to Wright and Counsell (2018), African American males score significantly below other races and genders on standardized assessments throughout the world. "However, if teachers employ complete, well-researched, and successful programs and procedures that are implemented with finesse, vigor, and duration, these conditions may determine whether students succeed" (Moats &Tolman, 2019, p. 39). If a teacher does not have adequate training in the research-based Science of Reading™ (Wright & Counsell, 2018), they may not be able to satisfy the needs of students who are having difficulty reading at the same rate as a teacher who does have adequate training. According to the research that was conducted, for reading methods to be adequately implemented, teachers need to have a solid foundation of knowledge and experience in the field (Halterman, 2023).

Halterman's (2023) research revealed that the literature supported the idea that teachers require a solid understanding of reading pedagogy from both a teacher preparation program and ongoing professional development. On the other hand, it was noted that very little of the literature outlined the reading strategies that needed to be understood or the implementation of such reading strategies (Halterman, 2023).

Research Questions

The main research question was how the implementation of the required training of the Science of Reading™ impacts the reading proficiency levels of third-grade African

American male students. The following research questions served as a guide for the study:

1. How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by the SC READY™ state summative assessment?

2. How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by Northwest Academic Evaluation Measures of Academic Progress (NWEA MAP™) scores?

Theoretical Framework

The implications of understanding the Science of Reading™ will improve teaching reading for a significant number of teachers. The Science of Reading™ could have a positive effect on the ability of students who have been left out of the mainstream to read at the same level of depth as their peers (Kupec, 2022). A concentration on Piaget's (1964) cognitive theory and how it relates to children's development is essential in learning how students learn to read. Two educational theories informed this study: Piaget's cognitive theory and Bartlett's (Iran-Nejad & Winsler, 2000) schema theory. Children learn to read and speak first through the use of sensory and motor information. After that, they progress into more concrete representations (during the concrete operational stage, which occurs between the ages of 7 and 11), corresponding with the distribution of LETRS™ professional development in early primary schools. The primary objective of this study was to investigate whether training for teachers in the Science of Reading™ can have a beneficial effect on student reading scores on standardized tests by increasing teacher awareness of how African American male children learn to read.

The schema theory provided the study's second theoretical framework. Bartlett created the concept of schemas in 1932 (Alverman et al., 2013). According to Bartlett, "Every act of comprehension involves one's knowledge of the world" (Alverman et al., 2013, p. 26). According to Cho and Ma (2020), the schema theory holds that the reader's prior knowledge and the text work together to facilitate understanding. Cho and Ma stressed the importance of being able to contextualize the information presented in the book. According to schema theory, the reader is responsible for providing an incomplete picture of the text's meaning. Through the interplay of the text and the reader's prior knowledge, meaning is rebuilt or generated throughout the reading process. Cho and Ma argued that educators should train pupils to draw connections between the text and their own experiences. This helps pupils have a better grasp of the big picture of the text (Cho & Ma, 2020).

Figure 1

Schema Theory
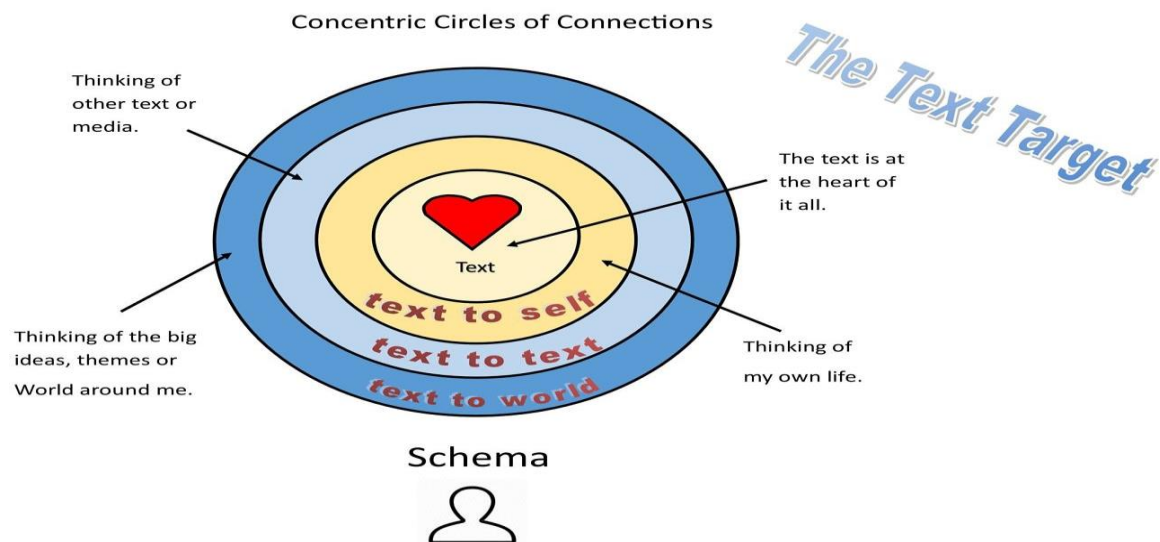
Note. Adapted from *Theory and Practice in Language Studies, 3*(1), 130-134.

Because there is a relationship between school reading curricula and the Science

of Reading™ process that uses the scientific basis for teaching and reading, school administrators and instructors should assess whether the selected curriculum is affecting the academic gap between students from a social scientific perspective. According to social science theory, the researcher could make a connection between the quantitative numbers supplied by test results and the curriculum and documents created to assist instructors and students in achieving their goals (Kupec, 2022).

Methodology

The methodology used for this investigation was a quantitative, quasi-experimental study where I compared the South Carolina College- and Career-Ready (SC READY™) reading assessment and the NWEA MAP™ scores of trained LETRS™ third-grade teachers to the archived SC READY™ and NWEA MAP™ data to compare the growth and effectiveness of LETRS™ professional learning on the reading achievement of African American males in third grade. Quantitative data use variables (independent and dependent) to answer a research question based on statistical data (Creswell & Creswell, 2018).

Summary

Research has shown that African American male students have scored significantly below other subgroups in the nation (Wright & Counsell, 2018). This fact has gained the attention of many school districts and teachers, who are determining how best to help these students become successful in the literacy-based world in which we live. State departments and lawmakers are working diligently to help these educators understand how students learn, specifically African American males. They are also arming educators with the tools necessary to create literacy-rich classrooms.

Terms and Definitions

In this part, a discussion of various definitions is important to the research study being conducted. To establish a connection between each term and the research topic, in-depth research and definitions are provided. The reader can come back to this part to look up any of these terms that appear elsewhere in the dissertation.

LETRS™

A self-paced, informative professional development course of study designed for teachers of reading, spelling, and other associated language skills (Moats & Tolman, 2019). This program includes a hybrid of online modules and instructor-led components.

Science of Reading™

A vast, interdisciplinary body of scientifically-based research about reading and issues related to reading and writing (Hanover Research, 2022).

Standardized Assessments

Developed to evaluate the academic information and abilities students have acquired while attending school or to analyze the academic growth pupils have experienced over some time (GradeCam, 2020).

SC READY™

The Education Accountability Act requires a statewide test in English language arts (ELA), math, science, and social studies that are aligned to South Carolina state standards and given to all students in Grades 3–8 to test what they have learned.

NWEA MAP™

A computer adaptive test based on the South Carolina Common Core standards. The assessment is normed for students from across all 50 states and administered each

fall, winter, and spring to track student proficiency and growth on curriculum objectives. For varying states, NWEA MAP™ is aligned with the state standards.

Phonological Awareness

The awareness of all levels of the speech sound system, which includes word boundaries, syllables, onset-rime units, stress patterns, and phonemes (Moats & Tolman, 2019).

Phonemic Awareness

The conscious awareness of the individual speech sounds in spoken syllables and the ability to manipulate those sounds (Moats & Tolman, 2019).

Phonics

The relationship between letters and the sounds they represent (Moats & Tolman, 2019).

Phoneme

The speech sounds that mix with other sounds in the language system to create words (Moats & Tolman, 2019).

Reading Comprehension

The understanding and interpretation of what is being read (Reading Rocket, 2023).

Reading Proficiency

Reading proficiency refers to the ability to read at or surpass the level expected for third-grade students by the conclusion of their third-grade academic year (Reading Rockets, 2023).

Vocabulary Instruction

The words we must understand to communicate effectively (Reading Rockets, 2023).

Fluency

The ability to read with speed, accuracy, and the appropriate expressions (Reading Rockets, 2023).

Read to Succeed Act of South Carolina

Reading is emphasized as an important skill at every school level. South Carolina enacted a state law, Act 284, Read to Succeed, in 2014, where the goal is to make sure that every student is reading at the appropriate level for their grade and that high school graduates have the reading and writing abilities necessary to be successful in college and a profession (South Carolina Department of Education, 2014).

Professional Development

Postholm and Boylan (2018) defined advanced professional learning as, "a broad spectrum of specialized training, formal education, or advanced professional learning designed to assist school administrators, teachers, and other educators in improving their professional knowledge, competence, skill, and effectiveness" (p.18).

Organization of the Study

This dissertation is broken down into five sections, or chapters. In the first chapter, the study was introduced along with a problem statement, a conceptual framework, the objective of the investigation, research questions, the importance of the study, delimitations, assumptions, and a description of essential words.

In the second chapter, a review of the relevant literature is presented on how

African American students learn to read and the effects the Science of Reading™ has on student achievement. In Chapter 3, the procedure and methodology that were used to carry out the quantitative case study, as well as the research questions, the research design and the reasoning behind it, the sample and the population, the instruments and data collection methods, the data analysis procedures, and the ethical issues are discussed.

In the fourth chapter, both the analysis of the data and the conclusions of the research are provided. The study is brought to a close in the fifth chapter with a discussion of the findings, ramifications, and recommendations for further research moving forward.

Chapter 2: Literature Review

It has been shown through research and conversations and within society that unless students learn to read by the end of their first-grade year, they are highly likely to remain poor readers throughout their school years and often suffer academic difficulties across all subjects (Moats & Tolman, 2019). The No Child Left Behind Act of 2001 mandated schools to publish results for several subgroups of children, including minority students and pupils from low-income families. This legislation brought to light major and well-hidden injustices in the educational system (Wexler, 2018). Publishing this information showcased transparency in each district and each school, so everyone could see what was happening with our students and their education.

As educators in the United States work to educate children for success in the 21st century, the country continues to be faced with a problem of crucial relevance affecting the literacy proficiency of African American male pupils. One must understand how children learn to read and how African American students effectively learn to read. The reader must also understand the dynamics of the reading brain and the effects that the Science of Reading™ has on a struggling reader.

This quantitative study employs the Science of Reading™ to investigate whether and to what extent culturally relevant instruction improves academic reading performance among males of African descent. This quantitative, quasi-experimental design compared the reading scores of third-grade teachers who have received LETRS™ professional development to historical SC READY™ and NWEA MAP™ data in order to assess the impact of LETRS™ training on the reading achievement of African American males. This research study was designed to answer the following questions:

1. How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by the SC READY™ state summative assessment?

2. How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by NWEA MAP™ scores?

The Reading Brain

The ability to read and understand what one reads is essential in today's information-driven society. Learning to read at a young age is crucial not only for the growth and development of children but also for their academic and professional success in today's world (Marôco, 2020). Learning to read alters our perspective on the world. Furthermore, each person develops their own "reading signature" (Liebig, 2021, p. 37) in the brain as a result of the brain's structure and the functional changes that occur while reading. Reading is often a challenging mental process that requires cooperation and coordination between many brain regions (Liebig, 2021). Researchers have been studying how people learn to read and the many changes the brain goes through to comprehend what they are reading. Reading provides us an understanding of thinking, whether it is in the mind of another person or our thoughts from some point in the past. To continue one's education and acquire the skills necessary to understand any topic and to interact effectively with one's classmates, reading is essential.

Children "photograph" (Dehaene, 2009, p. 49) a handful of words in the first stages of learning to read, go on to decoding graphemes into phonemes, and eventually reach the orthographic stage when word recognition is quick and automatic. When beginning to read, one of the most important skills to develop is the ability to "sound out"

(Seidenberg, 2017, p. 12) unfamiliar words, known as decoding. A phoneme, the smallest unit of spoken sound, typically distinguishes words, while the smallest unit of a written language is a grapheme, whether it has meaning or represents a phoneme (Cabell & Hwang, 2020). In the first phase, the child's brain photographs words and visually adapts to the alphabet's letters, while the brain decodes graphemes into phonemes in the second step, and finally, in the third phase, orthography, the child recognizes words rapidly and precisely (Cabell & Hwang, 2020). Learning to read is a difficult and complex undertaking because it requires a child to translate an unfamiliar visual symbol system (letters and letter combinations) into a somewhat familiar one (spoken language; Ziegler et al., 2020).

Reading is a thorough mental process that requires cooperation and coordination between many brain regions (Ziegler et al., 2020). This occurs unconsciously for proficient readers. When you take up a book or newspaper, your retina instantly detects the print; however, reading is a complicated skill to acquire because it requires one to map an unfamiliar visual sign system. Even though reading comprehension is the ultimate aim (Castles et al., 2018), it is the ability to decipher the orthographic code that is emphasized in the early stages of reading instruction.

Children are expected to have a responsibility to learn how the reading code functions in their native language. In alphabetic writing systems, students are required to understand how individual letters or letter combinations, which are collectively referred to as graphemes, correspond to the sounds they produce. Some alphabetic writing systems, like English, have to choose between spelling morphemes the same way every time and spelling phonemes the same way every time (Bowers & Bowers, 2018).

Morphemes are directly tied to meaning, in contrast to phonemes, which are individual sounds, and graphemes, which are the individual letters that express that sound (Peng & Goodrich, 2020). In most alphabetic writing systems, like English, learning starts with a clear explanation of how letters and sounds work together. This is called the grapheme-phoneme rule (Ziegler et al., 2020). The students can then apply these ideas or make these connections to identify previously unseen words. Children need to master a complex trajectory beginning with the level of pattern perception and recognition in order to reach the ultimate aim of reading, which is to make meaning out of abstract forms and symbols (Liebig, 2021). Decoding written words into their component graphemes and the phonemes that correspond to them is an important skill for children learning to read and write in alphabetic writing systems. In alphabetic writing systems, this is an essential first step in decoding words. Sounding out words allows readers to build robust lexical representations in their memories that incorporate morphological (combining sounds to make words) and semantic (meaning) knowledge in addition to phonological and orthographic information. Lexical representations are all the words in a person's vocabulary (Gabriel, 2020). In the end, once lexical representations are built, the reader no longer must rely on phonics when encountering the same word again, which speeds up and streamlines the reading process (Borleffs et al., 2019). Oral reading fluency is often used as a measure of a person's reading skills and success because of how quickly and accurately they can convert written information into spoken language.

Once children have learned the basics of reading, they can learn most of what they need to know on their own (Acevedo, 2020). They start to figure out what words mean on their own. According to Ziegler et al.'s (2020) research, phonological decoding

is a useful tool for self-teaching since it enables youngsters to decode an ever-increasing number of words with the explicit acquisition of a very small set of spelling-sound correspondences. Children begin to read initially through explicit teaching from teachers on letters and sounds.

The growing brain's cognitive design and the events in its surroundings work together to shape how it thinks and acts. With cognitive theory, the development of the computational connectionist model of reading was established to analyze the age of acquisition effects in reading (Chang et al., 2019). According to the idea, words learned before and after the start of literacy would have different ways of accessing meaning and sound representations in the reading system. Figure 2 details the computational connectionist model of reading that illustrates the initial, explicit teaching of phonemes to students, the phonological decoding of words and sounds, and concludes with the self-teaching of learning to read by students. A computational reading model can be used to investigate the mechanisms underlying the effect and the factors that may influence reading development. Children whose home and school dialects differ, such as African American males, are at a higher risk for reading issues because activities like learning to decode are more complicated for them, suggesting that disparities in task complexity may contribute to the success gap (Brown et al., 2015).

Figure 2

Computational Connectionist Reading Model
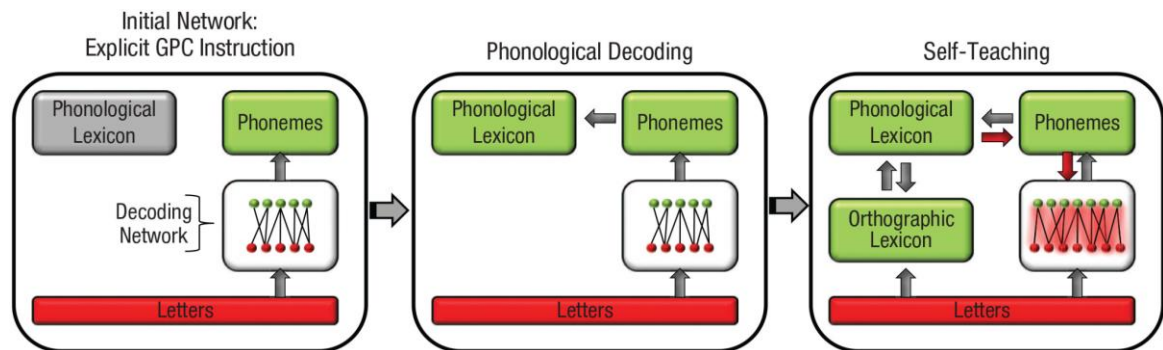
Note. Adapted from Ziegler et al.'s (2020) research.

