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# The Reading Strategies/Skills within the North Carolina RtA Summer Reading Camp

Leroy Leon Wray

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The Reading Strategies/Skills within the North Carolina RtA Summer Reading Camp

By  
Leroy Leon Wray, Jr.

A Dissertation Submitted to the  
Gardner-Webb University School of Education  
in Partial Fulfillment of the Requirement  
for the Degree of Doctor Education

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## Approval Page

This dissertation was submitted by Leroy Leon Wray, Jr. under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Educational Leadership at Gardner-Webb University.

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## Abstract

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This dissertation was designed to examine the reading strategies within the North Carolina Read to Achieve (RtA) Program summer reading camp and the achievement low socioeconomic elementary students made in reading during summer camp. The study was from a K-12 school and measured by the RtA Program. The study looked at third-grade students located in the urban piedmont area of North Carolina. It looked at reading strategies used during the North Carolina RtA Program summer reading camp and sought to determine if there are reading gains or losses of students who attended the North Carolina RtA summer reading camp. The three research questions that guided the evaluation and findings were (a) is there a difference in reading achievement scores for all students prior to attending the summer reading camp and after attending the summer reading camp as measured by RtA; (b) what strategies/skills within RtA impacted achievement scores for students who attended the summer reading camp; and (c) is there a difference in reading attitude after attending the summer reading camp?

This mixed-methods study conducted in an urban area of North Carolina involved four data collection instruments. RtA assessment data answered Research Question 1. For Research Question 2, the researcher interviewed summer reading teachers and examined student portfolios for the strategies that were used during the RtA Program and summer camp. Last, the researcher used the Adolescent Motivation to Read Survey. An analysis of the data revealed that the school participating in this research study is not providing enough support to students who are not proficient in reading. The teachers utilized a number of different whole and small group reading programs and materials often in a combination during classroom literacy instruction. The RtA camp lacked consistency and continuity in providing effective reading practices and materials to students. There was no significant relationship between motivation of the third-grade students who were surveyed and their reading achievement on the RtA assessment. Students who scored poorly on the RtA assessment did not have lower scores on the reading motivation questionnaire which looks at their value of reading and their attitude toward reading.

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## **Chapter 1: Introduction to Study**

### **Statement of the Problem**

Research suggests literacy is the most important skill for determining success in students. Considerable research indicates that students who cannot read by third grade often struggle and fail to catch up (West, 2012). In 2013, St. Petersburg, Florida mayoral candidate Kathleen Ford stated, “private prison systems are calculating how many new jail beds they will need based on the number of third graders not able to pass their state reading test” (Sanders, 2013). Furthermore, according to the National Institute for Literacy (1998), 70% of prisoners fall into the lowest two levels of reading proficiency.

Based on the No Child Left Behind Act of 2001 (NCLB) reading data, education leaders began to pay close attention to improving the quality of education for all students. NCLB focused on a pedagogical practice and intervention programs that focus on accountability and achieving literacy. The core of NCLB was a number of components designed to drive broad gains in student achievement and to hold states and schools more accountable for student progress. According to Dee and Jacob (2010), NCLB required states to examine student achievement and ensure that all students made adequate yearly progress.

One of the key elements of NCLB was the Reading First program. This program aims at putting proven methods of early reading instruction in the classroom. Through the Reading First program, states and districts receive support for the implementation of the research based reading strategies to ensure that all children learn to read at or above grade level by the end of third grade (Thomas & Brady, 2005).

In addition to the U.S. Department of Education’s focus on early intervention and student accountability, many states are putting efforts in place for students to read on or

above grade level by the end of third grade (Thomas & Brady, 2005). For example, the state of Florida passed legislation to focus on the lack of accountability for all student success. Part of Florida's legislation was the 2001 initiative entitled "Just Read, Florida!" Sections 1011.62 and 1008.25, Florida Statutes (F.S.) are the sections of the comprehensive reading program aimed at helping every student become a successful, independent reader (Florida Department of Education, 2015).

"Just Read, Florida!" prioritizes reading in Florida public schools. The initiative's components are early learning reading strategies and assessments of K-2 students, reading intervention strategies for students who are reading below grade-level, teacher training and professional development programs as well as increasing the participation of parents and families in the area of education, and promoting reading and reading skills by the end of the third grade (Florida Department of Education, 2015). In addition, in 2002, Florida adopted a third-grade promotion policy that requires students testing at the lowest level on the state's third-grade reading assessment to be retained (Florida Department of Education, 2015).

A study from the American Educational Research Association showed that students who are not reading at grade level in third grade are four times more likely not to finish high school on time. In addition, students who live in poverty are 13 times less likely to graduate on time (Sparks, 2011). Political and educational leaders have been charged to eliminate the reading dilemma and urged by the statistic that 74% of students who are poor readers in third grade continue to struggle in ninth grade (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996).

As a result, the third-grade reading initiative has recently been legislated in other states in an effort to improve students' ability to read. These states have adopted similar

initiatives in their state literacy programs intending to identify, remediate, and retain students who struggle to demonstrate reading proficiency by the end of the third grade; however, each state varies in how it handles exemptions for English language learners or students who have already been retained for reading deficiencies, the assessments to determine reading proficiency, and the intervention programs they offer (Taylor, 2014).

Similarly, North Carolina has followed the trend. North Carolina has adopted additional measures to bring students up to grade level in the early years of elementary school. North Carolina State Senator Phil Berger introduced the Excellent Public School Act with the purpose of improving student literacy and graduation rates and rewarding effective teachers with better pay or bonuses. Part of the Excellent Public School Act is the North Carolina RtA Program, which was passed in 2012 and found in House Bill 230 in the North Carolina General Statutes § 115C-83.1. The North Carolina Read to Achieve (RtA) Program focuses on third-grade students in North Carolina who are not able to read (Taylor, 2014). The purpose of this legislation is for all students to become proficient readers by the end of third grade.

### **Background and Significance of the Problem**

In accordance with NCLB, all students would be reading on grade level by the end of the third grade; however, the crux of the problem continues to be that many students from high poverty settings lack the reading proficiency they need to master third-grade reading assessments. Failure to complete high school has significant ramifications for the individuals themselves and for society as a whole because formal schooling is an increasingly important gateway to future employment and earnings (Belfield & Levin, 2007).

Coley (2002) also found that 36% of low socioeconomic families read to their

kindergarten students, compared to 62% of upper-income families. Students who live in poverty often come to school behind their more affluent peers in terms of literacy and language development. Coley stated that 50 years of research reflects that children who are poor hear a smaller number of words with limited syntactic complexity and fewer conversations eliciting questions, making it difficult for them to quickly acquire new words and to discriminate among words.

### **Purpose of Study**

The aim of this study was to examine the reading strategies/skills within the North Carolina RtA Program and the growth low income elementary students made in reading during the summer reading camp. The National Assessment of Educational Progress (NAEP, 2013) showed an increased focus on literacy achievement across socioeconomic lines. The report showed that proficient readers are improving, while struggling readers are continuing to lose ground. NAEP (2013) data indicated that while the percentage of fourth graders performing at or above a proficient level increased between 1992 and 2013, the percentage of fourth graders at or above a proficient level was not found to have changed significantly during that same period of time.

This study focused on a Title I elementary school located in an urban school district in North Carolina. It sought to determine what strategies and skills were used during the North Carolina RtA Program and whether there are gains or losses in reading for students taking part in the North Carolina RtA summer reading camp in the school district.

### **Research Questions**

1. Is there a significant difference in reading achievement scores for all students prior to attending summer reading camp and after summer reading camp as

measured by the RtA assessment?

2. What strategies/skills within RtA impacted achievement scores for students who participated in the RtA Program and summer reading camp?
3. What is the reading motivation and student perception after attending the summer reading camp as measured by the reading survey?

### **Theoretical Framework**

The following theoretical framework addresses the rationale for conducting the research on the impact of the North Carolina RtA Program. This study evaluated the skills and strategies and the impact of the North Carolina RtA summer reading camp on student achievement. As cited by TeachingEnglish (2006), according to Dole, Duffy, Roehler, and Pearson (1991), in the traditional reading theory view of reading, novice readers acquire a set of hierarchically ordered subskills that sequentially build toward comprehension ability. Having mastered these skills, readers are viewed as experts who comprehend what they read (TeachingEnglish, 2006). Students have lots of different opportunities and different ways to demonstrate reading proficiency. An intensive summer reading experience is beneficial for students who continue to lag behind.

The goal of the state of North Carolina is to ensure that every student read at or above grade level by the end of third grade and continue to progress in reading proficiency so students can read, comprehend, and apply complex texts needed to be college and career ready (North Carolina Department of Public Instruction [NCDPI], 2013). In addition, reading is at the core of all instruction in kindergarten through third grade. In the early grades, students learn foundational reading skills. As students move to higher grades, they build deeper comprehension skills. Students must have strong reading skills to be able to succeed in all other subject areas (Coley, 2002).

Despite the increased recent legislative attention on literacy achievement across socioeconomic lines, the NAEP (2002) study reported that proficient readers are improving, while struggling readers are continuing to lose ground. The study reported that 58% of fourth-grade students eligible for free-lunch programs fell below basic reading proficiency levels, and only 27% of fourth-grade students from higher income areas fell below basic proficiency levels.

This study was conducted in a Title I elementary school in an urban area in North Carolina. By the end of third grade, students should be independent readers. Independent readers can read and understand words, sentences, and paragraphs and answer questions about their reading comprehension (NCDPI, 2013).

Major studies have been conducted in an attempt to determine the best way to teach reading; however, according to Snow, Burns, and Griffin (1998), a certain consensus has been reached among the group of teachers and researchers on how to teach children to read better.

NAEP (2013) data indicated that while the percentage of fourth graders performing at or above a proficient level increased between 1992 and 2013, the percentage of fourth graders at or above the proficient level was not found to have changed significantly during that same period of time. In 2013, students had an average score in reading of 223 points at Grade 4 and 265 points at Grade 8 on separate 0-500 point scales. The 2013 average score was not significantly different at Grade 4 and was two points lower at Grade 8 compared to 2013. Scores at both grades were higher in 2013 than those from the earliest reading assessments in 1992, by six points at Grade 4 and five points at Grade 8 (NAEP, 2013). The report concluded with the question remaining about how to improve student reading for low-performing students who dislike

reading.

### **Definition of Terms**

This list could be expanded to include additional terms/acronyms specific to this study for reader comprehension.

**North Carolina end-of-grade (EOG) test.** Designed to measure student performance on the goals, objectives, and competences at the grade level specified in the North Carolina Standard Course of Study ([NCSCS]; NCDPI, 2015).

**Comprehension.** The ability to use strategies to understand what is being read (National Reading Panel [NRP], 2000).

**Fluency.** Reading the words in the text quickly, correctly, and with expression (NRP, 2000).

**Good cause exemptions.** A student is exempt from mandatory retention in the third grade for a good cause (NCDPI, 2013).

**Phonics.** Understanding how the spelling is associated with the spoken sounds (Snow et al., 1998, p. 52).

**Phonemic awareness.** The ability to conceive, to handle, and to distinguish between individual sounds as a sequence of words (Snow et al., 1998, p. 52).

**Poverty.** The family with an income of less than enough to buy basic necessities such as food, housing, clothing, and other essentials (Jensen, 2009, p. 6).

**RtA.** In accordance with North Carolina state law, third-grade students who are not reading at grade level by the end of third grade will receive special help including summer reading camp and other interventions to ensure that they can read well enough to be able to do fourth-grade work (NCDPI, 2013).

**Reading.** Reading is making meaning from print. “It requires identifying the

words in print – a process called word recognition; construct an understanding from them – a process called comprehension and coordinate identifying words and making meaning so that reading is automatic and accurate – an achievement called fluency” (Leipzig, 2001, p. 1).

**Socioeconomic status (SES).** SES determines whether or not the students receive free or reduced-price meals at school.

**Title I.** Title I of the ESEA of 1965. “The purpose of Title I is to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at minimum, proficiency on challenging State academic achievement standards and state academic assessments” (Thomas & Brady, 2005, p. 51). A school is eligible to become a Title I school when the poverty level is at or above 40% as determined by the free and reduced meal counts. The Elementary and Secondary School Act allows each district to choose how it will determine poverty.