The dual-process developmental connectionist model is used to put into practice the self-teaching hypothesis for phonological decoding. Words that have a phonological representation in the lexicon but no orthographic representation can be figured out by the decoding network after an initial period of explicit training on a restricted set of grapheme-phoneme correspondences. In order to improve the decoding network's efficiency, phonology is used as an internal instructional cue (represented by red arrows) whenever the decoding process activates a word from the phonological lexicon, resulting in the creation of an entry in the orthographic system.

Best Practices in Reading Instruction Based on Theory

Literacy pedagogies may draw on theoretical frameworks with roots in ancient Greece (see, for example, Aristotle's De Anima, Book III, 4th Century BC) and the early modern period in England (see, for example, Locke, 1689; Acevedo, 2020). Over time, theories evolve, along with their spheres of influence and levels of popularity. When children learn a new language, they are not just picking up one skill among many; they are laying the groundwork for all future learning. The fact that human learning is a

process of meaning creation sets it apart. The next two sections dive deeper into the theories of how students learn to read.

Cognitive Development Theory

Piaget's (1964) theory of cognitive development provides the study's first theoretical framework. This framework has four distinct phases, referred to as sensorimotor, preoperational, concrete operational, and formal operational respectively. Piaget's theory of cognitive development describes the stages and timeline of a child's brain growth. Piaget believed that children learn best when they are actively engaged in the process by trying new things, making observations, and asking questions. Children, as Cherry (2020) pointed out, are always learning new things, expanding on what they already know, and rethinking their beliefs in light of fresh evidence. Using Piaget's four fundamental developmental phases as a foundation, the goal of reading teaching is to help students acquire the abilities necessary to succeed in school.

Between the ages of 0 and 2, children go through a developmental period known as the sensorimotor stage (Howe, 1997). Language or sounds begin to develop during the sensorimotor stage as a demand response and cataloging. The process of cataloging entails developing categories to meet specific requirements and then communicating these wants to the world at large. Every student brings with them to the classroom not just the ability to learn but also some background information gleaned from their surroundings and their interactions with others. New literacy knowledge is to be built on these supports.

The development of preoperational skills begins at age 2 and is complete by age 7 (Howe, 1997). At this age, a child's imaginative and intuitive capacities are well

developed, and they begin to use symbols in their thoughts and speech, but they are still unable to grasp abstract ideas and concepts, which makes teaching them a challenge at this age.

The third stage of growth, known as concrete operational skill, involves the formation of attachments to concrete conditions such as time, place, and quantity (Howe, 1997); therefore, if the child's sense of self can be tied to the new notion, the child will be able to apply the concept to the new context. The child learns to realize their significance and that of the others around them.

Finally, the formal operational developmental stage occurs between the ages of 11 and maturity (Howe, 1997). The ability to think abstractly and logically and to plan using established procedures emerge at this level. The knowledge gained at this stage may be transferred from one situation to another.

Table 1

Diagram of Piaget's Cognitive Developmental Stages

Stage	Age range	What happens at this stage?
Sensorimotor	0-2 years old	Coordination of sense with motor responses, sensory curiosity about the world. Language used for demands and cataloging. Object permanence is developed.
Preoperational	2-7 years old	Symbolic thinking, use of proper syntax and grammar to express concepts. Imagination and intuition are strong, but complex abstract thoughts are still difficult. Conservation is developed.
Concrete operational	7-11 years old	Concepts attached to concrete situations. Time, space, and quantity are understood and can be applied, but not as independent concepts.
Formal operational	11 years old and older	Theoretical, hypothetical, and counterfactual thinking. Abstract logic and reasoning. Strategy and planning become possible. Concepts learned in one context can be applied to another.

Note. Adapted from Psychology Notes HQ (2022), *The Stages of Cognitive Development.*

https://www.psychologynoteshq.com/piagetstheory/

How effectively or where a child is capable of successfully displaying phonemic awareness mastery should be compared with Piaget's (1964) idea of cognitive developmental stages based on a child's age. This will show whether the child is functioning appropriately for their age in terms of cognitive development. If that is not the case, one will need to ascertain the child's current cognitive age, which will characterize their phonemic awareness mastering potential. This will allow the educator to tailor their approach to teaching phonemic awareness skills to the specific needs of each child based on their present level of cognitive development (Cates, 2022). As one's

capacity for abstract thought, or cognitive growth, grows, so too does the complexity of phonemic awareness skills.

From infancy forward, a person's interactions with others have a profound effect on their brain development. Because of the impact of interpersonal interaction on one's capacity for critical thinking, people tend to take on the characteristics of their immediate social circle. Evidence from studies on memory and learning shows that students who increase their knowledge and their long-term memory have better phonetic and phonological awareness (Cates, 2022). In addition, having such a mental basis allows students to apply structural skills learned through explicit instruction to real-world classroom circumstances.

Comprehending and remembering are not possible without cognitive frameworks. The cognitive frameworks consider how students conceptualize their life events. At the heart of the cognitive structural theory lie several ideals, including education, mentoring, and growth. In guided participation, teachers may provide students the opportunity to take part in a meaningful action as a means of structuring an issue. A well-structured activity keeps students engaged in its goals by breaking down large tasks into smaller, more manageable chunks.

Schema Theory

The term "schema" is commonly used to refer to a person's accumulated body of knowledge (White, 2021). Scientists have proposed two major categories of schema: content schema and formal schema (Gabriel, 2020). The term "content schema" is used to describe an individual's preexisting worldview, which includes familiarity with both specific topics and broader societal norms (White, 2021). Similar to informal schema,

formal schema relates to prior knowledge but centers on the rhetorical patterns and organizational forms present in various texts (Gabriel, 2020).

A schema is a type of hypothetical knowledge structure. It is considered hypothetical since it is impossible to evaluate schemas using empirical methods. On the other hand, one may deduce the presence of schema from the study of memory and the way in which it affects the interpretation of brand-new events (Alverman et al., 2013).

According to this theory, a web of mental frames, or cognitive structures, supports one's schema knowledge. Having a schema greatly aids a person's ability to organize their own knowledge of the world and their comprehension of new information (Gabriel, 2020). A learning framework, or schema, shows how information is often provided to students as new knowledge, and scaffolding and other strategic strategies are used to aid in the process of knowledge acquisition (White, 2021). The act of reading is envisioned as a two-way conversation (Peng & Goodrich, 2020). This implies that the visual information in letters is not analyzed before moving on to the overarching meanings of a text. Instead, it is thought that a reader's judgment of what a piece of text could signify is based on both a close examination of the print and the reader's own preconceived notions as the reading progresses (Alverman et al., 2013).

The schema's function as an ideational scaffolding may make it easier to learn new knowledge that fits into a culturally relevant schema, or the schema's function as a framework that facilitates learning may make it easier to retrieve from long-term memory. New ideas and information are best learned and remembered when there are already general and specific ideas in a person's mind that can serve as a subsuming role that can be used to describe an ideational scaffold (Acevedo, 2020). If a person's mental

model of a subject is more developed, it will be much simpler for them to acquire new knowledge in that subject area. The theory also asserts that in the absence of preexisting schemata, it is extremely difficult to acquire new information on a subject or learn to read in an efficient manner (Tracey & Morrow, 2017).

Read to Succeed

The state of South Carolina passed legislation mandating that all high school graduates demonstrate proficiency in reading and writing. The General Assembly enacted Read to Succeed Act 284 (South Carolina Department of Education, 2017) to help reduce the state's achievement gap. Literacy Matters and the South Carolina Literacy Panel identified four significant literacy obstacles in the South Carolina Reading Plan (South Carolina Department of Education, 2017) that have a negative impact on the ability of children to read. Among the difficulties are

- the dismal performance of students in reading and writing

- disparities in literacy rates among different population subgroups

- children lose reading skills during the summer

- limited literacy-proficient classrooms

The goal of the Read to Succeed Act, which was passed in 2014, was to improve the reading and writing abilities of students so they may go on to higher education, a productive profession, and active citizenship (South Carolina Department of Education, 2023). Starting in third grade, reading at or above grade level was a primary goal of the Read to Succeed Act. There are eight parts to this law that will influence every teacher and student in the state:

- reading plans at the state, district, and school levels

- an emphasis on third-grade progression

- reading camps during the summer

- reading interventions

- requirements for in-service educator endorsements

- early learning and literacy development

- teacher preparation

- reading coaches

The Read to Succeed Act had an impact on all of the state's teachers and students. The components of the law (South Carolina Department of Education, 2023) were implemented in accordance with state reading strategies, which in turn directed the work of the South Carolina Department of Education, schools, and districts. It was recommended that districts revise their reading strategies for Grades 3, 5, and 8 in light of new accountability data from reading coaches and summer reading camps in 2017. Students from the following subgroups were identified as members of historically underachieving groups in South Carolina's 2022–2023 Accountability Manual (South Carolina Education Oversight Committee, 2023).

- African American students

- Hispanic students

- Native American students

- students who qualify for free or reduced lunch under federal guidelines

- limited English proficiency

- migrant students with non-speech impairments

Students who were not reading at grade level in the third grade were retained

beginning with the 2017–2018 school year (SCReady™, 2020). Schools in the state were

then chosen to participate in the Palmetto Literacy Project (Table 2), a new effort aimed

at early literacy intervention in kindergarten through second grade (Palmetto Literacy

Project, 2020). To improve reading results, the Palmetto Reading Project worked with

each district and all school employees, such as the Read to Succeed team and the literacy

specialist team, to conduct research and collaborate. Schools received help in the form of

job-integrated professional development via professional learning communities, with

onsite visits and assistance with the creation of action plans. Reading and literacy

specialists are included in existing Palmetto Literacy Project schools to aid instructors in

enhancing their literacy education (Palmetto Literacy Project, 2020). Public schools in

the United States have been under constant pressure from successive waves of

educational reform.

Table 2

Palmetto Literacy Project

Tiers	Tier 1	Tier 3	Tier 3
Description	Schools where fewer than 33.3 percent of third graders scored Does Not Meet (DNM) on 2019 SC READY™ English-Language Arts (ELA). Tier I schools have the flexibility to use Read to Succeed (R2S) allocation as determined by the needs of the school to ensure all students are reading on grade level.	Schools where between 33.3 and 49.9 percent of third graders scored DNM on 2019 SC READY™ ELA. SCDE will approve reading coaches in Tier 2 schools.	Schools where 50 percent or more of third graders scored DNM on 2019 SC READY™ ELA. SCDE will approve reading coaches in Tier 3 schools.

Note. Adapted from Palmetto Literacy Project (2020).

https://ed.sc.gov/newsroom/school-district-memoranda-archive/2020-21-literacy-

specialist-support/palmetto-literacy-project-chart-of-support-attachment/

Science of Reading™

The term the Science of Reading™ refers to "the accumulated knowledge about reading, reading development, and best practices for reading instruction obtained through the use of the scientific method" as defined by Petscher et al. (2020, p. S267). The Science of Reading™ is a wide educational approach that incorporates the findings of over 14,000 psychology and neurological studies (Petscher et al., 2020) with Hollis Scarborough's Reading Rope (Wierschem, 2018). Without the aforementioned skills, which serve as the top strands of the reading rope, a child cannot become a proficient reader, according to Scarborough (Wierschem, 2018).

The Science of Reading™ emphasizes the importance of prior knowledge as a cornerstone of reading teaching (Hattan & Lupo, 2020; Petscher et al., 2020). Without a strong foundation in both oral and written communication, children may struggle to transfer their knowledge from one medium to the other (Castles et al., 2018; Hattan & Lupo, 2020; Petscher et al., 2020; Snow, 2020). Children learn to speak and understand spoken language through "frequent, fine-tuned conversational interactions with adult" (Cabell & Hwang, 2020, p. S100). Students are more likely to become proficient readers if they have access to a wide range of topic knowledge, especially in the domain of nonfiction (Cabell & Hwang, 2020).

Young children benefit most from simultaneous instruction in both content area knowledge and linguistic abilities since this allows for greater reading fluency (Cabell & Hwang, 2020); however, in order to become proficient readers, children still require explicit and systematic phonics teaching (Treiman, 2018), even if they are strong

communicators orally. In addition, Shanahan (2020) argued that in order to have an accurate perspective on reading education, it must be carried out on a broad scale and cannot concentrate exclusively on a certain component.

The Science of Reading™ is taught in schools through a professional development course for all certified educators known as LETRS™. Reading is social and cultural; hence, it must be culturally relevant to children, as noted by Aukerman and Chambers Schuldt (2021). By recognizing that all beginning readers have different starting points for oral and written language and by incorporating more texts that activate the background knowledge of students, teachers can explicitly use the Science of Reading™ to help close the achievement gap in their classrooms (Hattan & Lupo, 2020; Washington & Seidenberg, 2021). Reading research theoretical frameworks, such as the National Reading Panel's adoption of the five pillars of reading instruction through the National Institute of Child Health and Human Development (2000), have assisted us in better understanding the complexities of reading. These frameworks serve a purpose because they provide concrete examples of the steps involved in reading and emphasize the importance of systematically including the five pillars of reading teaching. According to Prenger et al. (2019), the reflective and collaborative work of teachers in professional learning communities can have a positive impact on the reading performance of students. The Science of Reading™ is grounded in decades of study into how people learn to read, and it is not a phonics-only approach (Snow, 2020). All the brain systems for reading, as well as the causes of reading difficulty and impairment, are still the subject of active scientific investigation. In the next section, LETRS™ is defined for the reader and the reading components that are essential for teaching young children how to read.

Literacy education and the Science of Reading™ have been the subject of extensive writing. Leaders may find a wealth of research on leading organizational transformation to draw upon, and the gap between research and practice in leading change and literacy education remains unbridged (Kirchner, 2023). Significant research and learning on the Science of Reading™ have been conducted, as Woulfin and Gabriel (2020) described; however, in order to have a good influence on student reading results, this knowledge must be incorporated into classroom practices.

Scarborough's Reading Rope

Scarborough's Reading Rope is a graphical representation of the numerous realities of reading education that, when utilized purposefully, form together to generate proficient, fluent readers, also known as the components of the Science of Reading™ (Moats, 2020; Wierschem, 2018). Scarborough created the Reading Rope, which serves as a visual representation of the various factors that influence successful reading (Moats, 2020). There are two levels to the Reading Rope. The different parts of word recognition—phonological awareness, decoding, and seeing familiar words—come together over time to make reading more accurate, smooth, and automatic (Wierschem, 2018). Word recognition skills and language comprehension skills (including understanding of context, vocabulary, grammatical structures, verbal reasoning, and literacy) work together to create an accomplished reader (Moats, 2020). Teaching and repeated practice are necessary for this to happen.

Even far into adulthood, the top five strands of Scarborough's Reading Rope continue to develop important strategic implications (Wierschem, 2018). These strands are background knowledge, vocabulary knowledge, language structures, verbal

reasoning, and literacy knowledge. These strands become extremely strategic over time as students learn to read. In early primary school, the bottom three strands become increasingly automatic, and by the end of third grade, they are fully established as a result of specific teaching during the ELA reading block (Moats & Tolman, 2019).

Skilled educators recognize that reading is about more than just decoding the letters on the page. Accurate readers must have a firm grasp of both the meanings and the definitions of the words they encounter (Moats & Tolman, 2019). They combine many abilities, including vocabulary, linguistic structure, and verbal reasoning, to do this (Moats, 2020). The Scarborough Reading Rope approach can aid teachers in comprehending what it takes to develop competent readers. If one of the strands on the rope becomes weak or is missing, reading for students becomes even more difficult.

Figure 3

Scarborough's Reading Rope

Note. Adapted from https://righttoreadproject.com/2019/06/02/part-2-complicating-the-simple-view-of-reading/
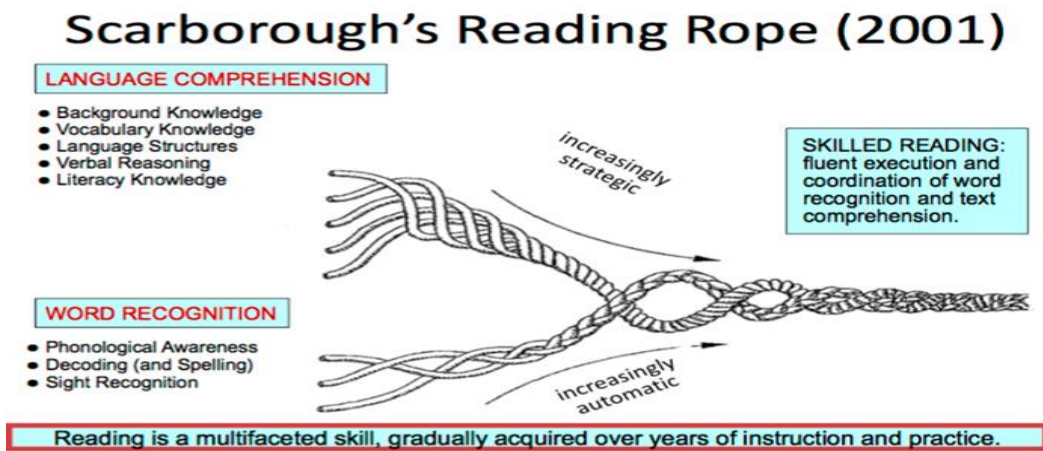
Figure 3 is a representation of Scarborough's Reading Rope that depicts how language comprehension and word recognition are needed to work together to create

skilled readers in society.

LETRS™

The idea behind LETRS™ comes from the work of many reading scientists, such as neuroscientist Stanislas Dehaene (2009). Reading starts in the part of the brain that is in charge of recognizing things we see (Hensel, 2023). Neuroscientists have now found that the brain links what it sees to the sounds the letters make and then to a memory unit that stores known letters and letter patterns. Information then moves along brain pathways in the left lobe and into a different area that is in charge of meaning (Hensel, 2023). Moats and Tolman (2019) asserted that the LETRS™ professional development course is a stimulating educational program intended for educators specializing in reading, spelling, and related language proficiencies. The LETRS™ professional development course is not designed as a comprehensive literacy curriculum; however, it does provide educators with the necessary knowledge and skills to successfully support their students in the process of acquiring reading proficiency.

The Simple View of Reading model (see Figure 4) shows how word recognition and the development of language comprehension help students acquire or develop the reading comprehension that is needed to become skilled readers. The Simple View of Reading is a theoretical framework that seeks to identify the specific abilities that contribute to the development of early reading comprehension (Kupec, 2022). The role of decoding in reading was simplified in the Simple View of Reading suggested by Gough and Tunmer (1986; The Center for Literacy and Learning, n.d.). Simply increasing one's decoding abilities will not lead to an increase in reading comprehension. In a similar vein, enhancing the verbal comprehension abilities of children without also enhancing their

ability to decode text would not result in an increase in their literacy (Smith, 2023).

Students who start formal academic education in kindergarten with sufficient language

skills are more likely to become proficient readers if they are provided with opportunities

to develop linguistic comprehension skills in tandem with their decoding ability (Kupec,

2022).

Figure 4

Simple View of Reading

Note. Adapted from

https://www.cde.state.co.us/coloradoliteracy/sormythsmisconceptions
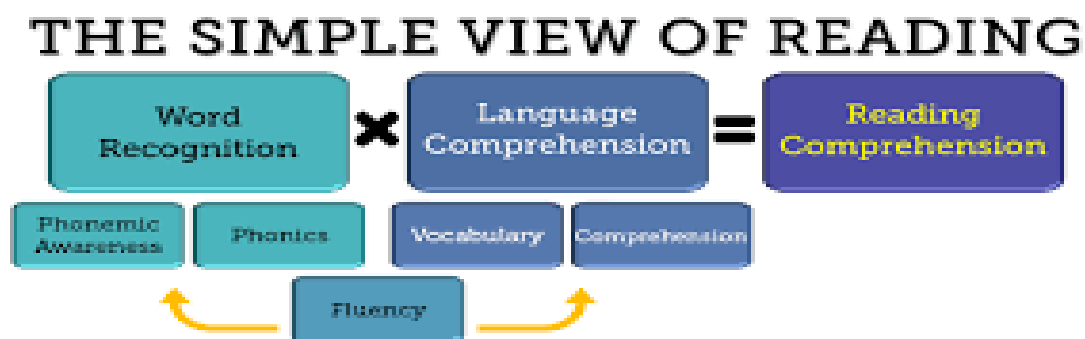
The 2019 National Association of Educational Procurement results for reading in

Mississippi showed significant improvement for the state's pupils (The Reading League,

2023). Since the state implemented widespread modifications to coaching, curriculum,

and intervention all at once, it is nearly impossible to determine which factor had the

greatest impact on student progress (Shaywitz & Shaywitz, 2020); however, LETRS™

has rapidly risen to prominence as an essential part of literacy strategies in other states

eager to follow in Mississippi's footsteps. Today's school districts are placing an

increased emphasis on the need for educators to fully engage in the LETRS™ program.

LETRS™ provides instructors with training that teaches them which literacy skills

should be taught, why they should teach them, and how they should prepare to teach them (Shaywitz & Shaywitz, 2020). In addition, it examines the research that serves as the foundation for these suggestions. The Palmetto Literacy Project is intensive but worthwhile for teachers and students, and districts recognize the intensity and workload and are compensating teachers for their extra time and effort (Shaywitz & Shaywitz, 2020).

The South Carolina Department of Education created these incentives, which include stipends, credit toward the renewal of their certifications, and the ability for many educators to add the literacy endorsement certificate to their current certificates. According to Moats and Tolman (2019), the goal of LETRS™ is to "help provide educators with in-depth knowledge that is based on the most current research regarding what, when, and how language skills need to be taught" (p. xii). The foundation of LETRS™ is to provide educators with in-depth knowledge that is based on the most recent research.

As a strategy of both prevention and intervention for kids who are in the upper elementary grades, teachers are provided with many ways to evaluate their pupil's progress in terms of language development (Shaywitz & Shaywitz, 2020). In addition to this, LETRS™ offers the necessary direction on how to organize and prioritize word recognition and reading comprehension work. Students in a variety of postsecondary education programs are instructed, regardless of their chosen concentration within the School of Education, that all of us are reading instructors in some capacity (Moats & Tolman, 2019); therefore, LETRS™ is for all educators who educate students, ranging from those who are just starting in the field to those who have a great deal of teaching

experience (South Carolina Education Oversight Committee, 2023).

LETRS™ is intended to assist teachers in becoming competent instructors in the art of reading so they may better support their students, whether those kids are in an intervention setting or a traditional classroom environment. According to Moats and Tolman (2019), LETRS™ contributes to answering the essential question of how to instruct students in the abilities necessary for successful reading and writing. Students will benefit from addressing both the systems of language and the underlying challenges in literacy that they are facing as a result of taking this course. The course is divided into eight different modules, each of which examines the relationship between word recognition and language understanding as it relates to reading comprehension.

Reading experts (Bettini & Park, 2021; Hudson et al., 2021; Lahey, 2017; Tortorelli et al., 2021) recommended that teachers receive training in the Science of Reading™ so they can better understand what is happening with beginning readers and incorporate their prior knowledge into their lessons.

A problem with the Science of Reading™, however, as identified by Hoffman et al. (2020), is that inexperienced instructors are often hired without enough preparation for the classroom. According to Hoffman et al., the media claims that a lack of attention to the Science of Reading™ is attributable to teacher training programs. According to a journalist, D'Souza (2023) stated that of all teacher education programs, just a quarter adequately address all the fundamental components of science-based reading teaching. Too many children lack the ability to read. This can change if teachers are better trained based on what we know about how people learn to read; if we put our attention on preparing teachers, we are taking an upstream step that will have downstream effects on a

large scale and not buy into the reading war of pedagogical beliefs (D'Souza, 2023).

Moats (2020) clarified that preservice teaching curricula tend to focus on the basics of ideology rather than explicit, direct instruction on how to teach foundational reading skills, which runs counter to the claims of Tortorelli et al. (2021), Hudson et al. (2021), and Dewitz and Graves (2021) regarding the necessity of explicit instruction for teachers in the area of language development and the broader ideas embodied in the Science of Reading™.

College Preparation for the Science of Reading™

It is probable that the cognitive science that underpins reading was not covered in the teacher preparation programs that many educators attended. Even though research conducted over the course of several decades has demonstrated that teaching young children how to decipher written language via the use of systematic phonics is the most effective way to ensure that they are able to learn how to read words, this method of teaching reading has not yet made its way into a significant number of preservice programs (Will, 2019).

The concept of balanced literacy is widely taught in educational institutions across the country. The term "balanced literacy" may be defined in a variety of different ways, ranging from grounding instruction on all five components of reading and providing equal priority to decoding and meaning-making to immersing students in actual texts while teaching phonics on the side (Will, 2019). Because of academic freedom, the method of instruction that is used in higher education institutions is left up to the discretion of individual professors, and the dean is unable to require that professors teach phonics to students who would go on to become teachers.

An improved comprehension of cognitive science was shown among teacher educators who attended an institution that taught research-based reading instruction. Notably, on the reading evaluation, students of the professors who had gone through the training not only outperformed their peers but even outperformed the teacher educators who had not gone through the training (Will, 2020).

Educators of the future need highly competitive universities to enter the field. Many academics are lobbying school district leaders for new regulations that would mandate reading science training and testing for all elementary school teachers. Many schools may be forced to adopt these programs after policies become law requiring all existing teachers to complete LETRS™ and be well-versed in brain-based reading concepts (Will, 2020). Colleges are receiving funding from several state departments of education to help them incorporate scientific ideas into their curriculum.

Essential Elements of Effective Reading Instruction

The No Child Left Behind Act, created to ensure that all students were reading proficiently throughout their school years, incorporated the five essential reading components (fluency, phonemic awareness, phonics, vocabulary, and comprehension; Glass, 2018). Children need to practice phonemic awareness, phonics, and vocabulary consistently (Will, 2019). Reading words in the text accurately and fluently and applying comprehension methods consciously and intentionally help students become effective readers (White, 2021).

There is a lack of consensus on a singular instructional program, methodology, or method that universally guarantees excellent reading instruction for all students; however, there is a body of research supporting evidence-based best practices that has

demonstrated significant success in promoting high levels of accomplishment (Gentry & Ouellette, 2019). The five components of a balanced literacy approach are utilized to help students become better readers.

Phonemic Awareness

Phonological awareness, also known as phonemic awareness, is the most powerful independent predictor of early reading outcomes and relates to the understanding of the sound structure of words (White, 2021). Children need to have the ability to distinguish specific letter sounds and the letter used to represent that sound and understand the relationship between phonemes and words before they can effectively utilize phoneme-grapheme mappings for the purpose of reading (Seidenberg, 2017). Phoneme-grapheme mapping is often a tangible method of illustrating the connection between phonemes and graphemes, better known as the letters and the sounds they make (Burkins &Yates, 2021). It is best for children to have attained proficiency in phonemic awareness prior to beginning their alphabet knowledge or their ability to read certain words, but it is a significant predictor of subsequent decoding skills and reading comprehension among children (Lindsey, 2022).

If an individual lacks proficiency in either letter identification or the comprehension of the corresponding sounds, the connection between letters and sounds becomes disrupted, resulting in a slower and laborious reading process that poses challenges for the reader (Young et al., 2022). Teaching phonemic awareness to students should be taught across a continuum of easier to more difficult tasks until students can isolate sounds individually. Rhyming gives students a chance to start becoming more aware of how sounds work. Emergent readers need many chances to hear and recognize

rhymes and to repeat the ending sounds by building up words with groups of sounds that are similar (Young et al., 2022).

Phonics

At the beginning of the 1800s, Horace Mann developed a new way to teach reading (Lexia Learning, 2022). Mann put a lot of emphasis on remembering whole words before looking at letters and letter patterns, and he also put a great emphasis on quiet reading and reading to understand (Lexia Learning, 2022). In the second half of the 19th century, a method called "phonetics" was developed (Liben & Liben, 2019). This method taught children how to match sounds to letters and how to put them together to figure out what words meant. Several new paths of study and thinking by some of the most important educators in the United States led to the move toward integrated methods for teaching ELA in elementary schools (Borenstein, 2021). Integrated, literature-based methods for reading education in which phonics is taught along with other word recognition strategies were one of the practical uses.

Phonics instruction is acknowledged as being effective for children who experience difficulties in reading. Phonics education is a pedagogical approach that imparts knowledge of the alphabetic code to beginning readers, enabling them to effectively decode and comprehend written words (White, 2021). In the context of education, phonics is a method that instructs children on utilizing the relationship between letters and sounds, coupled with contextual signals, to effectively recognize and decipher unknown words presented within written text (Gillis & Eberhardt, 2018). According to Such (2021), the explicit instruction of letter-sound patterns is essential, as it allows children to develop a solid understanding of these patterns. Additionally, it is

important to expose children to a variety of words that demonstrate these patterns. In order to reinforce the patterns and encourage children to read with comprehension and enjoyment, this exposure should also include interesting and meaningful literature.

Systematic phonics, as defined by Shaywitz and Shaywitz (2020), is a structured approach to teaching students the connection between letters and sounds. When beginning readers are taught phonics, they gain an understanding of the relationship between letters and the sounds they create. It teaches them that letters do not always correspond to sounds and that there are other rules besides the standard ones. What makes studying phonics systematically so special and important, said Shaywitz and Shaywitz, is that it enables readers to apply their accumulated knowledge to decipher and read unexpected words. High levels of implementation of research-based methods are the cornerstone to successful instruction in phonemic awareness and phonics, making ongoing professional development and coaching essential. To achieve this goal, educators must work together to integrate the teaching of phonics and phonemic awareness into existing curricula through continuous professional development.

Vocabulary

Students have an increased likelihood of comprehending what they read if they are familiar with the vocabulary and concepts it uses (Liben & Liben, 2019). Throughout childhood, having an extensive oral vocabulary and being able to read often go hand in hand. For a child to do well in school, they must recognize words, both spoken and written (Such, 2021).

The best vocabulary teachers (a) surround their students with words so they can learn them by accident and on purpose and develop a heightened sense of word

awareness; (b) guide their students toward becoming self-directed word learners; (c) employ teaching strategies that not only teach vocabulary but also show how to learn words well; and (d) provide explicit instruction for important content and concept vocabulary, drawing on a variety of resources. A daily literacy block should devote significant time to teaching students new words. When vocabulary is taught contextually, students are given several chances to use and practice the terms they are learning (Lindsey, 2022).

Comprehension

Reading comprehension is the ultimate objective of reading; to achieve this aim, one must connect with the text on a profound level and possess a variety of abilities that extend far beyond mere word identification (Young et al., 2022). The process of reading comprehension is not a standalone activity but rather a complex network of mental processes. Lindsey (2022) suggested that effective readers are intentional, comprehend the text's goal, and actively engage with it due to reading comprehension demanding a solid connection between all components of the reading process. In turn, reading comprehension relies on text modeling processes dependent on background knowledge and the capacity for inferential reasoning (Liben & Liben, 2019). Literacy-rich environments that include activities that interest and stimulate children are crucial in the process of teaching basic skills. Many people consider reading comprehension to be one of the pinnacles of human achievement (Seidenberg, 2017). Through the teacher's activities, assignments, and feedback, students may acquire the required comprehension abilities as they read a variety of texts for a variety of reasons.

According to Moats and Tolman (2019), word recognition, or the quick and

accurate recall of decoded word forms, is crucial for the development of reading comprehension. Good word recognition allows readers to shift their emphasis from decoding individual letters to comprehending the meanings of entire words. According to studies in the Science of Reading™, beginning readers greatly benefit from practicing their word recognition skills before attempting to read a new text. According to Moats and Tolman (2019), the other key area on which reading depends is language comprehension, which may be defined as either listening comprehension or the linguistic processes involved in understanding spoken language.

Moats (2020) argued that the Simple View of Reading is a proven idea that should serve as the basis for course development. According to Duke and Cartwright (2021), the Simple View of Reading is still being used today; when it is, it is to highlight the importance of decoding or language in the reading process, in the growth of readers, or in the process of teaching reading. Developing student subject-matter knowledge, vocabulary, sentence comprehension, and familiarity with the language in written texts requires an intentional, methodical, and explicit teaching of word recognition as part of reading and language arts education. For our youngest readers, the Simple View of Reading can shed light on the development of reading comprehension. According to Snow (2020), it may be difficult to utilize the Simple View of Reading to convey an in-depth analysis of understanding.

The lack of attention to the reader's social and emotional environment in the use of language and other external driving elements is one criticism leveled at the simplified perspective of reading. Research supports the simplistic understanding of reading, as pointed out by Hernandez (2022). Reading comprehension should take into account

cognitive theory as well as the pupil's native language, culture, and linguistic background. One of the crucial components of the minimalistic perspective on reading is decoding, or reading words fluently.