**Vocabulary.** Understanding the meaning of words and word pronunciation (NRP, 2000).

## **Summary**

Due to the amount of focus on literacy, this study was necessary to address the achievement gap in reading and the impact the North Carolina RtA Program has on low socioeconomic students in reading achievement. The purpose of this study was to look at the strategies used in reading skills of students who participated in the North Carolina RtA Program and the impact on growth during the summer reading camp. This eventually could influence whether students graduate from high school and go to college (NCDPI, 2013). The goal of the study was to look at whether more students are reaching grade-level proficiency before they enter the fourth grade after participating in the North

### Carolina RtA Program.

In essence, offering low socioeconomic students access to the North Carolina RtA Program summer reading camp has become a priority for many schools and school districts. Moreover, the North Carolina RtA Program summer reading camp offers students the opportunity to receive additional reading instruction. Chapter 2 continues the discussion of the North Carolina RtA. Furthermore, the research addresses understanding reading skills and the components and factors that can impact reading and the reading legislation in Florida and other states.

## **Chapter 2: Literature Review**

### **Introduction**

Reading is an important skill to succeed in all areas of the educational effort. In addition, the student's ability to read has long-term implications for his/her current and future quality of life. State and federal requirements serve as a catalyst to ensure proficiency in reading skills for all students. As a result of federal requirements due to NCLB, reading skills is one area of interest to schools across the country (NAEP, 2005).

This study examined the reading strategies and skills within the North Carolina RtA Program and the growth students made in reading during the summer reading camp at a Title I school located in an urban school district in North Carolina. This study looked at reading strategies and skills used during the program and whether there were academic reading impacts for students who took part in the North Carolina RtA Program. The review of the literature in this chapter consists of an overview of reading, reading comprehension difficulties (RCDs), cognitive flexibility with reading, reading interventions, poverty and gender differences as they pertain to reading, reading motivation, group differences, and reading legislation and policies. The aim of this study was to determine whether a correlation exists between the North Carolina RtA Program and reading achievement as well as an overview of the North Carolina RtA legislation.

### **Reading**

There have been key studies with the attempt to determine the best way to teach reading. Many approaches to reading instruction have been suggested and implemented but have not been subject to comparative research. According to Snow et al. (1998), there has been no true consensus among groups of educators and researchers with regard to how to best teach children to read.

The Cooperative Research Studies in First-Grade Reading Instruction were designed to address best practices to teach reading. The unique impact of this research program was its establishment for coordination and comparison of a number of individual reading studies and the effects on early reading growth of various approaches to initial reading instruction under similar experimental conditions (Bond & Dykstra, 1997).

The study used the Basal, Basal plus Phonics, Linguistic, Language Experience, and Phonic/Linguistic to evaluate the instruction. Duplicate data were collected in each project concerning teacher, school, and community characteristics; common experimental guidelines were followed in all 27 studies. The results revealed that the ability to recognize letters of the alphabet prior to the beginning of reading instruction was the single best predictor of first-grade reading achievement. The approach indicated that the various non-basal instructional programs tended to be superior to basal programs as measured by word recognition skills of pupils after 1 year of reading instruction. Differences between basal and non-basal programs were less consistent when measures of comprehension, spelling, rate of accuracy of reading, and word study skills constituted the criterion of reading achievement. The analysis of treatments according to level of readiness for reading revealed that no method was especially effective or ineffective for pupils of high or low readiness as measured by tests of intelligence, auditory discrimination, and letter knowledge (Bond & Dykstra, 1997).

Another important study in reading was *Learning to Read: The Great Debate*. In 1961, Jeanne Chall was commissioned to review teaching reading.

The study found that studies of beginning readers over the decades clearly supported decoding. Early decoding, she found, not only produced better word recognition and spelling, but also made it easier for the child eventually to read

with understanding. The code emphasis method, she wrote, was especially effective for children of lower socioeconomic status, who were not likely to live in homes surrounded with books or with adults who could help them learn to read. For a beginning reader, she found, knowledge of letters and sounds had more influence on reading achievement than the child's tested mental ability or IQ. (Chall, 1983, p. 45)

The latest research comes from NCLB through its Reading First program. The Reading First program's goal is to improve reading instruction in schools and close the achievement gap in test scores. The Reading First program requires states to show "how the State educational agency would assist local educational agencies in identifying instructional materials, programs, strategies, and approaches, based on scientifically based reading research, including early intervention and reading remediation materials, programs, and approaches" (NCLB, 2015, p. 123). The Reading First program's approach to improving reading instruction is based on the findings of the congressionally mandated report of NRP issued in 2000.

During the NCLB educational reform, NRP was charged with reviewing research in reading instruction and identifying approaches to create reading success (NRP, 2000). The NRP report described how to successfully teach children to read and provided analysis and discussion in five areas of reading instruction: phonemic awareness, phonics, fluency, vocabulary, and text comprehension. Future research showed the importance of independent practice reading in developing fluency, vocabulary, background knowledge, and reading rate. Independent reading at school and at home has an enormous value for students (Morrow & Gambrell, 2011).

The first phase of early reading is phonemic awareness. Phonemic awareness

became well known after the NRP (2000) report. The report found that phonemic awareness is a foundation to learning phonics, and it is important for students to engage in activities that promote that skill. Phonemic awareness involves the students knowing that words are made up of different sounds (Morrow & Gambel, 2011). When students have phonemic awareness, they recognize that the sounds of spoken language are combined to form words and these words convey the meaning (Tankersley, 2003).

Instruction in phonemic awareness involves helping children examine and manipulate phonemes in spoken syllables and words. Beginning readers must be able to make the connection that words are made up of sounds and that sounds are made up of letter combinations. In addition to understanding sounds, a child also needs to understand the concept of a word, how the position of a word makes a difference in a sentence, and that words consist of individual letters (Morrow & Gambel, 2011).

According to the NRP (2000) report, the stage of phonemic awareness that children possess when first beginning reading and their knowledge of letters are the two best predictors of how well students will learn to read during the first 2 years of formal reading instruction. Based on the report, the results showed that teaching children how to break words into individual sounds has been very effective in a variety of learning environments. Education phonological awareness of children improves their reading.

The results of the experimental studies led the panel to conclude that phonemic awareness training was the cause of improvement in student phonemic awareness, reading, and spelling. The findings were replicated repeatedly across multiple experiments and thus provide converging evidence for causal claims. The study examined how well the students would read at the end of kindergarten and at the end of first grade. Results showed that phonemic awareness was the top predictor, along with

letter knowledge. Phonemic awareness correlated 0.66 with reading achievement scores in kindergarten and 0.62 with scores in first grade.

The second phase consists of reading and decoding acoustics. Phonics refers to the ability to identify that there is a connection between the individual sounds, letters, and words. Decoding is the ability to use visual clues to understand the meaning of words and phrases. Students should be aware that there is a connection between the letters and the spoken sounds. A strong base in phonetics from the outset in the process of reading gives students success in reading (Tankersley, 2003). According to Allington (2006), mastering phonics skills has a positive relationship with reading success in early childhood.

In addition, vocabulary is a significant factor to literacy success, particularly for English language learners (Morrow & Gambrell, 2011). Vocabulary is the meaning and pronunciation of the words used in the communication process (Tankersley, 2003). Morrow and Gambrell (2011) found many reliable strategies to build children's vocabulary. Reading aloud is the most popular approach. There is a positive correlation between the frequency of how often children listen to reading aloud and the size of their vocabulary (Morrow & Gambrell, 2011).

Expanding the experiences students have around new words has a strong influence on the expansion of a student's vocabulary. There are four stages in vocabulary. The first level is no knowledge of a word in any working vocabulary. The second level is having heard the word but being unsure of the meaning. The third level is having a vague sense of the meaning of the word; and the final level is we fully understand the meaning and can integrate the new word into one or more working vocabulary (Tankersley, 2003).

Next, fluent readers can read text with speed, accuracy, and proper expression. NRP conducted an extensive and systematic literature review on two approaches to the development of fluency. The studies were experimental tests of the process of fluency with students in kindergarten through Grade 12. The purpose of the report of NRP was to review the changing concepts of fluency as an essential aspect of reading. Additionally, the report considered the effectiveness of two major instructional approaches to fluency development and the readiness of these approaches for wide use by the schools. The first major approach that was analyzed includes procedures that emphasize repeated oral reading practice or guided repeated oral reading practice. The second major approach considered includes all formal efforts to increase the amount of independent or recreational reading. NRP selected fluency for review and analysis because there was a growing concern that children were not achieving fluency in reading. Based on a study from NAEP, only 44% of the sampled fourth graders were fluent on grade-level stories (NRP, 2000).

In 2002, NAEP administered a reading assessment. The data collected were a representative subsample of the students taking part in the 2002 NAEP reading assessment. The results suggest that the three separate components of oral reading ability—accuracy, rate, and fluency—are very much related to each other and to reading comprehension, as measured by the main NAEP assessment. “Fluent” readers in this study were likely to read higher percentages of words accurately; to read the passage at a faster rate; and to have scored higher, on average, on the NAEP reading assessment than “nonfluent” readers. More than one half of the students read the study passage fluently, with a fairly high degree of accuracy, and at a rate of at least 105 words per minute (NAEP, 2005).

Finally, comprehension is the ultimate goal of reading experiences. Reading comprehension is critical and a vital component of literacy and successful reading. While the ability to decode words and read with fluency is necessary for successful reading, it is vital for students to be able to comprehend. This is accomplished when we familiarize the learner with the content and vocabulary of the selection (Morrow & Gambrell, 2011).

While reading, visualizing can assist with comprehension. Students benefit from experiences that help them better understand the story (Morrow & Gambrell, 2011). Successful comprehension instruction must be explicit and focus directly on comprehension (Hunter, 2012).

Scammacca et al. (2007) looked at a meta-analysis of 31 studies in which early intervention in reading can improve the understanding of the struggle for readers. Gains in reading comprehension were critical for struggling readers to succeed in content-area classes, demonstrate proficiency on high stakes state reading tests, and read for pleasure. For this reason, a separate meta-analysis was conducted. The results show that researchers and teachers can influence the reading results for students with reading difficulties (RDs). All students can benefit from the interventions. “Students with learning disabilities generally receive the greatest benefit from intervention with larger effects than students not identified with a learning disability” (Scammacca et al., 2007, p. 17). In addition, Scarborough (as cited in Southwest Educational Development Laboratory, 2009) reported that 5% to 10% of children who read satisfactorily in early grades struggle less later on in other grades.

Reading comprehension problems affect a significant number of elementary school children. According to NAEP, one third of fourth-grade students in the United States cannot comprehend text at the basic level, which requires simple inference making

and information extraction from texts; and two thirds of United States fourth-grade students cannot comprehend text at the proficient level, which reflects abilities to integrate information, draw conclusions, and evaluate texts (Institute of Education Sciences, 2013). The Progress in International Reading Literacy Study (PIRLS) revealed similar achievement patterns for international fourth-grade students (including U.S. students) on analogous achievement benchmarks, indicating that the development of successful reading comprehension is also a substantial international concern (Thompson et al., 2012). These data are troubling and indicate that we have much more to learn about RCDs.

Although much research has focused on the contribution of decoding difficulties to reading comprehension problems (García & Cain, 2014), far less is known about reading comprehension problems when decoding skills are appropriate for grade level (see Duke, Cartwright, & Hilden, 2014, for a review). Recently, executive functioning has emerged as a significant predictor of reading comprehension problems in children who show specific RCDs in the absence of decoding difficulties. Executive functioning is an umbrella term that refers to the cognitive control processes necessary to engage in goal-directed behavior such as inhibition, monitoring, planning, and working memory.

Processes included in definitions of executive functioning vary widely in the literature (Goldstein, Naglieri, Princiotta, & Otero, 2014); however, consensus is emerging that there are three interrelated but distinct core executive functions—cognitive flexibility, inhibition, and working memory—which underlie more complex functions such as planning and monitoring (Diamond, 2013; Miyake, Friedman, Emerson, Witzki, & Howerter, 2000; Peterson & Welsh, 2014).

In essence, reading words and developing larger vocabularies are major parts

of reading; however, these skills do not have significant impact until young students grasp the meaning behind the words. While teachers and the school culture can improve early reading proficiency, some research suggests that low SES has a larger impact on student reading ability.