Fluency

Reading fluency has been acknowledged as an essential part of proficient reading and a gateway to text comprehension for the past 2 decades (Kuschel, 2022). Because of its similarity to other concepts, defining reading fluency is difficult. Consistently ranked among the most important aspects of reading (together with phonemic awareness, decoding, vocabulary, and comprehension), reading fluency is the capacity to read a text swiftly, accurately, and expressively (Kuschel, 2022). Word recognition fluency and automaticity have long been seen as the hallmarks of a skilled reader, along with prosody and expression (White, 2021).

When a reader is fluent, they are able to move beyond a superficial comprehension of a book and into a more profound knowledge of its content (White, 2021). Oral reading is where reading fluency typically begins. Oral reading was emphasized in American classrooms because it served as a primary mode of both enjoyment and information transfer (Seidenberg, 2017). Rapid word decoding, which is in turn dependent on processing speed, is the primary contributor to reading fluency. Fluent readers may focus their full attention on the meaning of the text rather than deciphering the words. They are able to draw parallels between the text and their own experiences (Brown et al., 2021); that is to say, proficient readers are able to both decode and interpret text simultaneously.

Reading Gap for African American Males

Teachers in the United States have struggled with providing reading instruction that will create skilled and proficient readers. According to Wexler (2018), the lack of phonics instruction in American schools is a major problem. African American males have traditionally faced greater challenges in the classroom and tend to have lower graduation rates from high school (Reeves & Kalkat, 2023). Experts need to investigate the real issue of the low educational attainment rate of Black males. Unfortunately, this condition has not been altered over many decades, and it continues to resurface as a critical requirement for comprehending the literacy challenge that many African American males face.

When African American males are unsuccessful in school, it could lead to a quality of life deemed less adequate than that of their peers. Despite the implementation of various intervention programs aimed at mediating and transforming the academic success rate of African American males, they still underperform other races (McDonald, 2017; Wright & Counsell, 2018). These inequities perpetuate the trend of African American males being homeless, working jobs that do not require reading, and sometimes fostering the school-to-prison pipeline (Jackson, 2019).

The discrepancy in educational chances between Black and White students did not begin with formal segregation after slavery ended and before the Civil Rights movements of the 1960s (Jackson, 2019). Many southern states instituted a set of anti-literacy laws during slavery to restrict the education of slaves and other people of color; furthermore, this system included not only the written word but also oral communication and verbal education in its ban on educating people of color (Kessels & Heyder, 2020).

The discontinuation of desegregation initiatives, claimed Darling-Hammond (2018), is a contributing factor to the racial achievement gap. Before the courts issued desegregation orders in the 1960s and 1970s, students of different races were more integrated into classrooms (Darling-Hammond, 2018). Darling-Hammond continued, "Where children go to school matters greatly for their success" (p. 4). Schools where children from disadvantaged backgrounds make up the majority have fewer qualified educators and fewer resources available to them (Darling-Hammond, 2018). It has been proposed that the termination of desegregation, in conjunction with a change in what experts and politicians regard as being proficient in reading, has had a disproportionately negative impact on children who are members of underrepresented groups (Woulfin & Gabriel, 2020).

The academic growth of African American children is sometimes hampered by teacher-preparation programs that fail to adequately address the unique cultural needs of their students. Hoffman et al. (2020) found that many Black males were not academically ready for college. It is implied that the educational success of Black males is disturbingly low across the board in higher education, especially when compared to that of women of the same race. In general, African American males have a lower degree of preparation for the rigors of higher education (Hoffman et al., 2020).

Kunjufu (1983) concluded that by the fourth grade, African American male students were already experiencing challenges in the classroom. Kunjufu affectionately referred to this problem as the "fourth grade failure syndrome" (p. 91), which is a problem that is widespread in public schools across the nation. Students in the United States attend elementary school from prekindergarten through third grade, while those in

fourth through sixth grade attend upper elementary school. In the fourth grade, students are given greater responsibility for their own education and are expected to use the knowledge and skills they have gained in previous years to tackle more advanced material (Kirchner, 2023). By the fourth grade, many African American children, especially males, exhibit serious indicators of academic decline. Early childhood educators are known to have a positive and supportive stance toward their students. On the other hand, those teaching in the upper grades of primary school are getting their children ready for high-stakes standardized tests. Children are expected to sit at their desks for extended amounts of time and concentrate on their assignments.

Students of color, especially African American students in particular, experience cultural dissonance while attending public schools in the United States. Teachers often view students as "know nothing" or "empty vessels," while they view themselves as "all - knowing" (Quinn, 2020, p. 102). Teachers should encourage student participation in class, and everyone should be able to share their thoughts equally. The most successful educators were noted as those who made their classrooms interactive. According to Rambo-Hernandez et al. (2019), both parents and educators should cooperate for the benefit of their children's academic performance. Rambo-Hernandez et al. also suggested that the gap between the home and the classroom may be a contributing factor in the educational inequality of African American children.

African American males have the potential to gain a great deal from the implementation of interactional teaching strategies in the classroom (Quinn, 2020). Social influences that suggest reading is a feminine activity may discourage African American males from picking up a book (Riley, 2020). A shortage of readers or reading material of

any type in their households or communities also contributes to their hesitation (White, 2021). Teachers who purchase books that appeal to the interests of African American males can build on their schema and have a greater chance of helping these students learn to read more efficiently (Quinn, 2020). The Science of Reading™ is more systematic in the scientific community (Gabriel, 2020). Phonics and other linguistic basics are covered first as students enter the classroom (Quinn, 2020). Younger children do not spend much time trying to interpret books; instead, teachers focus on building the language skills and world knowledge of students via read-alouds and informal discussions (Riley, 2020). This is crucial for African American male students in their journey to learning to read.

Standardized Assessments: NWEA MAP™ and SC READY™

In recent decades, standardized testing has assumed an increasingly important position within the American educational system (Goldhaber et al., 2020). Standardized testing is often referred to as high-stakes testing (Jones & Ennes, 2018). High-stakes tests are those that are used to determine the academic performance of individual students, instructors, schools, and even entire school districts (Goldhaber et al., 2020). One of the most divisive problems in American education is high-stakes testing (Jones & Ennes, 2018). High-stakes testing, or state assessments, are often tied to funding for schools and teacher pay in some states (Jolly, 2022). Some schools often have a higher number of struggling students as opposed to more affluent schools (ProCon, 2019). When standardized examinations are aligned with academic standards, they become more than just another academic chore; they become a valuable resource (Jolly, 2022).

Proponents of standardized testing argue that it motivates children to study more, helps instructors better understand the strengths and shortcomings of their students, and

enables educators to better target low-performing schools for intervention (White, 2021).

Opponents argue that these assessments reinforce inequalities between socioeconomic

groups by narrowing and distorting the curriculum and by holding pupils and instructors

with unequal resources to the same standards (Patterson, 2018). Standardized testing

advocates claim these exams fairly and objectively gauge student ability, while critics say

they promote a narrow curriculum and drill-like teaching to the test and that too much

testing hurts America's ability to create creative thinkers and problem solvers (ProCon,

2019).

Due to a correlation between test results and access to system resources, test

scores have become status symbols (Patterson, 2018). The results of standardized tests

have the capacity to identify the specific requirements of individual children, which then

enables those children to obtain the necessary assistance in a timely manner; thus, seeing

test results as a status symbol for student achievement has been one of the key tactics

utilized by the federal government over the course of the previous 15 years in order to

detect and alleviate educational disparities (Goldhaber et al., 2020). More than 3 decades

ago, studies suggested that students with lower reading test results in third grade were

less likely to complete high school (Liebig, 2021). Those who fail to meet this mark are

statistically more likely to have difficulties as they progress through school and

eventually drop out before finishing their secondary education (Jones & Ennes, 2018).

The general public now uses test results as indicators of a school's pedagogical quality

and as proxies for the desirability of its location as a result of the increased reliance of

policymakers on high-stakes testing as a method of ranking and labeling schools. High-

stakes testing advocates have said that the exams are fair since they evaluate the same

thing for pupils of all backgrounds.

Reading Proficiency

For the past 2 decades, improving the ability of students to read has been at the forefront of educational policy discussions. Concerned about students, their ability to read, and the impact reading ability has on the future of individuals and our country, lawmakers, educators, the media, and parents have all taken notice of the need for this reform, according to Jiang and Logan (2019). Since the passage of No Child Left Behind in 2001, there has been a heightened focus on reading proficiency and the effect it has on the academic achievement of American students. Standardized tests at the national or state level are used to evaluate the reading abilities of students relative to their chronological age and grade level (Walz, 2020). The student's performance determines the ability level assigned to each of these degrees of proficiency.

SC READY™

SC READY™ are mandatory, high-stakes exams for third through eighth graders in South Carolina. Students are given as much time as they need to finish the SC READY™ test, as it is not timed. Data Recognition Corporation has been contracted as the testing coordinator for South Carolina for the past 7 years. Selected response, multi-select, and evidence-based selected response items are all present on the ELA test. Students are asked to choose one answer from a list of four selected response items. Students are required to select more than one right answer option when answering multi-choice questions.

The SC READY™ statewide summative assessments in ELA and math meet the requirements of the South Carolina Read to Succeed Act 284, the South Carolina

Summative Assessment Act 200, the Elementary and Secondary Education Act of 1965, the Individuals with Disabilities Education Improvement Act of 2004, the Every Student Succeeds Act of 2015 (ESSA), and the South Carolina Assessments Peer Review Guidance for Grades 3–8 (SC READY™, 2020; South Carolina Department of Education, 2014).

Section 59-18-325 of the Education Accountability Act requires all students to be involved in SC READY™ (Grades 3-8 for ELA and math, Grades 4 and 6 for science; SC READY™, 2020). These participation requirements do not apply to S.C. Alternate Assessment students with serious cognitive limitations. Education Accountability Act Section 59-18-325 also mandates SC READY™ online testing for Grades 3-8 (SC READY™, 2020). Students with disabilities who cannot take online exams according to their Individualized Education Program (IEP) or 504 plans and multilingual learners with an individualized language acquisition plan can take a paper test (SC READY™, 2020).

Curriculum requirements and student outcomes are defined by these standards (SC READY™, 2020). Each student's federal accountability status, growth scores, and absolute ratings are determined using SC READY™. Students, instructors, and parents may all understand how well they are doing in relation to the South Carolina state standards (SC READY™, 2020) by looking at their individual direct scores on the SC READY™ test.

The statistical data for the state of South Carolina since 2018 can be found in Table 3. Students across the state have scored below 50% each year. African American male students have the highest percentage of does not meet scores than other students on the ELA portion of SC READY™. In 2018, the SC READY™ test score results depicted

that 45% of third-grade students met or exceeded expectations. In 2019, 50% of students scored met or exceeded expectations in the state of South Carolina on the ELA portion. In 2021 and 2022, South Carolina students scored 43% and 48% respectively. Despite the focus on reading skills, students are still not reading proficiently at grade level.

Table 3

SC READY™ Scores Across South Carolina

Year	Demographic	Number of students tested	Does not meet	Approaches	Meets expectations	Exceeds expectations
2018	South Carolina	59,902	23.2	31.7	28.3	16.8
2018	African American Males	19,967	35.4	37.6	20.7	6.2
2019	South Carolina	57,236	25.5	24.7	26.6	23.3
2019	African American Males	19,078	38.9	30.6	21.3	9.2
2021	South Carolina	51,313	31.8	24.9	23.9	19.3
2021	African American Males	17,104	48.5	28.7	16.3	6.5
2022	South Carolina	55,905	29.0	23.0	23.6	24.4
2022	African American Males	18,635	43.4	27.1	19.3	10.2

Note. Adapted from https://ed.sc.gov.data.test-scores/state-assessments/sc-ready/

The results of the SC READY™ test are presented using scale scores, performance levels, and performance categorized by standard. Performance levels represent the spectrum of knowledge and abilities demonstrated by students and serve as a valuable tool for assessing the overall performance of a school. Grades 3-5 ELA scale score ranges that align with the four overall performance levels are shown in Table 3. Each correct or incorrect answer is worth 1 raw score point. Indicators in academic standards are declarations of the particular cognitive processes and content knowledge and skills that students must display to satisfy the grade-level requirements.

NWEA MAP™

The NWEA MAP™ exam is one type of standardized test utilized in many

schools today. For 40 years, the nonprofit NWEA has provided evaluations for students from kindergarten through high school. The tests are computer-adaptive, so the questions get harder as students get them right and easier when they get them wrong to pinpoint exactly where the student is academically, as aligned to national norms and Rasch UnIT (RIT) scores (NWEA, 2021). Every 3 to 5 years, the NWEA performs norming studies to update their data and make sure their comparisons are accurate for the present population. NWEA MAP™ uses anonymized data from more than 11 million students to establish national benchmarks. Students and schools can be ranked relative to the rest of the country using these averages (NWEA, 2021).

The NWEA MAP™ assessment is a computer-administered test designed to assess a student's progress and proficiency. The NWEA MAP™ provides a comprehensive range of assessments from prekindergarten through 12th grade. The subjects of reading, language usage, mathematics, and science are potential areas of assessment for students in Grades 2–12. Reading and mathematics are both evaluated via standardized tests for students in Grades K–2 (NWEA, 2021); however, local school districts are free to determine which exams are offered, how often they are given, what topics they cover, and what kinds of assessments are given.

Each NWEA MAP™ test takes students approximately 1 hour to complete (NWEA, 2021). It has a reputation for being easier to give than other assessments and is not timed, even though most students finish them in under 1 hour (NWEA, 2021). NWEA MAP™ is normed on a nationwide scale and provides quick feedback on test results. NWEA MAP™ undertakes a norming study every 3 to 5 years to make sure comparisons are accurate and in line with the most recent demographic data. NWEA

MAP™ also does state-level linking studies. Regardless of where their pupils began, teachers will be able to use these norms to gauge whether or not they are making adequate progress. NWEA MAP™ also has the added benefit of giving each student personalized learning objectives. The test is used to gauge development and skill. The tests are computer-adaptive, so when students answer questions correctly, they are presented with progressively more challenging ones. The difficulty of the questions is also reduced when students continue to get them wrong. Through this method, both the student's present academic standing and their progress since the last assessment may be determined (NWEA, 2021).

Students receive an RIT score after finishing the test, and if they are on pace to make a year's worth of improvement, they also receive a projection of what their RIT score will be the following year (NWEA, 2021). A student's RIT score can be used as a proxy for their instructional level and as an indicator of their academic development. Over time, the RIT score is expected to increase to gauge how students will score on high school assessments to meet college entrance expectations (NWEA, 2021). Table 4 shows the progression of RIT scores for students in Grades 5-8 and how student RIT scores should increase to be successful on the American College Test (ACT). Students of all grade levels and abilities are given the same number of possible points on the RIT. As a result, one can tell if a pupil is performing below, at, or above grade level (NWEA, 2021). It is acceptable for pupils to have an RIT score with a standard error of measure of 5 when compared to the statewide and national averages.

Table 4

ACT College Readiness Benchmark for MAP Scores

Grade		Reading RIT	Math RIT
5	Fall	209	217
5	Spring	214	225
6	Fall	214	225
6	Spring	219	232
7	Fall	219	232
7	Spring	223	238
8	Fall	223	238
8	Spring	227	242

Note. Adapted from

https://www/franklincityschools.com/media/curriculum/MAPparentbrochure2015.pdf

Through the use of the 2023 linking study, educators may anticipate their

students' success on the state's final assessment based on their NWEA MAP™ Growth

RIT ratings collected during the year. This is done by conducting statistical analysis to

determine appropriate RIT cut scores that map onto statewide performance benchmarks

(Thum & Kufeld, 2020). Reaching the meets expectations RIT cut does not ensure state

assessment proficiency since all test results involve measurement mistakes. Instead,

students with the RIT cut score have a 50% probability of passing the state test, with their

odds increasing as their score rises (Thum & Kufeld, 2020).

If the school district wishes, these reports may be printed and sent to parents.

Information from the NWEA MAP™ test can be utilized to help teachers plan lessons.

Teachers who are interested in the significance of RIT scores can use the learning

continuum, which illustrates the material that MAP Growth evaluates, as a subject

explorer to fill in some of the knowledge gaps in their own understanding. (NWEA,

2021). The NWEA MAP™ test, or similar standardized assessment, may be used as a

factor in teacher evaluations in some school systems.

Conclusion

The body of published work has provided documentation of decades' worth of studies pertaining to both the opportunity gap and the Science of Reading™ professional development (ProCon, 2019). The United States has a persistent history of producing standardized performance results that demonstrate a difference between children from racial and ethnic minorities as opposed to other classmates in terms of the rate at which these pupils attain proficiency.

Scarborough's Reading Rope is a condensed version of the complex skills of oral communication, understanding of context, vocabulary, verbal reasoning, language structure, literacy, phonemic awareness, alphabetic principle, and automaticity in reading and writing. The Science of Reading™ encompasses all these components and more. According to the existing body of research, there is a clear demand for an investigation into the achievement/opportunity gap as well as the Science of Reading™. The approach that was used for this research is presented in the next chapter.