### **Specific RCDs**

Readers with RCDs show a discrepancy in reading-related skills, such that their reading comprehension is significantly lower than would be expected in comparison to their average or above average decoding and cognitive abilities (e.g., Cain, 2006; Locascio, Mahone, Eason, & Cutting, 2010; Sesma, Mahone, Levine, Eason, & Cutting, 2009). These students exist in countries around the globe such as Canada (Lesaux, Lipka, & Siegel, 2006), Finland (Torppa et al., 2007), France (Megherbi & Ehrlich, 2005), Israel (Kasperski & Katzir, 2013), Italy (Levorato, Roch, & Nesi, 2007), the Netherlands (van der Schoot, Reijntjes, & van Lieshout, 2012), the United Kingdom (Cain & Oakhill, 2007), and the United States (Buly & Valencia, 2002). Furthermore, children with RCDs comprise 10% to 30% of struggling readers in elementary classrooms (Applegate, Applegate, & Modla, 2009; Buly & Valencia, 2002; Catts, Compton, Tomblin, & Bridges, 2012; Catts, Hogan, & Fey, 2003; Torppa et al., 2007).

Despite the prevalence of students with RCDs, teachers and parents often overlook these students' problems because their fluent word reading abilities mask their comprehension difficulties (e.g., Applegate et al., 2009). In short, they sound like good readers; however, these students seem unable to focus on meaning because of an inflexible focus on word-level features of print (Dewitz & Dewitz, 2003; Nation, Clarke, & Snowling, 2002; Yuill & Oakhill, 1991). Once students with RCDs reach the upper elementary grades and reading comprehension becomes the focus of both language arts

and content-area curricula, their difficulties become apparent. In fact, nearly half of the children with late-emerging reading disabilities have RCDs (Catts et al., 2012), though longitudinal data indicate some of these students' undetected difficulties with language comprehension may have been present from an earlier age (Nation, Cocksey, Taylor, & Bishop, 2010).

Traditionally, conceptions of RCDs have been guided by the view that reading comprehension is the product of decoding skill and linguistic comprehension (i.e., the simple view of reading; Gough & Tunmer, 1986; Hoover & Gough, 1990). Thus, according to this perspective, children with reading comprehension problems either have decoding difficulties, language comprehension difficulties, or difficulties with both skills (Gough & Tunmer, 1986; Tunmer & Hoover, 1992). Consistent with this perspective, despite their adequate decoding skills, students with RCDs have been found to have substantial difficulty with language comprehension (Nation et al., 2010; Nation & Snowling, 2004; Stothard & Hulme, 1992) as well as skills related to language comprehension such as sensitivity to semantic relations among words (Nation & Snowling, 1999), the ability to infer word meanings from context (Oakhill, 1983), vocabulary growth over time (Cain & Oakhill, 2011), syntactic awareness (Nation & Snowling, 2000), grammatical understanding (Nation et al., 2010), the ability to make inferences from text and prior knowledge (Bowyer-Crane & Snowling, 2005; Cain & Oakhill, 1999), the ability to resolve ambiguity in language (Oakhill & Yuill, 1986; Yuill & Oakhill, 1988), and understanding and awareness of narrative structure (Cain, 2003; Cain & Oakhill, 1996).

However, not all children with comprehension problems fit the profiles predicted by this simple view. In one study, for example, 15%, 13.8%, and 23.6% of second-,

fourth-, and eighth-grade students with poor reading comprehension, respectively, did not exhibit problems with either decoding or linguistic comprehension (Catts, Hogan, & Adlof, 2005). In fact, studies of student profiles of RD have consistently found subsets of students who do not fit the profiles predicted by the traditional, simple view (Aaron, Joshi, & Williams, 1999; Buly & Valencia, 2002; Catts et al., 2003; Hock et al., 2009; Leach, Scarborough, & Rescorla, 2003). Data like these suggest additional processes may be involved in reading comprehension and have prompted calls for and the development of expanded conceptions of reading comprehension that better reflect the complexities involved in comprehension processes (Cartwright, 2007, 2008; Cromley & Azevedo, 2007; Duke et al., 2014; McNamara & Magliano, 2009; Oakhill & Cain, 2007; Pressley et al., 2009; RAND Reading Study Group, 2002).

### **The Importance of Executive Functions for Reading Comprehension**

In particular, recent neurocognitive research suggests executive functions may be an important addition to conceptualizations of reading comprehension. Executive functions are cognitive processes that enable individuals to manage and direct their thinking toward particular goals. As noted previously, although wide variation exists regarding the array of processes included in definitions of executive functioning (Goldstein et al., 2014), consensus is emerging that three interrelated but distinct core processes (working memory, inhibition, and cognitive flexibility) underlie other, more complex executive functions (Best & Miller, 2010; Davidson, Amso, Anderson, & Diamond, 2006; Dawson & Guare, 2010; Diamond, 2013; Miyake et al., 2000; Peterson & Welsh, 2014). Given that reading comprehension requires management of multiple complex, simultaneous subprocesses (Cartwright, 2009; Oakhill & Cain, 2012; Perfetti, 1985; Pressley et al., 2009), executive functions may play an important role in successful

reading comprehension.

Indeed, recent work indicates executive functions contribute to reading comprehension processes beyond other traditionally studied predictors of reading comprehension such as decoding ability and verbal comprehension (Cartwright, 2002, 2007; Cartwright, Marshall, Dandy, & Isaac, 2010; Conners, 2009; Kieffer, Vukovic, & Berry, 2013; Sesma et al., 2009). Furthermore, students with RCDs exhibit deficits in executive functions such as working memory (Cain, Oakhill, & Bryant, 2004; Pimperton & Nation, 2014; Yuill, Oakhill, & Parkin, 1989) and inhibition (Borella, Carretti, & Pelegrina, 2010; Cain, 2006; Pimperton & Nation, 2010), in comparison to typically developing peers, making executive functions a likely target of intervention for these students; however, much work remains to be done in this area.

First, although the role of working memory in reading comprehension has been studied extensively (e.g., Cain et al., 2004; Carretti, Borella, Cornoldi, & De Beni, 2009; Carretti, Cornoldi, De Beni, & Romanó, 2005; Daneman & Carpenter, 1980, 1983; Oakhill, Hartt, & Samols, 2005; Oakhill, Yuill, & Parkin, 1986; Pimperton & Nation, 2014; Sesma et al., 2009; Stothard & Hulme, 1992; Yuill et al., 1989) and the role of inhibition in reading comprehension has received a good deal of attention (e.g., Borella et al., 2010; Cain, 2006; De Beni & Palladino, 2000; De Beni, Palladino, Pazzaglia, & Cornoldi, 1998; Henderson, Snowling, & Clarke, 2013; Kieffer et al., 2013; Palladino, Cornoldi, De Beni, & Pazzaglia, 2001; Pimperton & Nation, 2010), cognitive flexibility has received comparatively little research attention. Thus, our first study examines cognitive flexibility in children with and without RCDs. Furthermore, the majority of work on executive functions and reading comprehension has focused on whether and how executive functions contribute to comprehension processes; however, far fewer studies

have examined executive skill interventions that target reading comprehension, and even fewer have put executive skill interventions into the hands of teachers in authentic classroom settings.

### **Limited Work on Cognitive Flexibility and RCDs**

Cognitive flexibility, the ability to manage simultaneously multiple aspects of a task and actively switch between them (Cartwright et al., 2010; Chevalier & Blaye, 2008; Colé, Duncan, & Blaye, 2014; Davidson et al., 2006; Dibbets & Jolles, 2006; Miyake et al., 2000), such as managing both phonological and semantic processes while reading, may be particularly important for understanding the difficulties of students with RCDs who focus inflexibly on decoding processes with limited attention to meaning. Contrary to conventional perspectives that suggest automaticity in decoding processes frees mental resources to focus on meaning (LaBerge & Samuels, 1974; Samuels, 2006), these students' reading behaviors suggest relative automaticity in decoding processes does not afford them the same benefit: They seem unable to shift their focus to the meaning of the text or to manage decoding and meaning construction simultaneously. Cognitive inflexibility may therefore be a possible explanation for their difficulties. Furthermore, cognitive flexibility develops later in childhood than other executive skills (Best & Miller, 2010; Davidson et al., 2006) when RCDs often emerge (Catts et al., 2012). Thus, delayed development of cognitive flexibility may be another potential explanation for these students' difficulties; examination of that question, however, requires longitudinal work and is thus beyond the scope of the studies presented here.

### **Importance of Cognitive Flexibility for Successful Reading Comprehension**

The contribution of cognitive flexibility to successful reading comprehension has been well established with a variety of cognitive flexibility measures. For example, using

Wolf's (1986) rapid alternating stimulus measure, Altemeier, Abbott, and Berninger (2008) demonstrated rapid automatic switching (between naming printed words and naming printed double digit numbers) contributed significant unique variance to reading comprehension in second- to fifth-grade students with and without dyslexia. More recently, Kieffer et al. (2013) found cognitive flexibility, assessed with the Wisconsin Card Sorting task (which requires shifting sorting rules between dimensions such as color and shape of pictured objects), contributed unique variance to reading comprehension in typically developing fourth-grade students. Additionally, in a recent meta-analysis, Yeniad, Malda, Mesman, van IJzendoorn, and Pieper (2013) found evidence of significant contributions of cognitive flexibility to reading comprehension across multiple studies; however, none of these studies included students with RCDs. Furthermore, the tasks used to assess cognitive flexibility in these studies were domain-general; that is, they were not designed to tap particular demands of reading comprehension.

Recent evidence indicates domain-specific measures of executive functions, tailored to the particular cognitive demands of tasks, are more effective for assessment and intervention when targeting academic areas such as reading comprehension (Melby-Lervåg & Hulme, 2013). To this end, our lab developed a reading-specific measure of cognitive flexibility, graphophonological-semantic cognitive flexibility (GSF), which provides an index of the ability to switch actively and flexibly between printed the sounds and meanings of words in a word-sorting task; thus, this task targets the aspects of print that students with RCDs find difficult to integrate. Consistent with the findings of Melby-Lervåg and Hulme (2013), this reading-specific measure of cognitive flexibility (GSF) is a better predictor of reading comprehension than a domain-general (e.g., color-shape) measure of cognitive flexibility, even when traditional predictors of

comprehension are controlled (Cartwright et al., 2010).

Specifically, scores on the domain-general, color-shape cognitive flexibility assessment contributed no unique variance to reading comprehension beyond scores on the reading-specific GSF assessment, but the GSF assessment contributed uniquely to reading comprehension beyond domain-general, color-shape cognitive flexibility even when decoding and verbal ability were controlled. The GSF assessment is significantly correlated with traditional measures of cognitive flexibility, indicating its validity as a measure of cognitive flexibility (Bock, Gallaway, & Hund, 2015; Cartwright & DeWynngaert, 2014; note the assessment description in Study 1 for additional information). Additionally, scores on the GSF assessment make a significant contribution to reading comprehension in typically developing, English-speaking first and second graders (Cartwright et al., 2010), second to fourth graders (Cartwright, 2002, Study 1), and adults (Cartwright, 2007) as well as in French-speaking third graders (Colé et al., 2014), even when traditional predictors of reading comprehension are controlled.

Further, preschool cognitive flexibility predicts unique variance in reading comprehension in elementary school beyond age, vocabulary, decoding ability, and working memory (Guajardo & Cartwright, 2016). Finally, and particularly relevant for potential intervention work with children with RCDs, a GSF-based intervention produced significant improvements in reading comprehension, assessed with the Woodcock Reading Mastery Test (Woodcock, 1998), and GSF for typically developing second- to fourth-grade students, whereas an intervention based on general color-shape cognitive flexibility produced no effects on reading comprehension or GSF (Cartwright, 2002, Study 2). Taken together, these findings are promising, but no studies have examined the effectiveness of cognitive flexibility interventions generally, or GSF-based interventions

specifically, for improving reading comprehension in students with RCDs.

### **Reading Intervention Work**

In fact, although executive functions are malleable and respond to intervention (Diamond, 2012; Diamond & Lee, 2011; Espinet, Anderson, & Zelazo, 2013; Goldin et al., 2013; Melby-Lervåg & Hulme, 2013; Tang, Yang, Leve, & Harold, 2012), few studies have examined the effectiveness of any type of executive function intervention for improving reading comprehension, especially for students with RCDs (though see Gaskins, Satlow, & Pressley, 2007, for a description of an effective executive skills based curriculum that supports the development of reading comprehension for students at Benchmark School, an outstanding school for children with learning differences in Media, PA, USA). Even fewer studies have put executive skill interventions into the hands of classroom teachers who need targeted interventions for students, such as those with RCDs, who do not respond to regular reading comprehension instruction (Fuchs, Fuchs, & Vaughn, 2008).

A few studies suggest executive skills interventions may be helpful for students with RCDs. Dahlin (2011), for example, found that 4-5 weeks of daily individual, computerized working memory practice produced improvements in reading comprehension for children with attention difficulties and other special educational needs. García-Madruga et al. (2013) taught third-grade students a variety of reading-specific tasks designed to tap four executive functions, “focusing, switching [i.e., cognitive flexibility], connecting with long-term knowledge and updating mental representations, [and] the inhibition of irrelevant information” (p. 160), finding that students with low reading comprehension showed greater gains in reading comprehension after the intervention than students with high reading comprehension. However, their

researcher-administered intervention procedure did not permit examination of effects for individual executive functions such as cognitive flexibility alone, and they did not control for decoding skills when dividing students into high and low comprehension groups; thus, no firm conclusions can be drawn about the benefits of their multifaceted intervention for students with RCDs who have adequate decoding skills.

Whereas Dahlin (2011) and García-Madruga et al. (2013) demonstrated the potential effectiveness of researcher-administered executive function intervention for improving reading comprehension in students with attention or comprehension difficulties, other work points to the potential effectiveness of teacher-administered executive function interventions. Holmes and Gathercole (2013), for example, found teacher-administered computerized working memory instruction produced improvements in school-based English assessments of fourth- to sixth-grade students, though they did not assess reading comprehension specifically. Furthermore, Cartwright, Guiffré, Bock, and Coppage (2011) found a reading teacher administered GSF-based intervention. The interventions showed improvements in reading comprehension for struggling readers in second to fifth grade; however, they did not differentiate children with RCDs from those with other RDs. Thus, additional work is needed to examine specific effects of GSF-based intervention on students with RCDs.

Cognitive flexibility may be a particularly effective target of intervention for students with RCDs whose inflexible focus on decoding processes seems to preclude attention to meaning. Thus, the researcher conducted two studies to examine this question. First, the researcher determined whether students with RCDs had significantly lower cognitive flexibility than their peers with better reading comprehension, even when other traditional predictors of reading comprehension were controlled statistically and

through matched sampling. Then, the researcher conducted an exploratory intervention study designed to investigate the effects of a teacher-delivered cognitive flexibility intervention for children with RCDs in a Response to Intervention (RtI) framework. RtI is an effective strategy for intervening with children with RDs by providing targeted intervention in areas of particular need when children do not respond to regular classroom reading instruction (Fuchs et al., 2008; Fuchs, Compton, Fuchs, Bryant, & Davis, 2008). Thus, the researcher's purposes were to (a) compare children with RCDs and typically developing students on assessments of cognitive flexibility and (b) assess the effectiveness of a teacher-delivered cognitive flexibility-based intervention for improving reading comprehension in children with RCDs.

### **Reading and Poverty**

Research continues to show that students from economically disadvantaged backgrounds, regardless of race, continue to experience difficulties in reading. According to Luftig (2003), early intervention in the elementary setting is vital in decreasing the effects of poverty on reading achievement.

The achievement gap between high socioeconomic and low socioeconomic students has long been a source of concern for educators and policymakers. In 1964, Lyndon B. Johnson created the Elementary and Secondary Education Act (ESEA). This legislation assured unprecedented funding to support and improve reading programs for students across socioeconomic lines (NAEP, 2005). The purpose of the ESEA was to provide support to school systems serving areas with a focus of educationally disadvantaged students from low-income families. This was a component of Lyndon B. Johnson's "War on Poverty" (Cook, 2005). President Johnson sought to provide equitable resources for lower income school districts (NAEP, 2005).

A mixture of multiple authors of school effectiveness research (Teddlie & Reynolds, 2001) concluded that school influence, compared to differences within the personal lives of students, such as poverty level, is relatively small. However, while SES has a great impact on student success, schools can impact student achievement by 12-15% which can provide strong long-term effects in closing the achievement gap between students in low SES households. Researchers and educators have identified multiple factors that play a role in contributing to these performance differences, not all of which are centered on formal academic development.

Poverty largely affects students and their school lives. Students living in poverty are not nearly as prepared to benefit from school as students who come from affluent families (Jensen, 2009). Parrett and Budge (2012) stated that poverty-related factors that interfere in students' abilities to learn include limited literacy and language development, access to material resources, and level of mobility.

Often, poor children live in chaotic, unstable households. Young children are especially vulnerable to the negative effects change, disruption, and uncertainty have on their education. Many children raised in poverty enter school a step behind their well off peers. These deficits have been linked to undeveloped cognitive, social, and emotional competence in later childhood and have been shown to have increasingly important influences on vocabulary growth, IQ, and social skills. Standardized intelligence tests show a correlation between poverty and lower cognitive achievement, and low socioeconomic kids often earn below average scores in reading, math, and science and demonstrating. (Jensen, 2009, p. 38)

NRP also found through hundreds of correlation studies that the best readers read

the most and that poor readers read the least. These correlation studies suggest that the more children read, the better their fluency, vocabulary, and comprehension (Allington & McGill-Franzen, 2003).

Despite the increased recent legislative attention focused on literacy achievement across socioeconomic lines, the NAEP (2002) study reported that proficient readers are improving, while struggling readers are continuing to lose ground. The study reported that 58% of fourth-grade students eligible for free-lunch programs fell below basic reading proficiency levels, and only 27% of fourth-grade students from higher income areas fell below basic proficiency levels.

NAEP (2013) data indicated that while the percentage of fourth graders performing at or above a proficient level increased between 1992 and 2015, the percentage of fourth graders at or above the proficient level was not found to have changed significantly during that same period of time. The achievement gap persists. In 2015, students had an average score in reading of 223 points at Grade 4 and 265 points at Grade 8 on separate 0-500 point scales. The 2015 average score was not significantly different at Grade 4 and was two points lower at Grade 8 compared to 2013. Scores at both grades were higher in 2015 than those from the earliest reading assessments in 1992 by six points at Grade 4 and five points at Grade 8 (NAEP, 2013). The report concluded with the question remaining about how to improve student reading for low-income students who do not like to read.

Research completed by Mraz and Rasinki (2015) over the last few decades has shown an increase in the achievement gap for students of poverty. In essence, the number of students from low-income families continues to grow in school districts. The increase in students of poverty requires educators to examine and focus on creating

opportunities for students to be more academically successful (Mraz & Rasinki, 2015).

In addition, students who live in poverty often come to school behind their affluent peers in terms of literacy and language development (Parrett & Budge, 2012). Neuman and Celano (2001) found that children who are poor hear fewer words and have fewer meaningful conversations, making it difficult to learn new words. Allington and McGill-Franzen (2003) pointed to differences in access to reading material by students from low-income families in comparison to their more affluent peers. Poverty often places constraints on the family's ability to provide other reading resources for their children as well (Parrett & Budge, 2012).

The Kindergarten Cohort in 1998-1999 in the National Center for Education Statistics Study focused on reading scores of students from different economic levels. The study consisted of kindergarteners from public and private schools of different socioeconomic and ethnic groups. The longitudinal study followed the same children in kindergarten through eighth grade. The information was collected in the fall and spring of kindergarten (1998-1999), in the fall and spring of first grade (1999-2000), in the spring of third grade (2002), in the spring of fifth grade (2004), and in the spring of eighth grade (Xue & Meisels, 2004). The difference in reading performance of students was 11.1 points between the highest and lowest socioeconomic groups. This gap increased to 16.1 points at the end of third grade. The rate of reading growth was minimal between the spring of kindergarten and the spring of first grade, as found in schools with a high percentage of students in poverty. As SES increased, so did both initial reading skill and rate of reading skill acquisition over time (Xue & Meisels, 2004).

Farkas, Hall, Finn, Carnine, and Meeder (2000) explained that the experience of students living in poverty was not equal to that of their more affluent peers. Adult

conversation and limited exposure to high-quality literature often promoted the development of a limited vocabulary, which was a challenge to overcome when entering primary school. Using the NAEP 1994 data, Farkas et al. assessed the impact of the demographic characteristics of the students in their level of participation. Both African-Americans and Hispanics participated three times more often than Whites. Children of parents with low levels of education had the highest participation rates. And the stakes were higher in the central part of the city and in the countryside.

In addition, in San Diego, there was a case of intensive study of nine schools in the San Diego City Schools (SDCS). The sample included a high level of mainly poverty schools with between 61-100% of students being eligible for free or reduced lunch. In 2004-2005, the study of the SDCS classes was observed in autumn, winter, and spring. In 2005-2006, two additional follow-up observations were carried out, once in the fall and once in the early spring. In order to include a representative sample of teachers, two teachers were randomly selected in this study in each class and asked to participate (Bitter, O'Day, Gubbins, & Socias, 2009).

During each visit, data collectors observed literacy for 90 minutes in each class. Using a template data collection instrument, observers took notes and recorded conversations in the classroom as close to verbatim as possible. With an average of 90 minutes of observation, the observers recorded and encoded approximately 12 segments of 5 minutes. The study found that the strongest predictor of an increase in reading comprehension was the use of interrogation masters of the highest level and the debate within the meaning of the text (Bitter et al., 2009).

According to Mraz and Rasinki (2015), the last few decades have shown an increase in the poverty gap in academic achievement of students. The number of students

from families with low incomes continues to grow in the school districts. Increasing the level of poverty requires students to learn and teachers to focus on creating opportunities for students to have more success in their studies (Mraz & Rasinki, 2015).

Essentially, families with low SES often do not have the financial, social, and educational support that characterize families with higher SES. Poor families also may have a lack of or limited access to community resources that promote and support the development and readiness of access for school children. Not having sufficient resources and limited access to available resources can adversely affect family decisions regarding the development and education of their children. As a result, children from families with low SES have a greater risk of education than their peers from families with average or high SES status. Nevertheless, some studies focus on whether gender impacts the way students read.

### **Reading and Gender**

An additional factor regarding reading is the attention to gender when it comes to reading. According to Jensen's (2005) brain-based learning theory, brain-based learning emphasizes how the brain learns naturally and is based on what is currently known about the structure and function of the brain at varying developmental stages. Researchers have identified a number of differences in the physical, cognitive, personal, and social domains between the male and female brain. In addition, brain research has supported findings that the average male is already developmentally 2 years behind the average female in reading and writing when he enters the first days of school (Salomone, 2006). Gender is an area of brain differentiation that is of high interest. Although for many years it was not acceptable to talk of biologically or brain-based gender differences, recently researchers have been exploring our brain-based gender differences (Jensen, 2005).

Despite the significance of reading generally, little research has investigated the question of whether male and female students significantly differ in reading and their use of reading strategies. According to Poole (2010), gender should be examined more closely in order to discover possible achievement gaps and, if possible, reduce them. Poole stated that there are “relatively few studies focused on gender reading proficiency and most of the studies show more strategy utilization by females” (p. 61). Poole conducted a few studies that showed females demonstrated more reading strategies than males.

In one study, Poole (2010) studied 248 male and female students enrolled at the university level. In order to explore reading strategies of participants, Poole used the Survey of Reading (SORS) to investigate reading strategies used by both males and females. Poole found that male and female students not only used the same number of overall strategies but also did not differ significantly on any of the assessments.

In another study, Mokhtari and Sheory (2008) studied 302 participants comprised of 165 (55%) males and 137 (45%) females; the authors investigated gender differences in the use of the reading strategies. Mokhtari and Sheory found that differences existed among male and female students only in the United States group and not in the ESL group. Moreover, Tatum (2005) described the changes that need to take place in adolescence, specifically regarding Black males and literacy and the implications for literacy among Black males who attended schools in low income urban areas. Tatum shined a light on the important role literacy plays in the life of Black male students to ensure the best literacy practices. Tatum found that the text that Black males read must have gender awareness and emphasis on masculinity. These findings led to several reading strategy suggestions to encourage boys to read: use texts that engage boys

emotionally, use male-oriented texts, expose boys to nonfiction texts, and use texts related to the male experiences.

Traditionally, girls have felt more confident in the area of reading. As for boys, the researchers suggested that interesting text was the key to raised achievement in reading among boys (Graham & Perin, 2007).