Chapter 3: Methodology

Introduction

Reading is an essential part of basic instruction and education, particularly in the younger grades, as it is the backbone of all learning. Reading is an important component of primary education. This research examined the achievement gap between students from disadvantaged backgrounds in three rural, Title I schools in South Carolina to see if there was a correlation between the district's chosen professional learning to implement the components of the Science of Reading™ and the size of that gap. Specifically, the study focused on African American third-grade male students.

Participants and Site

Student scores from South Carolina primary schools that were part of the Title I program and were in a rural school district were considered as or served in the role of the participants in this study. Three elementary schools in a small, rural district in South Carolina were utilized for research and data collection. All three elementary schools were prekindergarten through fifth grade, received Title 1 funds, were uniquely housed within one building, and were implementing the Science of Reading™ methodology of reading instruction. Teachers employed in this study were also involved in LETRS™ professional learning and actively implementing the Science of Reading™ techniques in their classrooms.

Due to their ratings in the Palmetto Literacy Project, the South Carolina Department of Education chose these three elementary schools. Each school was identified as a Tier 2 or Tier 3 school according to how students score on SC READY™ reading assessments each spring (see Table 2). After analyzing the spring 2019 test

scores, the South Carolina Department of Education rated each school. School A was identified as a Tier 3 school, while Schools B and C were identified as Tier 2 schools. Since all three schools are housed in the same building, the South Carolina Department of Education decided that all three schools would participate in the LETRS™ professional development course before any other district in the state.

The sample size of African American male students in third grade yielded approximately 120 students for all three schools and for the 4 academic school years the assessments were taken. The South Carolina Department of Education has made available to the public both the total number of pupils who took the exams, the demographics of the students, and the percentages that score "does not meet," "approaches expectations," "meets expectations," or "exceeds expectations." Each Title I school's data were gathered and examined. The study compared test results from the spring before the pandemic (2018–2019) with those from the next 3 school years after schools returned to in-person learning for all students (2020–2021, 2021–2022, and 2022–2023). The 2019-2020 school year was left out because schools were closed in May 2020 due to the COVID-19 outbreak. This meant that students could not take their end-of-year SC READY™ tests.

None of the pupils in the sample were known. The study solely looked at publicly available information from the South Carolina Department of Education and from the school district reading plans that are kept by the curriculum and instruction department; therefore, there was no way of knowing the identities of the students who participated in the study, protecting their privacy. Data are frequently collected using non-interactive instruments, limiting the interaction with participants (Hewitt & Cramer, 2014).

School A was a Title 1 school of 322 students, including 184 males and 138

females. The student population was 66% African American, 21% Caucasian, 7% Hispanic, and 6% other. The third-grade African American male population was 39%. School B was a Title 1 school of 411 students, including 229 males and 182 females. The student population was 79% African American, 14% Caucasian, 1% Hispanic, and 6% other. The third-grade African American male population was 44%. School C was a Title I school of 377 students, including 182 males and 194 females. The student population was 46% African American, 40% Caucasian, 6% Hispanic, and 8% other. The third-grade African American male population was 32%.

Measurements and Instruments

The measure for this research was literacy proficiency as defined by LETRS™ training over a period of 4 testing years. To assess literacy proficiency, the SC READY™ and NWEA MAP™ assessments were used. The act of reading facilitates the acquisition of cognitive comprehension, encompassing both the mental processes of individuals external to oneself and one's own ruminations from a previous temporal juncture. Reading proficiency refers to the ability to read at or surpass the level expected for third-grade students by the conclusion of the third-grade academic year. This proficiency was determined by evaluating the outcomes of a state-approved standardized assessment of reading comprehension, which is provided to students in the third grade.

The SC READY™ assessment is a compulsory, high-stakes examination administered to students in Grades 3-8 in the state of South Carolina. This standardized assessment was the first instrument that was used to determine the reading proficiency of third-grade African American males. The SC READY™ test does not have a time limit, allowing students to allocate as much time as necessary to complete the assessment. For

the previous 7 years, the testing coordination responsibilities in South Carolina have been

entrusted to Data Recognition Corporation. The SC READY™ assessment utilizes four

distinct performance levels, namely does not meet expectations, approaches expectations,

meets expectations, and exceeds expectations. The results of the SC READY™ test are

presented using scale scores, performance levels, and performance categorized by

standard. Performance levels represent the spectrum of knowledge and abilities

demonstrated by students and serve as a valuable tool for assessing the overall

performance of a school. Grades 3-5 ELA scale score ranges that align with the four

overall performance levels are shown in Table 5. Each correct or incorrect answer is

worth 1 raw score point. The student receives no credit for the item and is marked

incorrect if they do not respond to it or give an inaccurate answer. All SC READY™ test

questions correspond with the appropriate grade-level and content-area tests. The

expectations for what should be taught and learned in schools are laid out in the

standards. Indicators in academic standards are declarations of the particular cognitive

processes and content knowledge and skills that students must display to satisfy the

grade-level requirements. The academic criteria and indicators serve as a guide for the

development of the test items used on the SC READY™ test.

Table 5

SC READY™ Cut Scores

Grade	Does not meet	Approaches	Meets	Exceeds
3	100-358	359-451	452-539	540-825
4	100-418	419-508	509-592	593-850
5	100-449	450-557	558-652	653-875

Note. Adapted from: https://ed.sc.gov/tests/middle/sc-ready

NWEA MAP™ was the second instrument that was used to measure reading proficiency for third-grade African American males. NWEA MAP™ uses anonymized data from more than 11 million students to establish national benchmarks. Table 6 displays the 2020 norms, which were calculated using elaborate sampling and weighting techniques to guarantee they are representative of the student body in public schools across the United States. NWEA approximated fall, winter, and spring norms using instructional day data and actual testing dates. The columns labeled "SD" in Table 6 contain the standard deviations of the means. A standard deviation is just a measure of the deviation of scores around the mean value; the smaller the standard deviation, the more compact the scores are around the mean. When comparing student norms to school norms, standard deviations are especially helpful since they allow teachers to draw many conclusions. The RIT scale is used by MAP Growth to facilitate comparisons of academic performance and development. The academic challenge is quantified by this scale. The RIT scale is used to evaluate a student's mastery of a given topic. An individual's RIT score indicates the probability that they will correctly respond to a test item calibrated to that level.

Table 6

NWEA MAP™ RIT Norms 2020

	Fall		Winter		Spring	
Grade	Mean	SD	Mean	SD	Mean	SD
K	136.65	12.22	146.28	11.78	153.09	12.06
1	155.93	12.66	165.85	13.21	171.40	14.19
2	172.35	15.19	181.20	15.05	185.57	15.49
3	186.62	16.65	193.90	16.14	197.12	16.27
4	196.67	16.78	202.50	16.25	204.83	16.31
5	204.48	16.38	209.12	15.88	210.98	15.97
6	210.17	16.46	213.81	15.98	210.98	15.97
7	214.20	16.51	217.09	16.21	218.36	16.38
8	218.01	17.04	220.52	16.69	221.66	16.87
9	218.90	19.02	220.52	18.73	221.40	19.03
10	221.47	17.92	222.91	17.81	223.51	18.20
11	223.53	17.73	224.64	17.80	224.71	18.50
12	223.80	19.32	223.85	21.21	224.33	23.08

Note. Adapted from

https://teach.mapnwea.org/impl/MAPGrowthNormativeDataOverview.pdf

Data Collection

Data, as defined by Vogt and Johnson (2016), is organized information needed by any researcher to examine a hypothesis and respond to research questions and is gathered through data collection. The process of data collection began by obtaining permission from the superintendent of the three rural Title I schools in South Carolina to conduct the investigation and collect data. Once approved, the South Carolina Department of Education website was used to collect data on student end-of-year ELA standardized test scores for the 2018–2019, 2020–2021, 2021–2022, and 2022–2023 school years. The NWEA MAP™ scores were obtained from the curriculum and instruction department through the director of literacy.

To test the validity of the hypotheses, an Analysis of Variance (ANOVA) test was

performed on the data in order to look for any patterns that could emerge from the data. Gravetter and Wallnau (2005) asserted that the ANOVA measures the significance of mean differences in situations where there are more than two sample means being compared. Multiple samples of data were compared for the same group of students in the three elementary schools. Following the completion of the data collection and analysis phases, any findings are reported in Chapter 4. Due to the absence of studies on rural Title I children as well as the lack of research incorporating the Science of Reading™ and LETRS™ professional development, no findings were found that could be comparable to this study. As a result, necessary information was gathered, and a necessary analysis was reported that aligns prior research with the overall purpose of the study.

Alignment Table

The main research question was how the implementation of the Science of Reading™ required training impacts the reading proficiency levels of third-grade African American male students. The research questions and how they were analyzed are listed in Table 7.

Table 7

Quantitative Alignment Table

Research Questions	Method	Data source
Research Question 1: How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by the SC READY™ state summative assessment?	ANOVA test	SC READY™ reading scores
Research Question 2: How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by NWEA MAP™ scores?	ANOVA test	NWEA MAP™ reading scores

Data Analysis

Success in reading based on the Science of Reading™ was measured using an ANOVA to compare one or more variables based on two types of assessments. Studies that compare changes in mean scores across three or more time periods or differences in mean scores across three or more conditions for a single group of participants can benefit from a repeated measures ANOVA test. If the probability of a random event occurring is less than 5% ($p <. 05$), the result of an ANOVA test is significant.

Research Question 1: How Has LETRS™ Impacted Reading Achievement Scores for Third-Grade African American Male Students, as Measured by the SC READY™ State Summative Assessment?

To answer Research Question 1, an ANOVA test was run to investigate the effectiveness of the Science of Reading™ training and the potential impact it had on the reading scores of African American third-grade males based on SC READY™ reading scores. This allowed me to analyze the data to see if there were statistically significant changes in reading scores over time.

Research Question 2: How Has LETRS™ Impacted Reading Achievement Scores for Third-Grade African American Male Students, as Measured by NWEA MAP™ Scores?

To answer Research Question 2, an ANOVA test was run to investigate the effectiveness of the Science of Reading™ training and the potential impact it had on the reading scores of African American third-grade males based on NWEA MAP™ reading scores. This allowed me to analyze the data to see if there were statistically significant changes in reading scores over time.

The SC READY™ test score data were gathered from the South Carolina Department of Education (2023) website, which is available at no cost to the public and details public school achievement and progress towards stated goals. The information was compiled in aggregated forms according to district, school, socioeconomic position, ethnicity, disability, and status as a multilanguage learner. The SC READY™ data for all three schools (School A, School B, and School C) were placed in a chart with the schools at the top of the chart (Appendix A). Each school was referenced as School A, School B, and School C to protect the identities of students. On the side of the chart are numbers that represent the African American male students whose data were collected from the website. The years used began before LETRS™ was used in the schools as a professional development course for teachers, followed by the 2 years teachers were involved in the extensive course, and finished with the year after the course was completed by the educators. Inside the cells of the chart are the percentages of African American male students in each school who scored approaching, meets, and exceeds on the reading portion of SC READY™. Following the chart was an in-depth analysis of the scores and their implications to answer the research question of whether the African American male students in third grade made significant gains based on being taught the proper way to read by their teachers. The data from each school were compared based on the years the assessment was administered to see if gains were made.

The second data point analyzed was the NWEA MAP™ reading scores for those same African American male third-grade students. The information was obtained from the archives of the Office of Curriculum and Instruction. The information was on an Excel spreadsheet and was separated by school, gender, ethnicity, and special education

students (Appendix B). The data were displayed in chart form, with the schools (School A, School B, and School C) listed at the top of the chart. The side of the chart included numbers that represent the African American male students whose data were collected from the director of literacy. The years used began before LETRS™ was used in the schools as a professional development course for teachers, followed by the 2 years teachers were involved in the extensive course, and finished with the year after the course was completed by the educators. Inside the cells of the chart included the percentage of African American male students in each school who scored approaching, meets, and exceeds based on NWEA MAP™ RIT scores for third-grade students using the spring test results. Inside the cells of the chart was the percentage of African American male students in each school who scored approaching, meets, and exceeds on the reading portion of the NWEA MAP™. Following the chart, there was an in-depth analysis of the scores and their implications to answer the research question of whether African American male students in third grade made significant gains based on being taught the proper way to read by their teachers. The data from each school was compared based on the years the assessment was administered to see if gains were made.

Ethical Considerations

Participant identities in research projects must be respected and always protected (Creswell & Creswell, 2018). I confirmed that I had received informed permission from appropriate personnel before beginning the study (Appendices C and D). All precautions were taken to display the data in three charts to show each school (School A, School B, and School C) at the top of the chart. On the side were the participants, displayed by a number. These were the African American third-grade students in each school. Each

chart was divided by the years the SC READY™ assessment was taken to shield the identities of all research subjects. The initial action taken while conducting the study and making use of the school district's historical data was key to the successful outcome of the information analyzed. The rural Title I school district's primary school was where the district's archives were kept. No names, schools, instructors, or leaders were recorded, and all test scores were private. The SC READY™ test data and NWEA MAP™ data utilized for this analysis were encrypted and saved on my password-protected computer and cloud storage.

There was no participant-researcher interaction of any kind during this study. As a result, the possibility of injury was quite low or nonexistent. Approval of this study by the Institutional Review Board (IRB) and certification by the Collaborative Institutional Training Initiative (CITI) ensured the study was conducted ethically. One of the obligations was to submit an application and obtain permission from the IRB prior to initiating data collection. The members of the IRB carefully examined the study's goals and methods. To verify that it considered any potential dangers to the participants, the IRB also assessed the study's aims and intentions. In addition, before granting permission, the IRB ensured and provided feedback that addressed any potential ethical issues within the study. Upon acceptance, the committee chair also reviewed and signed the IRB application form to guarantee the study's integrity and careful planning.

Through the CITI program, certificates were received for training in research for both me and my committee chair, ethics, and accountability, which are included in Appendices E and F. As a way to promote academic ethics, the CITI program offers a wide range of training classes to schools. In this study, much has been learned about how

to do research that involves or is about people. This course focused on important aspects of human topics, such as history and ethics, among other things.

Conclusion

This study was conducted with the intention of analyzing the influence of implementing the Science of Reading™ LETRS™ 2-year professional development course and its impact on African American third-grade male students during a specified time frame. The third chapter gives some background information on the school district that was investigated. An overview of the research design, methodology, participants, and overall process of the study are included in Chapter 3. The statistical analysis of the data supporting the hypotheses and the quantitative analysis of the research questions are presented in Chapter 4, along with a summary of the chapter's findings. Chapter 5 provides an overview; a review of the findings, discussion, implications, and limits; recommendations for future study; and a conclusion.

Chapter 4: Results

Based on the results of the NWEA™ MAP test and the SC READY™ reading summative assessment, the objective of this quantitative study was to determine whether the training in the Science of Reading™ was effective in improving the reading achievement scores of African American male students in third grade. The study was conducted at three elementary schools that were classified as Tier 2 and Tier 3 schools. The NWEA™ MAP test and SC READY™ reading archived scores from Spring 2019, Spring 2021, Spring 2022, and Spring 2023 were analyzed to assess the overall statistically significant difference the program has potentially brought about.

The aim of this chapter is to provide an overview of the techniques for quantitative data analysis from the population of African American male students who participated in the NWEA MAP™ and the SC READY™ reading tests. Students were selected from classrooms whose teachers had taken part in the Science of Reading™ training that lasted for approximately 2 years. The information resulted from the analysis of the data that had been archived for the district. As a result, the participation of elementary school teachers was not required for this project.

The test scores are from South Carolina elementary schools in a rural school district that were part of the Title I program. The South Carolina Department of Education picked these three elementary schools over all other schools in the state to participate in LETRS™ professional development because of how well they did with the Palmetto Literacy Project. The scores students received on the SC READY™ reading tests each spring determine whether a school is a Tier 2 or Tier 3 school (see Table 2). The South Carolina Department of Education gave each school a grade based on the test

results from the spring of 2019. The third-tier school was found to be School A. The

second-tier schools were found to be Schools B and C. There were 247 African American

male students in the third grade from all three schools during the 4 school years the tests

were given, which consisted of the sample size for this investigation.

Research Question 1: How Has LETRS™ Impacted Reading Achievement Scores

for Third-Grade African American Male Students, as Measured by the SC

READY™ State Summative Assessment?

To answer Research Question 1, an ANOVA analysis was run with the school

year in which the summative assessment was administered as the dependent variable and

only African American third-grade males as the independent variable. During the 2019

school year, the teachers did not go through LETRS™ training. Table 8 shows the results

of African American third-grade males during the 2019 school year.

Table 8

SC READY™ Summative Assessment

Cases	Sum of squares	df	Mean square	F	p	η²
Year	129434.333	3	43144.778	3.559	0.015	0.041
Residuals	2.994e+6	247	12122.868			

Note. Type 3 Sum of Squares.