For comparison, Hosseini, Rouhi, and Jafarigohar (2015) investigated whether the gender of learners could make a difference in their reading comprehension and use of reading strategies in descriptive and narrative macro-genres. This was followed by administering reading strategy questionnaires to explore the learners' use of reading strategies in the descriptive and narrative macro-genres. Results of the study indicated that there was no statistically significant difference between male and female student reading comprehension in these macro-genres. It also was shown that there was no significant difference observed between male and female learners in the overall use and employment of reading strategies in the descriptive and narrative macro-genres. The findings of the study hold implications for language teaching and testing, teacher training, and curriculum design.

In essence, boys and girls struggle with reading for a variety of reasons. Demographics such as SES or gender play an important role in student achievement in reading; however, recent state legislation is trying to determine which interventions are best to close the achievement gap and improve reading.

### **Reading Motivation**

The importance of reading motivation relies on its relationship to achievement and behavioral outcomes (Guthrie, Wigfield, & You, 2012). Documented associations among motivation, reading engagement, and achievement provide support for the reading

engagement model (Guthrie & Wigfield, 2000) which is based on theories of self-determination, expectancy value, and social motivation (for review, see Klauda & Guthrie, 2015). Specifically, this model proposes to assess (a) the multiple types of reading motivation (e.g., intrinsic and extrinsic motivation, self-efficacy, and social motivation), (b) correlations among these motivational variables, and (c) the causal effects of motivation, engagement, and student achievement on reading at elementary and secondary levels (Klauda & Guthrie, 2015; Logan, Medford, & Hughes, 2011).

Prominent among research is that intrinsic motivation is generally an internal engagement to persist on an activity (Wigfield, Guthrie, Tonks, & Perencevich, 2004). This type of motivation has been associated with achievement across subject areas for average students (i.e., math, science, and reading; Gottfried, Fleming, & Gottfried, 2001; Otis, Grouzet, & Pelletier, 2005; Retelsdorf, Koller, & Moller, 2011), across grade levels (i.e., third through sixth grade; Becker, McElvany, & Kortenbruck, 2010), and across subtypes of students (i.e., struggling and advanced readers; Klauda & Guthrie, 2015; Logan et al., 2011).

More specifically related to reading, intrinsic motivation, defined as interest and enjoyment, has been documented as a correlate of recall and reading comprehension, reading achievement growth, metacognitive strategy knowledge, and diverse reading strategies for elementary and secondary students (Klauda & Guthrie, 2015; Retelsdorf et al., 2011; for review, see Schiefele, Schaffner, Moller, & Wigfield, 2012). The beneficial effects of intrinsic motivation on reading achievement appear to be moderated by the amount of time children are engaged in reading, especially for high-achieving students (Becker et al., 2010; Schaffner et al., 2014; Schaffner, Schiefele, & Ulferts, 2013).

Extrinsic motivation, another type of motivation, which is more immediate,

temporary, and situation specific, encourages children to persist on tasks in order to obtain external recognition, rewards, and incentives (McGeown, Norgate, & Warhurst, 2012). The evidence of association between extrinsic motivation and reading achievement is less consistent (Wigfield et al., 2004), with reports of negative correlations (Becker et al., 2010) and nonsignificant associations (Andreassen & Braten, 2010). For example, in longitudinal analyses, sixth grade reading literacy was inversely predicted by fourth grade extrinsic motivation ( $\beta = -.59, p < .001$ ) but positively predicted by fourth grade reading amount ( $\beta = .35, p < .001$ ). There also was a negative association between fourth grade reading amount and fourth grade extrinsic motivation ( $\beta = -.12, p < .05$ ; Becker et al., 2010). Such findings with typical children without reading problems have been attributed to the negative contribution of extrinsic motivation to reading amount and reading comprehension (Schaffner et al., 2013).

In motivational comparison studies, intrinsic more than extrinsic motivation was associated with independent reading frequency, engagement behavior, and reading comprehension performance (De Naeghel, Van Keer, Vansteenkiste, & Rosseel, 2012). To also indicate the relative importance of intrinsic motivation, the positive associations reported between extrinsic motivation and reading achievement depended on the level of intrinsic motivation (Park, 2011).

Another type of reading motivation is self-efficacy, which is the belief that one is capable of successfully performing a particular task. Self-efficacy (confidence) was associated with word and sentence reading skills, text comprehension, and reading comprehension growth (Guthrie, Hoa, Wigfield, Tonks, & Perencevich, 2006; Ho & Guthrie, 2013; Hornstra, Veen, Peetsma, & Volman, 2013; Walker, Greene, & Mansell, 2006). Self-efficacy also changes across time. For example, a longitudinal analysis

reported decreased self-efficacy following the junior high transition (from sixth to seventh grade) for general education students (Wigfield & Eccles, 1994). More recently, a curvilinear “u-shape” pattern of self-efficacy has been reported for students without disabilities, with decreased self-efficacy after third grade, which then increased and was stable through sixth grade (Hornstra et al., 2013).

Another type of motivation associated with achievement and with developmental attributes is social motivation. When social motivation is defined within the context of reading, it involves intentions to interact socially during reading tasks (i.e., involving prosocial goals; Guthrie et al., 2012) such as reading together with friends, talking with friends about reading, and sharing books with others. Changes over a 3-year span have been documented in general education populations which suggest a decrease in seeking social approval (social motivation) from third to fifth grades (i.e., Meece & Miller, 1999). Social motivation has not been documented as a correlate of other types of reading motivation, engagement behavior, or with comprehension growth (Guthrie et al., 2007).

The last type of reading motivation is work avoidance. Work avoidance has been defined behaviorally as an action that avoids reading tasks or involves the least amount of time and effort or as an attitude expressed as an aversion toward reading (Ho & Guthrie, 2013; Klauda & Guthrie, 2015; Meece & Miller, 2001). Work avoidance is negatively related to intrinsic and social motivations, self-efficacy, and standardized reading comprehension and fluency (Ho & Guthrie, 2013). However, related to longitudinal work, findings were less consistent over time, with no clear trends in work avoidance (e.g., a decline in third grade, an increase in fourth grade, no change following fourth grade in a mixed-ability group of students [Meece & Miller, 2001]).

## **Group Differences**

Less consistent are findings relating motivation to reading achievement for students with reading disabilities. For example, there was no significant association between reading achievement and any type of motivation (i.e., intrinsic, extrinsic, social, and self-efficacy) for third to eighth grade poor readers, but significant associations were reported when good and poor reader groups were combined as a group (McGeown et al., 2012). Similar findings have been reported between reading comprehension and intrinsic motivation and self-efficacy but only for combined groups of struggling and adequate middle and high school readers (Klauda & Guthrie, 2015; Wolters, Denton, York, & Francis, 2014). Thus, these associations could be attributed to the good readers.

In contrast, evidence has been reported that intrinsic motivation predicted reading comprehension growth for fourth to sixth grade poor readers more than for good readers (Logan et al., 2011). Furthermore, the social motivation of seventh grade struggling readers was associated with general comprehension when social motivation was defined as peer devalue (e.g., “my classmates do not care about my opinion about the information books I read for school”; Klauda & Guthrie, 2015, p. 246). Thus, the intrinsic and social motivation of poor readers may have specific correlates to reading achievement.

It also is possible that the lack of consistent findings is due to the failure to examine groups of students at specific age levels. Using this specific-to-age rather than elementary versus secondary level approach, students with RDs had higher work avoidance as early as second grade; lower self-efficacy and intrinsic motivation at the third-grade level; lower extrinsic motivation in the fourth grade; and later in the fifth grade, they had lower social motivation than students without disabilities (Lee & Zentall, 2012).

Fewer conclusions can be drawn from the research on students with ADHD who have been studied less frequently in general academic, reading, or social motivation; however, reports have been published across academic and social areas. For example, students with ADHD have been rated as lower on general motivation and as having lower self-expectations and being less likely to learn new things or complete assignments without teacher intervention, while expending less effort, less enjoyment of learning, assuming less challenging work, and using strategies less consistently (Carlson, Booth, Shin, & Canu, 2002; Zentall & Beike, 2012).

More specific to the characteristic social deficits of ADHD, teachers rated students with ADHD as lacking social motivation (i.e., less motivated to work well with other students) as early as 6-8 years, in contrast to students and students with RDs, who were not rated with lower social motivation until 9-11 years of age (Zentall & Beike, 2012). Notably, when social motivation was defined within the context of reading (an area of relative strength for students without RDs), students with characteristics of ADHD did not differ from their general education peers until the fifth grade (e.g., self-rated “My friends and I like to trade things to read,” “I talk to my friends about what I am reading”; Lee & Zentall, 2012).

Currently, there is a research base in general education and some preliminary work including students with disabilities. In this preliminary work, motivational deficits have been documented in areas of problem functioning (e.g., in reading motivation for students with RDs, in social motivation for students with characteristics of ADHD), especially at early age levels. These early motivational deficits appear to generalize at advanced grade levels across areas of previous good functioning. Unfortunately, this prior research has reported a prospective analysis of reading motivational differences,

assessing different students within one time frame rather than a longitudinal follow-forward study of the same students. Changes in motivation over time could tell us more about the course of motivation as it may differ among student groups, and longitudinal research provides a more valid assessment for this purpose (Klauda & Guthrie, 2015).

Thus, a number of research studies proposed to examine reading motivational changes for students within a 3-year longitudinal analysis as a follow-up to prior assessments in prospective studies. At a general level and following from the reading engagement model, this study examined the contribution of multiple motivational components including self-efficacy; intrinsic, extrinsic, and social motivation; work avoidance; and the behavioral component of amount of reading.

This study predicted decreased motivation from elementary to middle school levels for all children, in line with previously documented work on intrinsic and social motivation in general populations of children. In addition, a supplementary regression analysis addressed the relationship between reading achievement and motivational and behavioral variables to provide a comparison with prior research. For example, this study assessed early intrinsic motivation as a possible predictor of growth in reading achievement for all middle school students. Our overall predictions were related to the relationship among earlier reading failure/achievement, reading motivation, reading amount, and later reading achievement. In essence, elementary school reading failure and the amount of reading experience would moderate the effects of earlier reading motivation on later reading achievement. This hypothesis was examined using a structural path analysis model.

More specific predictions were related to reading motivational differences across time for students with RDs. The implication is that early reading failure should interact

with time producing subsequent motivational and reading amount differences.

Interactions had already been documented within elementary school showing decreased motivation for this group of students. In line with learning and emotional models of motivation (Pekrun & Linnenbrink-Garcia, 2012), the researcher predicted a decrease in intrinsic motivation and an increase in extrinsic motivation in response to failure (interactions). Because intrinsic motivation (Logan et al., 2011) and social motivation (Klauda & Guthrie, 2015) have been reported as significant predictors of the reading achievement for struggling readers, the researcher expected social motivation would account for additional variance in reading achievement at the middle school for this group.

In contrast, students with ADHD without co-occurring RDs do not have decoding difficulties, even though they have specific problems in reading comprehension at later grade levels (for review, see Zentall, Tom-Wright, & Lee, 2013). For this reason, students with ADHD without co-occurring RD would be similar to students without RDs in elementary school reading motivation; however, early social deficits would be expected to generalize to the reading context at the middle school level more for students with ADHD than for typical students (i.e., an interaction). In fact, there was evidence supporting this prediction, with social reading losses as early as 6-8 years (Zentall & Beike, 2012). The poor social motivation of older students with ADHD was attributed to their social goals of gaining competence through competition (extrinsic motivation) more than typical students (for review, see Zentall, 2005). Thus, for students with ADHD, the researcher predicted a generalized loss in reading motivation due to difficulties with social acceptance and to emergent difficulties with reading comprehension at the middle school level.

## **Reading Legislation and Policies**

Based on the Education Commission of the state, students not reading proficiently by the end of the third grade are four times more likely than proficient readers to drop out of high school (Rose & Schimke, 2012). Many states are attempting to increase student achievement and turn their schools around by requiring students to pass a standardized test in order to be promoted to the fourth grade. The mandates are intended to end “social promotion,” the widespread practice of promoting students at the end of the school year regardless of their academic proficiency (Greene, 2010).

Greene (2010) argued that the mastery of basic reading skills before fourth grade is crucial. Until third grade, students generally learn to read. After third grade, students are mostly reading to learn. If students cannot read after third grade, they do not have the basic tools to be successful in school and tend to fall further and further behind (Greene, 2010).

Currently, most research has taken place in Florida. In 2002, the Florida state legislature passed “Just Read, Florida!” This law required third-grade students to attain a score of level 2 of 5 on the Florida Comprehensive Achievement Test (FCAT) before being promoted to fourth grade. During that initial year, 41% of the students who were unable to pass the state’s test demonstrated skills in an alternative way or received an exemption. The remaining students had to repeat third grade. Though labeled by most as a third-grade retention policy, it is important to note that this law also sets clear requirements for early identification and intervention for struggling readers in kindergarten to third grade. Once the student’s difficulties are identified, schools are required to develop academic improvement plans that describe the specific areas of reading deficiency, desired levels of performance in these areas, and necessary support

services (Rose & Schimke, 2012).

As a result of the legislation, the percentage of students retained in Grade 3 increased significantly. “Two years before the policy change, only 2.9% of the 3 classes have been retained, while in the two years after implementation of the policy, 11.7% of the 3 classes of Florida said they had to stay in the same class for the next year” (Rose & Schimke 2012, p. 7).

In addition, the Office of Program Policy Analysis and Government Accountability (OPPAGA) found that in 2003, the third-grade retention rate increased from 3.3% before to 14.4% after the application of the policy. In the 2006-2007 school year, the percentage of students retained declined to 8.1%. The researchers also found an increase in the number of children held in the K-2 classes of approximately 29,500 children in 2001-2002 to 40,000 in 2003-2004 (Rose & Schimke, 2012).

Furthermore, Zmach (2006) investigated the practice trends of retention for third graders in Florida. The results showed that over time, the retention rate is highly dependent on the socioeconomic patterns. Students in schools with high levels of poverty were largely dependent on the greater part of the policy.

In addition, in 2003, the state of New York adopted rules similar to the promotion and retention for third grade. New York requires that students should be retained if they score a Level 1 or 2 on the state of New York English Language Arts (ELA) and mathematics. Policy also has strong identification and intervention components with an emphasis on early detection, additional instructional time, and continuous assessment of student performance. Schools identify students who need services at the beginning of each year on the basis of teacher recommendations, previous test results, and/or classroom assessments. Students identified as struggling in one of the subjects tested are

guaranteed academic intervention services access including differentiated instruction in the classroom, small group instruction, small classes, and summer school. NYC retention policy applies only to students in general education and offers students the opportunity to develop on the basis of a portfolio of student work, summer standardized assessment, or an appeals process (Rose & Schimke 2012).

Most states require schools to assess children from preschool and notify parents if their child is below grade level. Schools are required to create a plan for each student and provide intensive tutoring in reading, summer reading programs, or other assistance (Rose & Schimke 2012).

Chicago Public Schools has a similar program, Summer Bridge, which provides intensive training in reading and math while using the online curriculum. It is designed for students in Grades 3, 6, and 8 who do not meet the minimum criteria for the promotion of basic 13-1023-RS1 Council policy. In essence, the state legislatures and state educational institutions have tried to support these efforts through the use of systematic, replicable models for schools to use. They reacted to the implementation of early assessment and rehabilitation as well as more intensive reading instruction.

North Carolina's approach is similar to the effort of Florida. The RtA Program is an element of the Excellent Public Schools Act passed by the North Carolina General Assembly in 2012. As part of the North Carolina RtA Program to ensure third-grade students are reading on grade level, students are given various assessments. The first evaluation is the North Carolina Beginning-of-Grade (BOG) assessment in Grade 3. It is considered to be the baseline assessment and is used to determine the student proficiency level. Students are asked to read the multiple-choice questions and answer questions about the selections. The results are divided into one of five levels from qualification

level 1 (lowest) to level 5 (highest); level 3 is considered competent (NCDPI, 2017).

In North Carolina, during the year in each kindergarten through third-grade class, student progress in reading is measured regularly through the MClass 3D evaluation system. This system allows teachers to understand the reading levels and the development of skills of all students and to identify struggling students and students who need reading enrichment during the year. The North Carolina RtA Program states that throughout the year if a student is reading below grade level or struggling with reading based on various assessments, the school must inform parents of exactly what type of RDs the student is having and what instruction or interventions are being used to help advance the student's skills (NCDPI, 2017).

In addition, North Carolina measures every third-grade student at the beginning and end of the school year to determine if the student is prepared for the fourth grade. The assessment measures a student's progress on the standards in NCSCS. The BOG and EOG tests have the same reading components. Therefore, if students do not score a Level 3, Level 4, or Level 5, they have the option to take the RtA assessment. The RtA assessment allows students another opportunity to achieve proficiency before the summer. Finally, each local district has the ability to choose a local alternative assessment.

In addition, third-grade students who score an achievement Level 3 or higher on the third grade North Carolina BOG reading test, score an achievement Level 3 or higher on the North Carolina EOG reading test, score an achievement Level 3 or higher on the RtA test and/or pass the district's locally determined alternative assessment or portfolios are promoted to the fourth grade. The locally determined assessment used by the school for this study was a portfolio assessment; however, in special cases, if the student does

not pass a proper assessment to be promoted to the fourth grade, he or she still can be promoted to the fourth grade in what is called a “good cause exemption.” Students who qualify for a good cause exemption are students with disabilities whose individualized education programs indicate the use of interventions and evaluation of alternative reading; students with limited English proficiency with less than 2 years of training in English as a second language; students who demonstrate through a reading portfolio reading proficiency appropriate for a third-grade student; and students who have been retained more than once in kindergarten, first, second, or third grade.

If a child scores a Level 1 or 2 on the EOG and does not qualify for a good cause exemption, the school has to notify the parent in writing that their child must achieve proficiency before being promoted to the fourth grade (NCDPI, 2013). Therefore, the North Carolina RtA Program requires students to attend a summer reading camp if they do not show proficiency after third grade and they do not qualify for a good cause exemption. The school or school district provides the camp, at no cost to the parent. During the summer camp, students must show proficiency after the camp by passing the RtA test or producing a completed reading portfolio. Those students showing proficiency will be promoted to the fourth grade (NCDPI, 2013).

If a student is still not proficient after the summer reading camp, the student moves to the next year with a “retained” label on his or her record. A student who is identified as retained under this law is provided many extra opportunities to develop skills and gain proficiency. Retention gives the student the extra time that is needed to catch up in reading and build stronger skills for other content areas. Reading deficiencies are addressed before students move into more difficult work and assignments in fourth grade and beyond (NCDPI 2013).

## **Summary**

This review of literature focused on the need for effective reading instruction in order to increase student achievement, the impact poverty and gender have on reading achievement, and the current research on legislation on reading camps in North Carolina and other states. The literature is rich with evidence about the importance of reading. Based on the research, gender had a minimum impact on reading achievement; but the socioeconomic impact was significant. In addition, research on the retention policy from states provided evidence that objective retention based on standardized test improves the academic proficiency of low-performing students; however, there was not a significant amount of research on summer reading camp interventions.

### **Chapter 3: Methodology**

The purpose of this study was to examine the reading strategies within the North Carolina RtA and the growth students made in reading during the summer reading camp in a Title I school from a large urban district. This chapter describes the research design that helped answer the research questions of this study.

1. Is there a significant difference in reading achievement scores for all students prior to attending summer reading camp and after attending summer reading camp as measured by the RtA assessment?
2. What skills/strategies within RtA impacted achievement scores for students who participated in the RtA Program?
3. What is the motivation and student perception after attending the summer reading camp as measured by the reading interview?

Finally, the researcher also discusses the possible limitations of the study.

#### **Methodology**

A mixed-methods approach was used for this study. Caruth (2013) defined the mixed methods approach as, “A method of both quantitative and qualitative designs in the same research study” (p. 2). This approach allows for greater depth of insight into the research problem and questions than a quantitative or qualitative study alone (Caruth, 2013). Mixed-methods research has become increasingly popular for research problems that need to be both explored and explained (Creswell, 2003). This study used the concurrent embedded model, which is used to collect quantitative and qualitative data concurrently during the same phase.

The mixing of the data from the two methods is often to integrate the information and compare one data source with another, typically accomplished in a discussion

section of a study. However, the data may also not be compared but reside side by side as two different pictures that provide an overall composite assessment of the problem. This would be the case when the researcher uses this approach to assess different research questions or different levels in an organization.

(Creswell, 2003, p. 214)

The value and advantages of a mixed-methods approach to research is three-fold: It is able to address confirmatory and exploratory research questions simultaneously; it has the ability to provide stronger inferences; and it allows the opportunity for a greater assortment of divergent and/or complementary views. This approach allowed the researcher to gain a deeper understanding of how instructional facilitators define their own roles and functions as well as why they valued certain professional learning experiences more than others.

Creswell (2012) identified three advantages to conducting interviews and focus group discussions. These advantages included the following: Participants cannot be directly observed; participants are able to provide historical information; and the research questions can be directly addressed by the researcher through the line of questioning. Creswell (2012) recommended asking no more than 12 interview questions, starting with an ice breaker type question or a question that helps the researcher get to know the participant better and ending with a wrap-up question to allow the participant the opportunity to share any other details that might not have come up during questioning.

### **Participants**

There were 145 students enrolled in third grade in the research school during the 2016-2017 school year: 83 students were eligible to participate in the North Carolina RtA Program; 21 students took the pre and posttest and reading survey; and four teachers

participated in the interview. The participants were third graders at a Title I school in North Carolina. The North Carolina RtA Program targets struggling third-grade readers. The study participants faced major stressors that could hinder success, including attendance at low-performing schools, depressed achievement levels, high dropout rates, high poverty, increased incidents of neighborhood crime and violence, and single head of household being the predominant family structure. According to the Quality of Life (2010) study of the Neighborhood Profile Area, the communities of the researched schools scored higher than the city value in violent crimes, juvenile arrests, and unemployment areas.

### **Instruments**

There were four instruments used in this study. The first instrument used was the Grade 3 Student Reading Portfolio assessment. The Grade 3 Student Reading Portfolio assessment is an alternative option for students to demonstrate proficiency in third-grade reading comprehension and to be promoted to Grade 4. The Grade 3 Student Reading Portfolio is not mandated for students by NCDPI or by the RtA law. The purpose of the portfolio is to confirm student mastery of NCSCS in reading that is assessed on the EOG.

The Student Reading Portfolio is a compilation of independently produced student work selected by the student's teacher beginning during the first half of the school year and signed by the teacher and principal as an accurate picture of the student's reading ability. The student reading portfolio includes an organized collection of evidence of the student's mastery of the state's reading standards that are assessed by the state approved standardized test of reading comprehension administered to third-grade students. A single piece of evidence may show mastery of up to two standards. For each benchmark, there shall be three examples of student work demonstrating mastery by a grade of 70%

or above (NCDPI, 2017).

The second instrument used was the RtA test. The test was built using the same pool of items developed for the EOG ELA/Reading Grade 3 Test; however, each original selection is divided into two separate texts for the RtA test. The selections are divided so that one part does not depend upon the other and each section of the text has its own set of unique items. It was a solution for balancing the complexity and length of the new passages aligned to the standards and the reading load for Grade 3 students. The RtA test contained 44 four-point multiple choice items. All item responses were scored and included in the student's score. The RtA test was administered to students in Grade 3 who failed to demonstrate reading proficiency appropriate for a third-grade student on the BOG regular administration (i.e., first administration) of the Grade 3 EOG ELA/Reading Assessment.

The third instrument used was an interview of summer camp teachers. The interview questions were reviewed by the district curriculum administrator and district literacy coach to ensure content validity.

Last, the researcher used the Adolescent Motivation to Read Survey (see Appendix) that is familiar to many researchers and practitioners. The researcher received permission to use the instrument for this program evaluation. The survey asked students 20 questions, 10 questions relating to assessing self-concept as a reader and 10 questions relating to their attitude toward the value of reading. This reading survey looked at student perceptions of reading and an analysis was completed on each individual item.

### **Research Design**

This study examined the reading strategies within the North Carolina RtA and the growth students made in reading during the summer reading camp. The study used a

pretest and posttest assessment to identify student achievement.

The pre-experimental design model involves three steps: (a) subjects take an RTA test at the end of the year, which is considered the pretest; (b) subjects attend the North Carolina RtA summer camp as a treatment; and (c) subjects take an RTA test at the end of the summer camp, which is considered the posttest. The independent variables include demographic conditions inherent in those students participating in the program. The specific independent variables that are manipulated in the quantitative portion of the study include demographic categories associated with race/ethnicity, gender, SES, and the learning summer program. The impact of the summer camp is determined by comparing the pretest when taken and the posttest when taken. Ordinal gains and losses from the data are analyzed by specific subgroups through descriptive and inferential statistics. A *t* test for two groups is used to analyze the mean differences related to gender, race, and skill level for each student.