The results showed that there was a statistically significant difference among the

three schools, $F(3,247)=3.559$, $p = 0.015$. This suggests that there was a difference in

how African American third-grade males reacted to the LETRS™ training their teachers

received and their performance on the SC READY™ summative assessment. A Post Hoc

assessment of the data was conducted to then determine where the difference was in the

years. Table 9 shows how the years were compared to determine the possible statistical

difference for African American third-grade males.

Table 9

Post Hoc Comparison

		Mean difference	SE	t	p_{tukey}
2019	2021	49.143	20.569	2.389	0.082
	2022	-2.483	19.523	-0.127	0.999
	2023	-14.780	18.426	-0.802	0.853
2021	2022	-51.626	21.281	-2.426	0.075
	2023	-63.924	20.279	-3.152	0.010
2022	2023	-12.298	19.217	-0.640	0.919

There was only one significant pairwise comparison; that was between 2021 and

2023 (312.306 and 376.230). Students in 2023 scored an average of 63.924 higher than

those students in 2021 (see Table 10).

Table 10

SC READY™ Reading Data

Year	Mean	SD	N
2019	361.449	121.884	69
2021	312.306	102.318	49
2022	363.932	119.639	59
2023	376.230	94.468	74

During the 2019, 2021, and 2023 years, there was not a statistically significant

difference in the data. The results of the SC READY™ test are presented using scale

scores, performance levels, and performance categorized by grade-level standards.

Performance levels represent the spectrum of knowledge and abilities demonstrated by

students and serve as a valuable tool for assessing the overall performance of a school.

The students who made gains in their scores may have moved from the does not meet

category to either approaches, meets, or exceeds. The data do not indicate which category the students moved from to show growth; therefore, from these results, we can assume LETRS™ implementation possibly taught students how to decode words enough to read the grade-level content of the SC READY™ assessment to understand what the questions required them to do.

While the study suggests that the LETRS™ professional development course and Science of Reading™ practices did not result in an immediate rise in student success scores, students did show statistical significance over a period. Consequently, it may be inferred that LETRS™ has a favorable effect on both teacher knowledge and student accomplishment.

The other years did not show a statistical difference, and one could assume that during the first year of LETRS™, in 2022, the teachers were becoming familiar with the program. The first year of LETRS™ training shows the foundations of reading and how the brain prepares students to internalize the letter symbols and meanings of using nonsense words.

Research Question 2: How Has LETRS™ Impacted Reading Achievement Scores for Third-Grade African American Male Students, as Measured by NWEA MAP™ Scores?

To answer Research Question 2, an ANOVA analysis was run with the school year in which the summative assessment was administered as the dependent variable and only African American third-grade males as the independent variable. In the initial investigation, the years of analysis were 2019, 2021, 2022, and 2023. This range of dates covered before LETRS™ training, the 2 years of teachers going through LETRS™

training, and 1 year after; however, after a closer analysis, it was discovered that the NWEA norms were changed in 2020. Therefore, the 2019 data could not be used due to them being aligned with the old 2015 norms (see Table 6).

Table 11 shows the ANOVA analysis conducted for NWEA MAP™ data. Based on the data, $F(2,218)=0.403$, $p = 0.669$, which did not show a statistical significance in the scores for African American male third-grade students.

Table 11

NWEA MAP™ Reading Data

Cases	Sum of squares	df	Mean square	F	p	η^2
Year	238.835	2	119.417	0.403	0.669	0.004
Residuals	64599.455	218	296.328			

Note. Type 3 Sum of Squares.

Table 12

NWEA MAP™ Descriptive Data

Year	Mean	SD	N
2021	185.575	16.320	87
2022	183.258	18.990	62
2023	183.653	16.656	72

With the ANOVA one-way test, the mean difference is 0.669, and a small relationship is seen between the 3 testing years (Table11). The standard deviation mean difference between the 3 testing years yielded 2.67 from 2021 to 2022 and 2.334 from 2022 to 2023 (Table 12). This leads me to conclude that the impact of the Science of Reading™ with LETRS™ training on African American third-grade male reading scores

based on NWEA MAP™ is not significant.

There was no statistical significance on NWEA MAP™ data for third-grade African American males. In Chapter 5, the conclusion, discussion, and proposal for future studies in the framework of the research literature on the use of LETRS™ to strengthen the Science of Reading™, reading achievement for all students, especially African American males, is discussed. Whereas SC READY™ is administered once a year, NWEA MAP™ is administered to students three times a year (fall, winter, and spring). Only the spring data were analyzed for 3 years instead of 4, like with SC READY™. This was due to the NWEA norms changing from 2015 to 2020. Norms offer a framework for comprehending the academic progress and development of students and schools in many topics; however, it is also crucial to consider how pupils performed or developed in relation to a suitable reference peer group. This is essential for tailoring teaching to specific students, establishing achievement objectives for students or whole schools, comprehending patterns of achievement, and assessing student performance. The idea of norms may be easily understood as the process of determining the relative distance of each score from other scores in each distribution.

The NWEA MAP™ Growth reading test is an electronic, adaptable assessment that measures a student's educational progress and competence in reading. The test is adaptive, indicating that the difficulty level of the questions adjusts based on the student's prior responses; therefore, it is harder to track whether students will grow based on how the test is set up and the answers students choose. Some students could begin receiving questions several grade levels above or below their current grade level based on how they answered their previous questions. SC READY™ is based on grade-level content and

standards for the specific grade level.

Conclusion

The quantitative results presented in this chapter were derived from a one-way ANOVA test in which the impact of the Science of Reading™ required training of LETRS™ on third-grade African American males. There were various tables presented as evidence and visual interpretation of the results. The data demonstrated there was statistical significance in test scores on the SC READY™ assessment for third-grade males from 2021 to 2023: the last year of LETRS™ training and the year after the 2-year required training concluded. This information would assume that the LETRS™ required training for all educators by the South Carolina State Department had a real impact on student achievement for African American males in third grade based on SC READY™ scores.

There are several factors that impact student academic success. Disparities in students' origins, curriculum exposure, previous educational experiences, school attendance, and biological variables are all factors that lead to variations in student success within a single classroom. Similar to any research endeavors that derive findings and inferences from data and prevailing patterns, numerous factors are implicated and might account for the observed phenomena. Eliminating all variables in a study with only one control, particularly in the educational area, is an unattainable task.

This research investigation took place after the COVID-19 pandemic. While COVID-19 learning loss is frequently cited as a factor contributing to poor student performance, it is important to acknowledge that the pupils included in this study were impacted in some kind by the pandemic. Regrettably, there is still a significant disparity

between the application of scientifically grounded research methods in reading and teaching, even years after the release of the Read to Succeed Act of 2014, and the initial efforts to enhance reading instruction in South Carolina. Over the course of many years, we have accumulated a vast amount of data on the most effective methods for teaching pupils how to read; however, there is still room for improvement in the implementation of these techniques. How can the transfer of information between the researcher and practitioner become compromised? Balanced literacy has been the methodological approach informally adopted by many states in the United States and South Carolina for 20-plus years. Many teachers know nothing else, as they have not received professional development on anything other than strategies.

Additionally, many literacy leaders at the district level across South Carolina have not yet embraced the Science of Reading™. Leaders have allowed their own pedological beliefs about reading to prevent teachers in their districts from learning about brain-based reading research and have, sadly, blocked children from receiving instruction that is proven to teach how to decode and encode both systematically and explicitly.

One would assume from this information that teachers learning the Science of Reading™ foundations have helped improve reading for African American males. While the study suggests that the LETRS™ professional development course and Science of Reading™ practices did not lead to an immediate boost in student accomplishment scores, they were statistically significant. Consequently, it may be inferred that LETRS has a favorable effect on both teacher knowledge and student accomplishment. Teachers should persist in expanding their knowledge as learners and integrating research-based methodologies into their lessons. There is a need to adopt more impactful professional

development for instructors, with a specific focus on scientifically proven reading practices.

According to Moats (2020), instructors require sufficient time to understand and implement new knowledge to effectively incorporate scientifically proven reading techniques into their teaching. Experienced educators who have been in the profession for many years are familiar with the cyclical changes in the content of teaching reading. LETRS™ is highly recommended for Palmetto Literacy Project schools in South Carolina and is required in most districts. Nevertheless, this 2-year professional development program does not provide instructors with the opportunity to assess their existing knowledge of specific components of the program.

This absence of individualization or differentiation of LETRS™ training fails to consider the earlier experiences of instructors. Teachers, like other adults, are driven by distinct motivations compared to students. For example, students like the idea of a reward to complete tasks. Educators also like extrinsic rewards to complete tasks, such as early leave passes, separate stipends, etc. The acquisition of new knowledge through LETRS™ serves as an inherent motivation to assist parents in fostering their children's success in reading.

Certain individuals may have finished the LETRS™ program because of external incentives. Incentives such as financial compensation, opportunities for external job applications, recertification credits, and compliance with district directives from superiors were potential motivating elements that may have impacted instructor enthusiasm and the completion of the program with fidelity.

The overall goal for educators is to improve regular classroom instruction. This is

crucial for making a difference in education and ensuring literacy and the right to read are accessible to all. It is important to acknowledge and analyze the constraints of this study and its conclusions while also questioning our efforts to enhance reading instruction and literacy experiences for children in South Carolina. Every student in South Carolina should have access to and the right to read.

We have learned through the review of the literature of Chapter 2 that African American males learn best through interactive classrooms that incorporate the five pillars of literacy (phonics, fluency, comprehension, vocabulary, and phonemic awareness). Developing student subject-matter knowledge, vocabulary, sentence comprehension, and familiarity with the language in written texts requires an intentional, methodical, and explicit teaching of word recognition as part of reading and language arts education. Chapter 5 addresses future research, implications for the future, and how this research applies to educational leadership.

Chapter 5: Discussion

South Carolina has embraced the Science of Reading™ as the foundational approach for teaching reading in K-12 institutions. This choice was made based on low test results for multiple years throughout the state and subsequently implemented as a comprehensive training program for teachers across the entire state. The program is intended to equip teachers with the necessary knowledge and skills to effectively teach reading, utilizing the methodologies derived from the Science of Reading™ training. LETRS™ is a mandated educational program in South Carolina that is recommended for schools and districts not meeting performance expectations (Hensel, 2023). Implications might be inferred about the government's efforts to enhance student reading scores and advance reading teaching for its young population. The primary focus was on the effectiveness of the field of reading science in relation to the reading abilities of African American male students in Grade 3. The persistent disparity in educational achievement based on ethnicity is a significant issue (Wright & Counsell, 2018). Although it is important to understand the overall success of the Science of Reading™ for all students, this study specifically aimed to assess the possible impact of the Science of Reading™ on enhancing the reading skills of African American male students.

Despite years of debate, there remains a notable absence of consensus regarding the most effective approach to reading instruction, specifically in the early grades. Several studies cited in the literature review proposed that reading instruction for students should incorporate both phonics and literature (Hensel, 2023). LETRS™ employs an embedded phonics strategy, while also establishing a framework for reading and letter combinations (Gabriel, 2020).

Summary of Findings

This study addressed the following research questions:

1. How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by the SC READY™ state summative assessment?

2. How has LETRS™ impacted reading achievement scores for third-grade African American male students, as measured by NWEA MAP™ scores?

This research was intended to investigate the factors that impact the academic achievement of African American males. The results showed that there was a statistically significant difference among the three schools during the 2023 school year based on SC READY™ summative assessments. All other years, 2019, 2021, and 2022, did not show a statistically significant difference in the data. The results of the SC READY™ test are presented using scale scores, performance levels, and performance categorized by grade-level standards. Performance levels represent the spectrum of knowledge and abilities demonstrated by students and serve as a valuable tool for assessing the overall performance of a school. The students who made gains in their scores may have moved from the does not meet category to either approaches, meets, or exceeds. The study shows that the LETRS™ professional development training and Science of Reading™ methods did not yield immediate results, but they did show statistical significance over time; therefore, the data suggests LETRS™ improves both teacher understanding and student performance in reading.

Implications

African American males consistently exhibit more severe academic performance

compared to their counterparts. Targeted and prescriptive instruction and intervention are critical for African American males to reach their maximum potential academically around reading (Fenzel & Richardson, 2019). This study refrains from asserting a causal claim of a substantial significance of improvement in reading scores based on the evidence about the influence of LETRS™ training on instruction or pedagogy, nor does it suggest whether the reading instruction received by students was superior in any of the years that were analyzed. Furthermore, this association does not demonstrate that the LETRS™ training those teachers received led to enhanced instruction quality, resulting in improved student reading scores.

Approximately 29% of public school students in the United States attend schools in rural areas. In South Carolina, the rate is 40%, ranking 21st in the nation, with around 116,000 students attending rural schools (Woodward, 2023). South Carolina is rated fourth nationwide in a total priority rating for low socioeconomic citizens. The ranking criteria consist of student accomplishments, state resources, college and job preparedness, demography, and poverty (Woodward, 2023). Schools and educators are crucial in fostering the intellectual development of children, but family and the student's surroundings also have a significant impact on their growth and success. Reading achievement is influenced by a combination of family, school, and community variables. With the high rating of students in poverty in rural areas, it is imperative that educators find a way to reach the students who are underperforming (Woodward, 2023). This is especially true for African American male students in South Carolina. Due to the traveling distance and the locations of the schools, it is harder to find and keep teachers in rural places because they usually pay a lot less than in cities.

This study did not demonstrate an immediate significant relationship between LETRS™ training and student reading achievements; therefore, teachers should use the pedagogical skills acquired via LETRS™ professional development. Nevertheless, instructors should persist in directing their instructional endeavors toward employing evidence-based pedagogy and practices that would facilitate the timely acquisition of essential literacy skills by their students (Will, 2020). Teachers could engage in various collaborative methods to enhance their teaching practices and improve the effectiveness of focused instruction in the classroom, hence promoting student learning.

The South Carolina Education Oversight Committee (2023) reported that school districts required the implementation of evidence-based initiatives to enhance the curriculum. To ensure that a program is successful in improving reading skills, it is crucial that the instructional practices be founded on research and provide instructors with on-the-job professional development opportunities (Moats, 2020). States and districts are provided with assistance through federally supported Reading First funds to implement scientifically based reading research and utilize proven instructional and assessment techniques that align with this research. The goal is to guarantee that all children achieve proficient reading skills by the end of third grade (South Carolina Education Oversight Committee, 2023). Additional teacher professional development programs should be created with a specific emphasis on research-based reading techniques (Smith, 2023). According to Moats (2020), instructors require a significant amount of time to acquire and implement the information and skills needed to incorporate research-based tactics into their reading instruction, which may vary depending on their background and experience.

Moreover, considering that instructors play a crucial role in determining the success of schools, it can be anticipated that their proficient utilization of evidence-based reading techniques will significantly impact student performance. Moats (2020) stated that participating in professional development workshops focused on integrating the components of LETRS into the reading and language arts curriculum equips teachers with the knowledge and skills to successfully identify and support all readers.

Teachers, like other adults, are driven by different motivations than students. The acquisition of new knowledge through LETRS™ serves as an inherent motivation in assisting parents in fostering their children's success in reading. Certain individuals may have finished the LETRS™ program because of external incentives. Additional incentives such as financial compensation, opportunities to pursue external employment, recertification credits, and compliance with district directives from higher-ranking officials may have also played a role in encouraging teachers to complete the LETRS™ coursework. Research has demonstrated that the efficacy and quality of teachers have a direct impact on student academic performance (Smith, 2023).

There are many factors that affect how well a child does in school. Different students' backgrounds, exposure to content, previous learning experiences, school attendance, and biological factors all play a role in how well they do in one classroom (Woodward, 2023). As with all studies that make conclusions and inferences from data and current trends, there is an array of factors that could explain what was seen. When doing a study with minimal control variables, it is hard to isolate all factors or decipher the true impact of LETRS™ (Woodward, 2023). This is especially true in the educational field.

The research findings in this study can guide school districts in choosing and using the Science of Reading™ strategies for elementary children, as well as in providing teachers with ongoing professional development for this effort. Moreover, insights derived from adult learning theory can help school and district administrators effectively plan, deliver, and execute professional development programs that lead to improved student performance.

This study suggests that the LETRS™ professional development course and Science of Reading™ practices did not show a substantial or immediate impact on student performance scores, but they showed statistical significance over time as indicated by SC READY™ summative assessments in 2023; hence, it may be inferred that LETRS™ has a favorable effect on teacher knowledge and student accomplishment. LETRS™ is a recommended educational program in South Carolina for schools and districts that are not meeting performance expectations. Implications might be drawn about the state's efforts to enhance student reading scores and improve reading teaching for its youth.