In addition, teachers who taught during the camp were interviewed about which skills and strategies they used during the summer camp. Student portfolios were used to measure student progress and the strategies that were achieved. Also, students took a reading survey that consisted of 20 items based on a four-point scale. Some items were listed positively, and some were listed negatively. The researcher recoded the items and totaled the scores of each question.

### **Data Collection**

RtA assessments are used to measure student growth in reading. In general, the fall assessment gathers baseline. The winter assessment measures progress. The spring assessment measures student growth to that point. However, for the purpose of this study, the RtA assessment set the baseline, and the RtA retest assessment determined any

difference the North Carolina RtA summer reading camp may have had on student growth and their skills. Once the RtA data were collected, the beginning baseline data, the end-of-year data were compared among third-grade students who attended the RtA summer reading camp to determine if there was a difference in student reading achievement.

For Research Question 2, the researcher analyzed reading skills from NCSCS: phonic, vocabulary, and comprehension. In addition, the researcher collected and analyzed an interview question from teachers in reference to the strategies they used during the summer.

Finally, students completed the Adolescent Motivation to Read Survey. This instrument is widely used to gauge student motivation in reading as well as to gauge their perceived value of reading. The results give an overall score on all 20 questions. It is aggregated into two subcategories. One subcategory contains questions that focus specifically on student reading motivation. The other subcategory contains questions that specifically measure perceived value of reading. All of the questions are combined on the survey, so students do not necessarily know which section they are working on and how it is potentially viewed by the researchers.

All data were computed using each of the data sets. They were backed up and password protected to be used for data analysis. The information students gave in the study was handled confidentially. Student information was assigned a code number. The list connecting his/her name to this code was kept in a locked file. When the study was completed and the data were analyzed, this list was destroyed. Student names were not used in any report.

## Data Analysis Procedures

A mixed-methods approach was used for this research study. For Research Question 1, the study utilized descriptive statistics (frequency counts and measures of central tendencies) and measures of variability (standard deviations). In addition, for Research Question 1 and part of Research Question 2, the investigator considered the overall achievement score on the reading section of RtA for gains and losses and skill level. This study used a paired  $t$  test to determine if there was an academic achievement impact between the spring RtA scores and summer RtA scores for third-grade students. The research utilized a paired  $t$  test to analyze the data from the pre and postadministration of the RtA assessment. The paired  $t$  test was utilized to assess whether the students test scores were statistically significantly different. The students in this particular study were from the same population in the same environments. To be concise, the paired  $t$  test compared differences in reading achievement to determine if they were statistically significant.

As reflected in last paragraphs, the use of past tense applies to the narrative. The researcher used quantitative data to complete the comparative analysis. To determine achievement, the end-of-year assessment and the RtA summer camp assessment results were compared for change in achievement and in reading skills. Student achievement data were compiled and measured from third graders. The student data were compared to determine whether there was significant growth in reading skills and achievement.

The study analyzed the level of student gains and/or losses in reading. The research questions used quantitative data collection methodology to measure academic growth on specific pre and posttests. The researcher collected ordinal data to show the academic changes from the pretest to posttest to determine if the summer camp had a

positive or negative impact on the dependent variable (student achievement). Students who participated in the program took the RtA computerized adaptive assessment twice a year. Students were administered the assessment in the fall and spring. In addition, the researcher collected and analyzed the interview group questions from teachers in reference to the skills taught and strategies they used during the summer.

Students were given the Adolescent Motivation to Read Survey. All of the questions are combined on the survey, so students do not necessarily know which section they are working on and how it is potentially viewed by the researcher. The researcher analyzed the motivation and perception of the participating students. The researcher identified common strategies and trends using a frequency distribution table. The researcher summarized how often different scores occurred within a sample of scores.

### **Limitation**

The study is limited by the fact that the participants only came from one school. The study is further limited because the RtA data to be collected came from a single school which makes it difficult to generalize. The students did not take the RtA assessment on the last day of the school year and then on the first day of the new school year, thus there could be an impact on how much summer learning achievement is maximized.

### **Summary**

This chapter described the research methodology and procedures of this study. It also explained the population, instrument design, collection of data, and the processes that were utilized during the study. This study looked at reading skills/strategies used during the North Carolina RtA Program summer reading camp and sought to determine if there were reading gains or losses of students who attended the North Carolina RtA

summer reading camp.

## Chapter 4: Results

### Introduction

The purpose of this study was to examine reading strategies and skills used during the North Carolina RtA summer reading camp and it sought to determine if there were indicators of reading growth of students who attended the North Carolina RtA summer reading camp. The data were collected from the North Carolina RtA assessments, interviews from summer reading teachers, student assessment portfolios, and the Adolescent Motivation to Read Survey. The study attempted to answer the following three research questions.

1. Is there a difference in reading achievement scores for all students prior to attending summer reading camp and after summer reading camp as measured by the RtA assessment?
2. What strategies/skills within RtA impacted achievement scores for students who participated in the RtA Program and summer reading camp?
3. What is the reading motivation and student perception after attending the summer reading camp as measured by the reading survey?

This chapter presents summaries of the findings obtained from the North Carolina RtA assessment, student assessment portfolio, teacher interview, and student survey. Each research question was answered using separate data analysis. Data collected to answer Research Questions 1 and 3 were analyzed using quantitative analysis, and data collected to answer Research Question 2 were analyzed using qualitative analysis.

Prior to conducting statistical analyses, demographic and assessment data were gathered and entered into an Excel spreadsheet from the state student data collection and data analysis systems. The data were uploaded into SPSS statistical program database

and appropriately coded with the assistance of a second viewer to maintain accuracy of coding and data entry.

Of the 145 students enrolled in third grade in the research school during the 2016-2017 school year, 83 students were eligible to participate in the North Carolina RtA Program and this study. The North Carolina RtA Program is a measure of student performance on the goals, objectives, and grade-level competencies based on NCSCS. It is reported in five achievement levels: Level I–Limited Command of Knowledge and Skills, Level II–Partial Command of Knowledge and Skills, Level III–Sufficient Command of Knowledge and Skills, Level IV–Solid Command of Knowledge and Skills, and Level V–Superior Command of Knowledge and Skills. Students were eligible for participation in the study if they met the following criteria: (a) enrolled in third grade in the research school during the 2016-2017 school year, (b) obtained a Level I or Level II from the reading comprehension portion of the North Carolina EOG assessment, and (c) participated in the North Carolina Reading Portfolio. Sixty-two students successfully completed the RtA portfolio which gave them a good cause exemption demonstrating that the student mastered reading on grade level and did not have to attend the North Carolina RtA summer camp. Furthermore, 21 students did not successfully complete the RtA portfolio and had to be assessed on the RtA assessment, allowing the students another opportunity to achieve grade-level proficiency.

### **First Research Question Interpretation**

**Is there a difference in reading achievement scores for all students prior to attending summer reading camp and after summer reading camp as measured by the RtA assessment?** The North Carolina RtA assessment measured student performance on the goals, objectives, and third grade level competencies based on

NCSCS. The North Carolina RtA assessment is administered before and after the North Carolina RtA summer camp program. Functioning as a pretest, the EOG Reading Test scores provided a measure for growth reporting and provided information on each third-grade student's reading level at the beginning of the RtA summer camp so appropriate instruction and intervention may occur.

A descriptive analysis of the data was conducted using the results from the 2016-2017 school year. A mean reading score was used to compare student achievement from the RtA assessment at the beginning of the RtA summer program (pretest) to the RtA assessment at the end of the RtA summer program (posttest). The test data to be analyzed were measured at the ordinal level; therefore, a Wilcoxon signed-rank test was used to compare the differences between the treated group's pre- and post-RtA assessments. The results of the Wilcoxon signed-rank test for all participants can be found in Tables 1, 2, and 3.

Table 1

*Descriptive Statistics for All Participants*

	N	Minimum	Maximum	Mean	Std. Deviation
RtA-Pretest RQ1	21	1	2	1.29	.463
RtA-Posttest RQ1	17	1	2	1.35	.493
Valid N (listwise)	17				

Table 2

*Ranks for All Participants*

		N	Mean Rank	Sum of Ranks
RtA-Posttest RQ1	Negative Ranks	0 <sup>a</sup>	.00	.00
RtA-Pretest RQ1	Positive Ranks	4 <sup>b</sup>	2.50	10.00
	Ties	13 <sup>c</sup>		
	Total	17		

a. RtA-Posttest RQ1 < RtA-Pretest RQ1

b. RtA-Posttest RQ1 > RtA-Pretest RQ1

c. RtA-Posttest RQ1 = RtA-Pretest RQ1

Table 3

*Wilcoxon Signed-Rank Test Results for All Students*

	RtA-Posttest RQ1 - RtA-Pretest RQ1
Z	-2.000 <sup>a</sup>
Asymp. Sig. (2-tailed)	.046

a. Based on negative ranks

Of the 21 participants who qualified for the analysis, only 17 had both pre and posttest scores. The results of the Wilcoxon signed-rank test showed that four of the 17 participants scored higher on the posttest than on the pretest and 13 of 17 participants had the same score on the posttest and pretest. The results also show that there was a positive difference between the pre and posttest results  $Z = -2.00, p = .046$ .

Examining the data by gender provides a better insight into the result of the overall group. Table 4 provides the descriptive statistics for females.

Table 4

*Descriptive Statistics for Females*

	N	Mean	Std. Deviation	Minimum	Maximum
RtA-Pretest RQ1	9	1.44	.527	1	2
RtA-Posttest RQ1	6	1.50	.548	1	2

Female scores on the RtA-Pretest (2016-2017) ranged from 1 to 2 ( $M=1.44$ ,  $SD=.527$ ). For the RtA-Posttest (2016-2017), scores ranged from 1 to 2 ( $M=1.50$ ,  $SD=.548$ ). The descriptive statistics of females and males are presented in Tables 5 and 6.

Table 5

*Ranks for Females*

		N	Mean Rank	Sum of Ranks
RtA-Posttest RQ1 -	Negative Ranks	0 <sup>a</sup>	.00	.00
RtA-Pretest RQ1	Positive Ranks	2 <sup>b</sup>	1.50	3.00
	Ties	4 <sup>c</sup>		
	Total	6		

a. RtA-Posttest RQ1 < RtA- Pretest RQ1

b. RtA-Posttest RQ1 > RtA- Pretest RQ1

c. RtA-Posttest RQ1 = RtA- Pretest RQ1

Table 6

*Wilcoxon Signed-Rank Test Results for Females*

	RtA-Posttest RQ1 - RtA-Pretest RQ1
Z	-1.414 <sup>a</sup>
Asymp. Sig. (2-tailed)	.157

a. Based on negative ranks.

Of the nine female students, only six had both pre and posttest scores. Of those six participants, only two exhibited a positive rank, and the other four exhibited the same score on both tests. The Wilcoxon signed-rank test results ( $Z=-1.414$ ,  $p=.157$ ) indicate no significant difference in the pre and posttest scores. Table 7 provides the descriptive statistics for males.

Table 7

*Descriptive Statistics of Males*

	N	Mean	Std. Deviation	Minimum	Maximum
RtA-Pretest RQ1	12	1.17	.389	1	2
RtA-Posttest RQ1	11	1.27	.467	1	2

Descriptive statistics of females are presented in Table 7. Male scores on the RtA-Pretest (2016-2017) ranged from 1 to 2 ( $M=1.17$ ,  $SD=.389$ ). For the RtA-Posttest (2016-2017), scores ranged from 1 to 2 ( $M=1.27$ ,  $SD=.467$ ).

The results of the Wilcoxon signed-rank test are in Tables 8 and 9. The Wilcoxon signed-rank test was used to determine whether there was a median difference between paired or matched observations.

Table 8

*Ranks for Males*

	N	Mean Rank	Sum of Ranks
RtA-Posttest RQ1 - Negative Ranks	0 <sup>a</sup>	.00	.00
RtA- Pretest RQ1 Positive Ranks	2 <sup>b</sup>	1.50	3.00
Ties	9 <sup>c</sup>		
Total	11		

a. RtA-Posttest RQ1 < RtA-Pretest RQ1

b. RtA-Posttest RQ1 > RtA-Pretest RQ1

c. RtA-Posttest RQ1 = RtA-Pretest RQ1

Table 9

*Wilcoxon Signed-Rank Test Results for Males*

	RtA-Posttest RQ1 - RtA-Pretest RQ1
Z	-1.414 <sup>a</sup>
Asymp. Sig. (2-tailed)	.157

a. Based on negative ranks.