Independent Variable

Representatives of LETRS™ provided member schools with ongoing opportunities for professional growth. During LETRS™ professional development, participants learned ideas that govern research-based instruction, such as language structure, reading development, reading difficulty, and assessment procedures. The professional development program's objective was to provide instructors with the knowledge and abilities necessary to deliver reading, spelling, and writing lessons using a methodical approach. This was the program's stated purpose. As a result, the organization

of the LETRS™ software served as the investigation's independent variable. In this study, the effectiveness of the LETRS™ program on student academic performance was investigated.

Dependent Variable

The dependent variables in this study were standardized assessments used to determine the effectiveness of student performance. The state requires students in Grade 3 to take SC READY™ each spring. Students in the school district take NWEA MAP™ three times a year in reading and math. The NWEA MAP™ and SC READY™ test scores served as the dependent variables in this investigation because schools were judged and rated on their ability to achieve annual yearly progress based on their performance on these exams.

Limitations

According to Moats (2020), the selection of a student's curriculum was only one of several factors that go into determining the student's likelihood of succeeding in reading. This study is limited in its ability to investigate the complete efficacy or faithfulness of teacher utilization of certain curriculum resources. Teachers, also, do not have control over daily student attendance, which directly impacts achievement. Additionally, teachers cannot control the amount or intensity of academic support students receive or do not receive at home. Teachers do, however, have a direct impact on the instructional decisions they make in their classrooms daily to improve the reading skills of their students. Teachers can make better choices about what to teach their students if they reevaluate and learn more about the reading habits and results of their students. In doing so, teachers can make the long-term effects of their teaching methods

and techniques in the classroom stronger, which is likely to help their students learn and read better.

The purpose of the study was not to evaluate individual instructors; rather, it was to investigate the efficacy of LETRS™ professional learning on reading achievement. LETRS™ professional development was offered to the teachers for 2 school years (2021-2022 and 2022-2023). The COVID-19 pandemic hit the United States in 2020 and caused a global shutdown of schools and many businesses. The COVID-19 pandemic caused chaos for the numerous neglected and underprivileged people in rural America, compounding a long history of systematic educational inequality (Simon, 2021). Schools around the country resorted to a variety of learning modes, including virtual, hybrid, and in-person models, in reaction to the COVID-19 pandemic.

During the 2020–2021 school year, not all schools in the state of South Carolina participated in the state assessments at the same time or even at all, and not all schools taught all their students using the same instructional approach for each student in each school. Due to this constraint, it is impossible to investigate the data from the 2020–2021 school year as well as the effects of the COVID-19 pandemic on student success, the achievement gap, and the utilization of curriculum during the pandemic; therefore, I analyzed the data from before the pandemic and compared them with the data from the 2 years the LETRS™ professional development program was implemented.

Teachers and learners may possess differing levels of comprehension resulting from their participation in LETRS™ professional development or other forms of professional development in the past. Similarly, the teachers involved in this study exhibited diversity in terms of their years of experience, preservice education, academic

qualifications, and previous knowledge of theoretical frameworks on child learning.

Delimitations

According to Bloomberg and Volpe (2018), delimitations are the particular and purposeful decisions the researcher makes to clarify and make apparent the boundaries of the investigation. Only African American male students who were enrolled in one of the three schools throughout the school district that had instructors who had participated in the LETRS™ professional training during the 2-year professional development program were included as student participants in this research. One other restriction that was placed on the study was that it only focused on African American boys in the third grade. Third-grade students were chosen because the South Carolina State Department's guidelines for Read to Succeed called for students to demonstrate reading proficiency by the conclusion of their third-grade year (South Carolina Department of Education, 2023).

Assumptions

Assumptions are the expectations of a study that could be proven true, but there is no scientific proof (Creswell & Creswell, 2018). Assumptions can be made before conducting the study. The following assumptions were constructed:

1. Teachers who participated in this study did not alter their teaching instruction to produce definite results.

2. Participants answered all questions on the measurement tool accurately and truthfully.

3. All participants used the same school devices to take the assessments.

4. All participants in this study took SC READY™ during the original testing window.

5. During the district's initial testing window, all participants in this study took the NWEA MAP™ reading test.

6. All participants were third-grade students.

Implications for Future Practice

The findings of this study have demonstrated the necessity for instructors to continuously enhance their expertise in the field of reading science. Enhancing the process of knowledge acquisition will enable a greater number of instructors in this district to enhance their comprehension of the Science of Reading™. In order to achieve this, it is important to provide regular professional development opportunities through the district's staff development calendar, focusing on the Science of Reading™. Additionally, it is beneficial to engage with evidence-based reading organizations like Lexia Learning, creator of LETRS™, which promote current research and a systematic approach to science-based reading instruction. It is important to provide training to all staff members, including teachers, administrators, pupil support workers, and teaching assistants in the district. This approach will guarantee that everyone involved in working with students comprehends the most effective reading practices and actively contributes to the collective effort; therefore, it is essential to involve all staff members in professional learning communities and coaching in order to effectively execute and maintain the desired transformation. A crucial aspect of the training will be instructing administrators on conducting reading observations and providing instructors with relevant and insightful comments.

A method for districts to educate their personnel is by implementing LETRS™ training, which involves the participation of all staff members, including

paraprofessionals, in a 2-year training program. Engaging in this professional development opportunity will not only enhance staff expertise but also offer on-site guidance to assist all staff members in implementing the acquired information in the classroom. Assessment is a crucial element of this professional growth. It is essential to comprehend the utilization of evaluations for benchmarks and progress tracking to effectively arrange for instruction.

Aside from seeking external consulting coaching, it is crucial to establish an in-house coaching program that focuses on improving literacy skills; therefore, it will be crucial to establish continuous coaching cycles for instructors throughout the year. It is important to provide coaching to all instructors throughout their years of teaching reading. An advisable recommendation would be to employ and/or retain literacy coaches to provide guidance and support to instructors. Literacy coaches have the ability to conduct data inquiry cycles for instructors.

Districts should assess their present reading curriculum to ascertain its alignment with reading science. Districts that still employ curricula that incorporate balanced literacy practices should contemplate applying a modification. Administrators and staff must possess expertise in the field of reading science in order to make well-informed judgments on the curriculum. This applies not just to students who get intervention through reading programs that are in accordance with the Science of Reading™ but also to Tier 1 classroom instruction that is linked with scientific principles; therefore, districts that now employ a balanced literacy approach as their primary classroom instruction at Tier 1 must transition to programs that are backed by scientific evidence (Hensel, 2023).

Goldenberg et al. (2020) formulated a strategic blueprint for states known as "the

four pillars of reading success" (p. 2). Goldenberg et al. asserted that the journey towards literacy is facilitated by many individuals and entities, with states playing a crucial role in four fundamental pillars: (a) advocating for the inclusion of teacher candidate knowledge in preparation programs, (b) advising districts on the most effective tools for assessing their students' reading proficiency, (c) evaluating and endorsing instructional materials, and (d) providing resources to districts to facilitate external support for classroom teachers. State education administrations should utilize this as a reference to guarantee that instructors and districts are adequately equipped to instruct reading.

Failure to isolate the auditory talent of phonemic awareness is hindering our children's learning and reading progress (Kupec, 2022). By including letters in the lesson, children engage their orthographic processor instead of depending just on their phonological processor (Snow, 2020). This brain region is accountable for evaluating, processing, and storing the distinct speech sounds of language, and it needs to be enhanced autonomously initially (Moats & Tolman, 2019). After establishing this foundation, children start to reinforce the neural link between sounds and spelling through phonics teaching. This is the basis of the Science of Reading™ and the LETRS™ training that teachers receive to teach the difference between orthographic and phonological processors (Moats & Tolman, 2019).

It is crucial to investigate the significance of providing preservice teachers with training, particularly in the Science of Reading™. Consequently, it is imperative for institutions of education to enhance the training of future teachers by incorporating courses on the Science of Reading™. This will ensure that graduates are adequately equipped to effectively teach reading. Teachers must possess a comprehensive

understanding of the theoretical models of the Science of Reading™, the five fundamental components of reading teaching, phonics, and linguistics, as well as the ability to diagnose reading impairments and provide appropriate remediation (Petscher et al., 2020). Teachers must possess a comprehensive understanding of evidence-based reading instruction and be proficient in utilizing evaluations to inform their teaching. This knowledge enables them to make informed decisions when preparing courses.

Furthermore, the administration of licensing tests, particularly in the Science of Reading™, will guarantee that instructors possess a comprehensive understanding of the scientific principles involved. Putman and Walsh (2021) argued that the optimal method for states to ascertain the effectiveness of their programs in teaching crucial subjects and preparing teacher candidates to instruct children in reading is by implementing a rigorous licensure test; therefore, if colleges prioritize equipping teachers with both the knowledge and skills to successfully pass a licensing test focused on the Science of Reading™, teachers will possess the essential groundwork to effectively teach reading. Moreover, it is imperative that all educational leadership programs mandate the completion of identical curriculum and licensure testing. Administrators, as instructional leaders, must possess the necessary expertise to establish systems and structures that facilitate reading instruction. Additionally, they should be capable of aiding teachers in the realm of teaching reading.

Suggestions for Future Research

Additional investigations are required to comprehend and diminish the disparity in academic performance between African American males and their counterparts across all socioeconomic strata. The results of this study raise more inquiries that might

stimulate additional investigation into the reading motivation and self-perceptions of African American males. The findings of this study have ramifications that may be of interest for future research. Here are some recommendations for other areas of study:

1. It would be intriguing to observe whether the outcomes vary when research incorporates a more extensive sample encompassing more school districts.

2. Considering the growing body of research on collective efficacy, it would be advantageous to create a literacy-specific metric for collective efficacy. After the measure was confirmed, the research could investigate the impact of collective efficacy on literacy performance. It would be beneficial to contrast the disparities between the outcomes obtained from the group efficacy measure and the individual efficacy scale.

3. Conducting mixed methods research on teacher efficacy in literacy education might provide significant benefits.

4. Researchers may offer schools a longitudinal perspective on student viewpoints by expanding the range of participant responses to include kindergarten, first, and second grades and conducting data collection over an extended duration. This approach allows for the tracking of student opinions from early adolescence. This information might offer a comprehensive overview of the elements that impact their academic achievement.

5. Researchers may include research to compare schools that completed LETRS™ training with those schools that did not complete the training to see which schools showed more statistical differences.

6. Understanding teacher perspectives on LETRS™ and the acquired knowledge

that will be obtained from the training.

7. Duplicate this study to encompass specialized groups such as special education students or individuals with IEPs or certain student demographics.

8. Understanding the correlation between instructor self-efficacy, the application of LETRS™, and student accomplishment.

In Chapter 2, it was discussed that the Science of Reading™ emphasizes the importance of prior knowledge as a cornerstone of reading teaching (Hattan & Lupo, 2020; Petscher et al., 2020). Shanahan (2020) believed that to have an accurate perspective on reading education, it must be carried out on a broad scale and cannot concentrate exclusively on a certain component. Analyzing different grades, perspectives, genders, and possible specialized groups can give a better picture of how the Science of Reading™ required training through LETRS™ may impact student achievement.

The United States Department of Education (2015) created ESSA which mandated that state educational agencies must assess schools for targeted support and improvement and additional targeted support and improvement (ATSI) eligibility. ESSA, which President Obama signed on December 10, 2015, renewed the Elementary and Secondary Education Act, which is the country's main education law and has a long history of making sure that all students have the same access to a high-quality education (Barthelemy, 2022). States are required to pinpoint schools that satisfy specific criteria under ESSA to categorize them as schools in need of improvement. The South Carolina Department of Education (2023) created a document called the South Carolina School Improvement Designation, which outlines the criteria, identifications, and support provided to these schools.

Due to the schools referenced in this research being categorized as Tier 2 and Tier 3 schools, they fit under the umbrella of ATSI and Comprehensive Support and Improvement Schools (CSI) based on certain standards (see Figure 5). Schools not meeting the requirements for CSI but having student groups meeting the criteria for CSI low performing will qualify for ATSI based on 2 years of dashboard data (South Carolina Education Oversight Committee, 2023). ESSA requires schools to offer evidence-based interventions to enhance student performance through a detailed and advancing assistance strategy, while also ensuring accountability. Skilled educators may recognize and use successful evidence-based, culturally sensitive interventions to reduce academic disparity (Hernandez, 2022).

Figure 5

CSI and ATSI Accountability
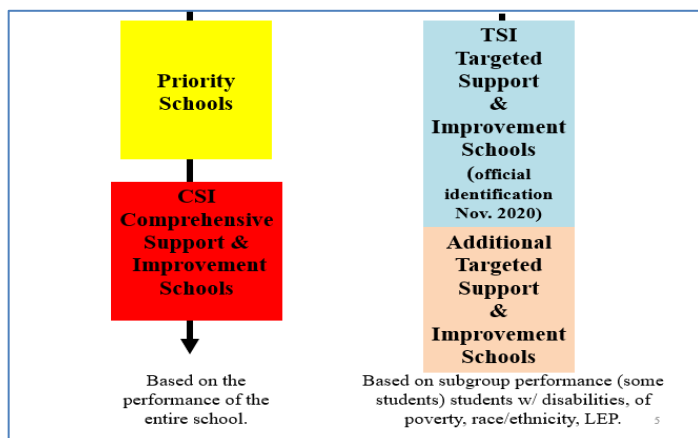
Note. Adapted from https://www.southcarolina_priorityschools_focusschools.com

The student groupings used for ATSI decisions are

- race/ethnicity options of Black/African American, American Indian/Alaska Native, Asian American, Filipino, Hispanic, Pacific Islander, White, and Two or More Races

- students experiencing homelessness

- ESL students

- students in foster care

- disabled students

- underprivileged students

Under these headings, it would be wise for a researcher to use these demographics to further the research on whether LETRS™ truly has an impact on reading achievement.

Theoretical Framework Correlation

Piaget's (1964) theory of cognitive development states that children learn best when they are actively engaged in the process by trying new things, making observations, and asking questions (Cherry, 2020). Piaget's theory of cognitive development states that as children get older, their thinking changes (Acevedo, 2020). The cognitive growth of children is not just about learning new things; they also need to make mental models of the world around them (Cherry, 2020). From the moment they are born, children go on a continuous journey of acquiring literacy skills. In relation to the current study, a caregiver's engagement with reading can assist in the development of early literacy skills (Acevedo, 2020).

Emergent literacy skills, including oral proficiency, alphabet comprehension, phonological awareness, print understanding, and motivation, should progress from early childhood to the start of primary school. The acquisition of such talents is not natural and necessitates external forces, such as guardians, to cultivate these skills (Cherry, 2020). Piaget formulated his theory on the premise that a child's comprehension is mentally formed via their experiences and cognitive growth, rather than just relying on verbal

instruction from caregivers and other adults (Patterson, 2018).

The creation of a mind map entails the construction and completion of a picture schema in the mind by merging new information with old knowledge. Image schema theory asserts that reading comprehension entails the dynamic interplay between the reader's cognitive framework and the textual information presented (Zhou et al., 2023). Constructing a mind map or finalizing a mind map compels students to scrutinize the logical connections among various bits of information in the text, so rendering the information structure more apparent and simplifying the identification of major concepts and crucial details (Patterson, 2018).

The process of how reading teachers choose and implement evidence-based, culturally sensitive tactics to assist African American children is a multifaceted phenomenon; however, when examined in conjunction with the conceptual framework, it provides a solid foundation for understanding this phenomenon. The schema theory serves as a basis for addressing the prior knowledge and cultural disparities among African American student access to reading materials and how these factors affect their ability to narrow the academic achievement gap.

According to Smith (2023), schemata are depicted by the collective experiences of students in their academic, personal, and cultural contexts, and learning takes place when new information is integrated with existing information stored in long-term memory. The schema theory, which encompasses the initial formation and composition of cognitive structures, as well as their application in cognitive psychology and ultimately their role in reading comprehension, continues to be a crucial element in our developmental progression (Smith, 2023). The underlying principle behind the

relationship between text and the schema theory is that written text lacks inherent meaning in the absence of an individual's schemata (Bensalah & Gueroudj, 2020).

The cognitive development theory, which was developed by Piaget in 1964, provides an explanation for the stages and pathways that children go through in their intellectual development. The first three phases of reading instruction are essential for children to have in their toolbox while they are learning how to read. The schema theory, which is an essential component of reading teaching, provided support for this study in terms of comprehension, which involves one's understanding of the world.

Implications for African American Males

Proficient reading necessitates student entry points that surpass the current scope of knowledge in the field of reading research. To effectively assist the literacy development of African American male students, an organization must consider the sociocultural factors and learning habits that impact reading comprehension. African American students have less prosperous success rates compared to students of other racial/ethnic backgrounds, as demonstrated by the college and career preparation indicators in South Carolina (South Carolina Department of Education, 2014).

African American males have a documented history of experiencing mistreatment inside the school system of the United States (Kang & Husband, 2020). The neglect has resulted in significant disparities in the educational achievement of African American males. The literature and research on African American males have predominantly adopted a deficit approach, which has failed to effectively address this pressing national issue (Smith & Hope, 2020). The deficit perspective offers a framework for perceiving African American males as children who lack the fundamental resources necessary for

achieving success. Academically challenged children are more likely to have unfavorable attitudes toward learning and exhibit poor behavioral patterns (Johnson, 2018).

Kessels and Heyder (2020) examined a variety of data sources to demonstrate a correlation between off-task actions and unsatisfactory academic achievement, particularly in the domain of reading comprehension. As children progress through their educational journey, their behavioral challenges and academic performance remain closely interconnected. Educators must ensure the achievement of all children. This is hindered when selective criteria are used to deny chances to African American students who are most disadvantaged.

Here are several ideas to assist school systems and educators in reevaluating their approach to engaging African American youngsters who are becoming readers through LETRS™ training.

1. The significance of language variation and its influence on reading and instruction is often overlooked in classrooms; however, instructors who acquire knowledge in this area will understand that language variation is a widespread linguistic phenomenon that has an impact on educational objectives and practices. LETRS™ is tailored to teaching teachers language variations and how it is used to help students learn to read.

2. Language acquisition in children occurs through immersion and utilization, rather than through direct teaching. Parents and other caregivers might be motivated to generate supplementary language acquisition chances for children beyond the school environment. Reading books to children can serve to introduce language terms and parts of the world that go beyond their

immediate experiences. Children's literature employs distinct vocabulary and grammatical structures that deviate from those used in normal conversation.

3. The curricula and support materials should be adaptable to meet variations in linguistic background or include explicit instructions on suitable strategies for children requiring assistance. The classroom and any other activities that are linked to it should include the provision of African American stories and literature that feature Black role models who are both positive and interesting.

4. The need to be sensitive to the timeframe in which a child, who is in the process of learning to read, may require to fully grasp a new language skill cannot be overstated. Children who need additional knowledge to achieve a certain objective necessitate a longer duration to accomplish it. Acquiring a substantial number of learning opportunities, engaging in enough practice, and, in the case of many children, receiving extra instruction are necessary.

5. Respond constructively to students as they are learning to read to help them feel confident. Teachers must give verbal praise and useful suggestions to students in a way that does not offend or deter a child from reading.

6. Make learning to read fun and interactive for students. By celebrating reading, we convey the significance and enjoyment of this activity, emphasizing its importance. Nevertheless, organizing an event that caters to children who struggle with reading or have heightened levels of anxiety or unease toward reading may be rather demanding.

7. It was claimed by Malacapay (2019) that determining the learning styles of students will assist in the grouping of students and will promote student

engagement, which will ultimately help boost reading engagement.

8. Additional financial support and resources to encourage reading achievement should be readily available to districts for curricula and other materials that are necessary.

Parents of African American students may face challenges in supporting their children's academic pursuits. African American parents may realize their ability to bring about educational improvements to enhance their children's college and job readiness by uniting their voices. African Americans are often a substantial minority in various cases (Jolly, 2022). School districts get financing depending on their enrollment and the low-income condition of their families. Funding allocated to African American pupils enhances the entire curriculum of schools (Johnson, 2018). Parents and students contribute to the school district's finances through local, state, and federal sources (Jolly, 2022); hence, parents and children should start to assert their educational rights.

Ties to Educational Leadership

Although state departments establish criteria for their superintendents, the uniformity of these requirements is sometimes lacking throughout the whole state (Cadero-Smith, 2020). This poses challenges throughout the recruitment and employment procedures. A superintendent, in the role of a school administrator, is responsible for overseeing the schools and educational services within their designated school district. The school superintendent is often regarded as the representative of the local school system and is primarily attributed to the successes or failures of the institution; hence, it is crucial for the public and educators to comprehend the insights that research may provide about the tangible impact superintendents exert on their schools and the children

under their care.

Throughout the implementation of LETRS™ in this school district, the superintendent was an integral part of the implementation. Initiatives introduced into a school district must be presented to the superintendent for approval before they are introduced to school administrators and teachers. The superintendent is the backbone of the district and must be well-versed in pedagogy and up to date on what is happening in legislation before making informed decisions on what teachers should be teaching our students. A superintendent who is not literate in how to increase reading achievement or how to reach our African American students has a great chance of failing our students even more because they are going to miss the key components to reach all students.

The superintendent's system-level leadership might vary significantly based on the demographics of the school district. The way superintendents are seen in terms of their teaching responsibilities and the needs of teachers might differ based on the district's organizational structure and its capacity to have additional administrative support (Cadero-Smith, 2020).

Educational leaders require professional standards to orient their practices in the path that will be most useful to students and will result in the greatest amount of productivity. Professional standards tell people in a certain job, in this case, educational leaders, what their job is and how well they do it. They are made by the state to set rules for professional practice and how people who work as professionals are trained, hired, watched, and graded (Cadero-Smith, 2020). The standards help the government make rules and policies that guide the field. Standards tell practitioners how to do the work that the profession requires and that the public expects by outlining the work that needs to be

done and the values that the profession stands for (Cadero-Smith, 2020). The standards for professionals change over time. They are looked at and changed on a regular basis to make sure they properly reflect how people's understandings, standards, and the situations that affect their work change over time.

Currently, South Carolina has required all textbook companies to align to the new 2023 ELA standards that are closely aligned to the Science of Reading™. Superintendents have gone through training and have sent crucial members of their cabinet to receive the same training to better help school administrators, coaches, and teachers. The ever-changing superintendent's standards must include being active in helping district personnel choose materials that will help improve reading achievement in their district.

The superintendents' standards are based on research and real-world experience to show how educational leadership affects student learning. To help students learn more, leaders need to look at leadership as a whole. In every part of their job, educational leaders need to think about how they can help each student learn, do well, grow, and be healthy. The standards show the areas, traits, and ideals of leadership that are linked and important to school success, as found in study and practice (Postholm & Boylan, 2018).

The standards for superintendents follow 10 core values but differ from state to state on which standards are more focused on. The 10 core values are

1. organizational mission, vision, and core values

2. ethics and professional norms

3. equity and cultural responsiveness

4. curriculum, instruction, and assessment

5. community of care and support for students

6. professional competence of school staff

7. professional network for educators and employees

8. meaningful involvement of families and community

9. operations and management

10. enhancing school performance

In reality, these areas do not operate separately but as an interconnected system that drives each student toward academic and personal achievement (Donaldson et al., 2021).

One of the superintendents' standards has a focus on strategic leadership. Within the standard of strategic leadership, a superintendent has the task of reflecting on and analyzing the current realities of the organization's function, data, creating a clear mission and vision, while also communicating both to all stakeholders, and ensuring that all employees are there for the same purpose, which is student achievement. The superintendent must be able to create goals with actionable steps that will close the achievement gap and bring the districts into the 21st century.

Providing opportunities for teachers to network with teachers across the world in professional development opportunities that are geared to what they need to grow as educational leaders is also an important job of the superintendent. Advanced professional learning, according to Postholm and Boylan (2018), is a wide range of specialized training, formal education, or advanced professional learning designed to help school administrators, teachers, and other educators improve their professional knowledge, competence, skill, and effectiveness. Administrators and coaches should attend these trainings as well as model the importance of continued adult learning. Another task is to

carve out time for professional development for teachers throughout the year. An example of the current training is LETRS™ and the new 2023 ELA standards that will be fully implemented in the 2024-2025 school year across South Carolina.

Another standard for a superintendent is the need for all students to be globally competitive in the workforce and higher education and prepared beyond the 21st century. This objective will be accomplished by actively engaging all relevant stakeholders in the educational process to guarantee the provision of appropriate education (Postholm & Boylan, 2018). As stated in Chapter 2, in the United States, teachers who are trying to prepare students for success in the 21st century and beyond must know how students learn to read and how African American students can best learn to read.

Finally, the superintendent must make sure the district has specific processes and systems in place for budgeting, staffing, problem-solving, communicating expectations, and scheduling. The superintendent must ensure that there are qualified personnel in the positions to carry out these objectives while making sure they align with the mission and vision of the district and the strategic plan. The superintendent must ensure funds (both operating and capital) are spent correctly, monitor their use, and ensure that all decisions being made with these funds are helping to meet the 21st century needs of the district.

Schools across the nation received Elementary and Secondary School Emergency Relief funds from the federal government during COVID-19 in 2020 (Simon, 2021). These funds helped many schools with materials, hiring personnel, and employing mental health counselors in schools to help students and teachers cope with our new reality. These funds will be available to schools until the fall of 2024; therefore, with the implementation of new initiatives and new positions, the district must figure out the plan

to continue the programs that may be helping to increase student achievement once the federal funds are no longer available. This is a major responsibility of the superintendent and their cabinet to figure out how to continue utilizing the materials and personnel with the regular school funds so increase in student achievement continues.

Superintendents and state departments can utilize the findings of this study to identify strategies for enhancing leaders' early literacy topic understanding and determining the most efficient methods for connecting theoretical knowledge gained from early literacy leadership training to classroom implementation. The data collected in the study could help establish a foundation for training elementary turnaround leaders in schools with a history of consistently low literacy achievement and improve early literacy professional development opportunities for these leaders. When the system leader comprehends teacher perceptions of their leadership in terms of resource provision, instructional support, communication, and visibility, they can understand how these perceptions can impact teacher efficacy in either enhancing or reducing support for school improvement and system-wide reform (Postholm & Boylan, 2018).

Conclusion

This study suggests that although the LETRS™ professional development program had a moderate effect on student success, the outcomes only reached statistical significance based on SC READY™ data. Both the experimental and control groups exhibited improvements in student performance, as assessed by the NWEA MAP™ and SC READY™ testing; hence, it is not justifiable to deduce that LETRS™ was the sole determinant of student performance in the domain of reading. Identifying methods to enhance student reading proficiency is a crucial responsibility for anyone engaged in the

field of education.

     This study emphasizes the significance of teachers acquiring expertise in the field of reading science, utilizing a curriculum that is consistent with the principles of reading science, and providing guidance to teachers through coaching during reading instruction. Researchers have extensively investigated the process by which the brain acquires reading skills and have identified optimal methods for teaching reading. Professional development in the field of reading science, along with continuous coaching, is necessary to assist instructors in enhancing their instructional methods. The participants were able to enhance their skills and knowledge in these areas via professional development. This enabled them to improve their teaching practice, include these crucial elements in their reading instruction, and approach their planning with greater purpose.

     Improving the quality of everyday classroom instruction is of essential significance to have a significant impact on education and provide universal access to literacy and the right to read. While it is important to acknowledge and analyze the limits of this study and its interpretations of the data, we must also consistently question our collaborative efforts to enhance reading instruction and literacy experiences for children in South Carolina. Every student in South Carolina should be granted the opportunity and entitlement to access and engage in reading.

     The initiation of this transformation process needs leaders and decision-makers who possess a comprehensive understanding of the research. Strategic professional development, which is in line with the Science of Reading™, considers the local environment and incorporates the input of teachers. This approach can lead to long-lasting change. Districts already implementing modifications or intending to do so soon

must also consider the ramifications of the COVID-19 pandemic on educators, students, and the broader community. The results are noticeable, considering instructors encountered unparalleled difficulties during the COVID-19 pandemic especially in lower grade levels (Simon, 2021).

Teachers were assigned the responsibility of instructing students in letter sounds and pronunciations while wearing masks. For almost a year prior to this study, some students were physically present in their classrooms, seated at desks, while others were participating remotely from home via a computer screen. Nevertheless, instructors had the additional difficulty of aligning their instructional methods with the Science of Reading™. In response, they actively participated in professional development and implemented substantial modifications, even if they experienced a sense of being overwhelmed.

Early childhood educators understand the critical significance of instructing children to become skilled readers in the early grades. Children who do not achieve reading proficiency in the primary grades are at risk of having behavioral issues and low self-esteem, being put in special education courses, and being less likely to complete high school. Reducing the number of children who struggle to learn to read can lead to financial savings for both the school district and the global society in the future, since individuals with reading challenges may experience negative economic outcomes in maturity. It is not morally feasible to accept the failure of a child due to any economic concerns. School districts and state departments should automatically provide funds to acquire and implement a variety of reading programs for instructors to address the reading needs of all students in their classrooms. By providing reading instruction

tailored to each student's learning style, educators might potentially narrow the performance gap on a district-by-district basis.

This study affirms the necessity of persistently prioritizing the enhancement of reading abilities among African American boys, as a method of equipping them with the necessary skills to become useful contributors to society. By employing tactics that bolster reading comprehension abilities, children can achieve success as autonomous readers and thinkers. To modify the reading attitudes of African American males, educators must consider the textual preferences of this demographic and furnish them with culturally pertinent literature. By enhancing their reading motivation, children might have a greater inclination to engage in reading practice.

African American children are more inclined to exhibit enhanced critical thinking abilities and autonomous thinking (Foreman, 2024). African American students who are skilled readers are more inclined to cultivate a critical and discerning perspective, leading to engaging in meaningful debates on topics that are pertinent to them and their communities (Snow, 2020). Strong reading abilities provide African American students with a plethora of choices to pursue higher education or professional certifications in the career field of their choice. It is crucial to cultivate and maintain proficient reading abilities to become a lifelong learner.

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Appendix A

SC READY™ Data Collection Spreadsheet

Students	School A	School B	School C
	Data Collection for SC READY Scores		
SC READY Reading			
	2019		
1			
2			
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Appendix B

NWEA MAP™ Data Collection Spreadsheet

Data Collection for Reading MAP Scores			
Reading MAP			
2019			
Students	**School A**	**School B**	**School C**
1			
2			
3			
4			
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7			
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12			
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Appendix C

Initial Email Notification to District Administration

Dear Dr. _____,

 My name is Tonya Campbell and I am a doctoral student at Gardner-Webb University. As part of my doctoral program, I am working on a dissertation study that examines the impact that the Science of Reading training, known as LETRS has had on our third-grade African American males. This e-mail is to provide you with some information about my study and to ask if I can collect SC READY™ and MAP data from the three elementary schools that participated in LETRS training for my study.

A person's ability to read is a necessary talent for success in the twenty-first century. The analysis of the impact of the Science of Reading™ professional learning course (LETRS) and how it could potentially impact student achievement in reading, more specifically, African American male students in third-grade, is necessary to determine if this is a scientific way to reach our African American males and show them the importance of learning to read. Through this investigation, I will aim to answer the following questions: (1). How has LETRS impacted reading achievement scores for third-grade African American male students, as measured by the SC READY™ state summative assessment? (2) How has LETRS impacted reading achievement scores for third-grade African American male students, as measured by NWEA MAP scores?

My study will be quantitative and will include an analysis of test data from the South Carolina Department of Education website and information from our Director of Literacy for MAP scores. The research will only use the data that I collect, enter into an Excel spreadsheet, and store on a flash drive. My dissertation committee and the Institutional Review Board (IRB) have both reviewed and approved my study. Findings from this research may give useful insight for your school's administration and faculty as they collaborate to develop readers who are also well-rounded, lifelong learners. Additionally, building leaders and literacy coaches may use these findings to plan for professional development and provide materials that will support educators in their use of standardized tests and the MAP assessment.

 I express my gratitude for the time and thought you have dedicated to this matter. Please feel free to inquire if you require any further information pertaining to my research. I anticipate hearing from you.

Sincerely,

Tonya Campbell

Tcampbell11@gardner-webb.edu

Appendix D

Superintendent Response to Request

To:Tonya Campbell

Wed 9/20/2023 9:05 AM

Good morning Ms. Campbell,

I hope you are doing well. I had a chance to read your email. I will approve your request to collect SC READY and Map data for your research. Please communicate with the C & I Department to assist you with the data you need.

I wish you well as you work on your dissertation study!

Appendix E

Researcher CITI Certification

Completion Date 17-Oct-2022
Expiration Date 16-Oct-2025
Record ID 50881186

This is to certify that:

Tonya Campbell

Has completed the following CITI Program course:

Not valid for renewal of
certification through CME.

Graduate School of Education Research Investigators
(Curriculum Group)
Graduate School of Education Research Investigators
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Gardner-Webb University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w76b76023-a747-414e-b810-f818c2e0e0fd-50881186

Appendix F

Chair CITI Certification

CITI PROGRAM

Completion Date 09-May-2023
Expiration Date 09-May-2026
Record ID 55039612

This is to certify that:

Melessa Widener

Has completed the following CITI Program course:

Not valid for renewal of
certification through CME.

Graduate School of Education Research Investigators
(Curriculum Group)
Graduate School of Education Research Investigators
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Gardner-Webb University

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
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www.citiprogram.org

Verify at www.citiprogram.org/verify/?wfc9beb06-c8d1-4d5b-a4fe-c5a2080c3032-55039612