Of the 12 male participants, 11 had scores on both the pre and posttest. Of these

11 participants, two exhibited an increased score for the posttest, while nine exhibited the same score for both the pre and posttests. The results of the Wilcoxon signed-rank test ( $Z=-1.414$ ,  $p=.157$ ) indicate there is no significant difference in the pre and posttest scores.

The Wilcoxon signed-rank test tested the null hypothesis that the median difference between two related groups is 0 (zero) in the population. It can be determined that there was no statistically significant median increase in scores when subjects were retested on the RtA assessment.

The null hypothesis was that there would be no student achievement differences between the means of the pre and postassessment. The results of the Wilcoxon signed-rank test indicated that there was student achievement and a positive difference in student achievement scores for all participants. When the data were examined by gender, the results showed there was no significant difference for males or females. The discrepancy between the overall group results and the gender results may be due to sample size. In addition, none of the students scored sufficient command of knowledge and skills or were considered on grade level.

### **Second Research Question Interpretation**

**What strategies/skills within RtA impacted achievement scores for students who participated in the RtA Program and summer reading camp?** The second research question explored the different types of strategies and skills used to instruct students in third grade. The open-ended question allowed teachers to express the strategies and/or skills used during the RtA summer program to help impact third-grade reading achievement. Once the responses were collected and transcribed, the responses were coded for themes.

The overall findings indicated that the strategies and skills used within RtA varied from the teacher interviews and were consistent with the student assessment portfolio. From the total of four teachers interviewed, the teachers reported their classrooms having 90-120 minutes allocated for literacy instruction each day. Teachers were asked to describe in detail the types of strategies used to provide reading instruction to students.

This research study examined the reading strategies within the North Carolina RtA summer reading camp and the achievement low socioeconomic elementary students made in reading during summer camp. This study sought to provide an insight into the North Carolina RtA Programs, instructional practices, interventions, and assessments used to teach reading to students in third grade.

From the teachers interviewed, their responses included using five different reading instructional strategies to measure reading outcomes for students in third grade. The five types of reading instructional strategies used provided in the teacher interview questions were Balanced Literacy, Words Their Way, Readers Workshop, Level Literacy Intervention (LLI), and Orton Gillingham.

The teachers reported using a combination of one or more strategies with a focus on skills to teach literacy. An example of this use of combined strategies was provided by the teachers: “We do differentiated guided reading instruction and we use the Continuum of Learning by Fountas and Pinnell as a guide. And then we also instituted the writing workshop – the Lucy Calkins’ Writing Workshop.”

Teacher 2 reported using Words Their Way for students to learn more Latin/Greek prefixes, root words, and suffixes. The teacher found that students struggle with reading comprehension because they do not have the skills to help them determine word meaning. The teacher also had students brainstorm different words that had the

specific root/prefix/suffix; and after they had a “tree” of words, the students used the tree to lead a discussion about what the words all meant and what the root could mean. Teacher 2 also reported using the Readers Workshop as the framework for reading. Readers Workshop gave students large amounts of time to read books of their own choice that they could read with fluency, accuracy, and comprehension.

Teacher 3 discussed comprehension. Teacher three used Balance Literacy structure. The teacher used the book *Holes* to address the different components of balanced literacy: Read Aloud, Shared Reading, Guided Reading, Independent Reading, Word Study, and Writing.

Also, we used “texting” to help students summarize the chapters read that day.

They only have a certain number of “texts” they could use to the summarize the chapters – the catch was it had to be done between two main characters, which really forced them to focus on what really happened. Students had to express the summary within the conversation between the characters. They got so creative!

Teacher 4 reported working with students in short-term, small groups as a literacy intervention system based around a series of “leveled” texts. LLI provided explicit instruction in phonological awareness, phonics, fluency, comprehension, and the expansion of oral language skills including vocabulary.

Three teachers reported that they did not have a consistent or articulated curriculum within the district. One teacher stated there is a lack of consistency across schools and the uncertainty about which programs and materials are being used:

Therefore, we use best practices, as far as having a balanced literacy program, which is guided reading, word study, group reading, and choosing materials within our levels of text with book rooms, to be able to develop their instructional

programs within their classrooms. But our word study programs are not consistent.

In addition, Research Question 2 looked at the skills that students needed to know to be successful on the student assessment portfolio. The overall findings indicated that the student assessment portfolio focused on the eight skills. Students had to successfully accomplish three sections per skill that combined an average score of 70% or higher in order to demonstrate mastery. The eight skills used in the student assessment portfolio are located in the figure.

Standards	Skills
3.L.4a	Determine or clarify the meaning of unknown and multi-meaning words and phrases based on grade three reading content, choosing flexibility from a range of strategies: Use sentence level context as a clue to the meaning of a word or phrase.
3.L.5a	Demonstrate understanding of word relationships and nuances in word meanings. Distinguish the literal and nonliteral meanings of words and phrases in context.
3.RI.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answer.
3.RI.2	Determine the main idea of a text, recount the key details and explain how they support the main idea.
3.RI.3	Describe the relationship between a series of historical events, scientific ideas or concepts or steps in technical procedures in a text, using language that pertains to time, sequence, and cause and effect.
3.RI.4	Determine the meaning of general academic and domain specific words and phrases in a text relevant to a grade three topic or subject areas.
3.RI.7	Use information gained from illustrations and the words in a text to demonstrate understanding of the text.
3.RI.8	Describe the logical connection between particular sentences and paragraph in a text.

*Figure.* Student Assessment Portfolio.

### **Third Research Question Interpretation**

**What is the reading motivation and student perception after attending the summer reading camp as measured by the reading survey?** The survey expanded through acquired skills; therefore, it was found that the self-concept and value of reading

influences the people and skills that are acquired to live in a world with diverse transformations and overcoming challenges. Tables 10, 11, 12, and 13 represent the responses of students who completed the survey.

Table 10

*Friend Perceptions of My Reading Ability, Question 1*

	a poor reader		an OK reader		a good reader		a very good reader		Total Count
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	
My friends think I am			5	29.41	10	58.82	2	11.76	17

Table 11

*Participant Perceptions of Reading Comprehension, Questions 3, 5, 7, 13*

		Count	Percent
I read	A lot better than my friends	10	47.62%
	A little better than my friends	4	19.05%
	About the same as my friends	3	14.29%
	Not as well as my friends	4	19.05%
	Total	21	
When I come to a word I don't know, I can	Almost always figure it out	15	71.43%
	Sometimes figure it out	3	14.29%
	Almost never figure it out	2	9.52%
	Never figure it out	1	4.76%
	Total	21	
When I am reading by myself, I understand	None of what I read	1	4.76%
	Almost none of what I read	3	14.29%
	Some of what I read	5	23.81%
	Almost everything I read	12	57.14%
	Total	21	
When my teacher asks me a question about what I have read, I	Can never think of an answer		
	Have trouble thinking of an answer	3	14.29%
	Sometimes think of an answer	12	57.14%
	Always think of an answer	6	28.57%
	Total	21	

From this survey, we see that the odd-numbered questions in the reading survey explain student perceptions of themselves as readers and provide information concerning the aspect of reading that may prove troublesome for some. Question 1 asked students to decide how their friends think of them. Fifty-eight percent of the participants stated that they were good readers, and only 11% stated they were very good readers. Questions 3, 5, 7, and 13 tap into perceptions of reading comprehension.

Table 12

*Participant Perceptions of Reading, Questions 15, 17, 19*

		Count	Percent
Reading is	Very hard for me	1	4.76
	Kind of hard for me	6	28.57
	Kind of easy for me	9	42.86
	Very easy for me	5	23.81
	Total	21	
When I am in a group talking about what we are reading, I	Almost never talk about my ideas	6	28.57
	Sometimes talk about my ideas	6	28.57
	Almost always talk about my ideas	4	19.05
	Always talk about my ideas	5	23.81
	Total	21	
When I read out loud I am a	Poor Reader	1	4.76
	OK reader	9	42.86
	Good reader	2	9.52
	Very good reader	9	42.86
	Total	21	

Question 15 states, “Reading is [very easy for me, kind of easy for me, kind of hard for me, and very hard for me].” Forty-two percent of the students thought reading was kind of easy for them; 4.76% thought reading was very hard. Questions 17 and 19 continued to explain the perception of reading.

Table 13

*Participant Perceptions of Recreational Reading, Questions 8, 14, 18, 20*

		Count	Percent
People who read a lot are	Boring	3	14.29
	Not very interesting	3	14.29
	Interesting	3	14.29
	Very interesting	12	57.14
	Total	21	
I think reading is	A boring way to spend time	2	9.52
	An OK way to spend time	2	9.52
	An interesting way to spend time	5	23.81
	A great way to spend time	12	57.14
	Total	21	
I would like my teacher to read out loud in my classes	Every day	6	28.57
	Almost every day	2	9.52
	Once in a while	10	47.62
	Never	3	14.29
	Total	21	
When someone gives me a book for a present, I feel	Unhappy	2	9.52
	Sort of unhappy	1	4.76
	Sort of happy	8	38.10
	Very happy	10	47.62
	Total	21	

The even-numbered items on the reading survey target student perceptions of the value of reading. Some of the items query student thoughts about individual or recreational reading (Questions 8, 14, 18, and 20). For example, Question 2 asked if reading a book is something the student likes to do. Nineteen percent of the participants answered Never; 57% answered Sometimes; and 23.8% answered Often. The other questions look at reading as a social practice (Questions 4, 6, 10, and 16).

An independent *t* test was conducted to compare the group mean scores by gender for the self-concept and values of reader to determine the motivation of reading; these

scores are presented in Table 14.

Table 14

*Group Statistics*

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Score	Female	9	55.44	3.972	1.324
	Male	12	54.92	6.543	1.889
SCScore	Female	9	26.5556	2.55495	.85165
	Male	12	27.7500	2.56285	.73983
VScore	Female	9	28.8889	2.08833	.69611
	Male	12	27.1667	4.93288	1.42400

Based on the overall results, male scores on the Motivation to Read Survey (2016-2017) were  $M=54.92$ ,  $SD=6.543$ . For females, the results on the Motivation to Read Survey (2016-2017) were  $M=55.44$ ,  $SD=3.972$ . Male scores were  $M=27.1667$ ,  $SD=4.93288$  on the *value* of reading, and female scores were  $M=28.8889$ ,  $SD=2.08833$  on the value of reading. On the self-concept of reading, males scored  $M=27.7500$ ,  $SD=4.93288$ , and females scored  $M=26.5556$ ,  $SD=2.55495$ . Results of Levene's Test for Equality of Variance are presented in Table 15.

Table 15

*Independent Samples Test*

		Levene's Test for Equality of Variances	
		F	Sig.
Score	Equal variances assumed	1.044	.320
SCScore	Equal variances assumed	.002	.963
VScore	Equal variances assumed	1.859	.189

For each of the three scores, the Levene's Test indicates that equal variances can be assumed. The results of the independent  $t$  test are presented in Table 16.

Table 16

*Independent Samples Test*

	<i>t</i> test for Equality of Means		
	T	Df	Sig. (2-tailed)
Score	.213	19	.833
	.229	18.368	.822
SCScore	-1.058	19	.303
	-1.059	17.417	.304
VScore	.979	19	.340
	1.087	15.656	.294

The variable labeled Score is based on the total score of the Motivation to Read Survey. The result  $t(19)=.213, p=.833$  indicates no significant difference in mean total scores between males and females. The SCScore (Self-Concept Score) results  $t(19)=-1.058, p=.303$  indicates no significant difference between male and female mean SCS. For Value of Reading (VScore), the results  $t(19)=.979, p=.340$  indicate no significant difference between males and females mean scores.

The null hypothesis was that there would be no motivation differences between the means of each group (male and female). The results indicated that there were no significant differences in the mean score. Females scored slightly higher with the value of reading and males scored slightly higher in self-concept of reading.

### **Summary of the Findings**

The data analysis did not support the anticipated outcomes. There are many possible reasons for this, and they will be discussed in more detail in the next chapter. There was no significant difference in the summer learning loss/gain for the control group for the summer when they were assessed by the pre- and post-RtA test. The data collected from the teacher interview showed that different strategies and skills were

taught but the instruction was not consistent in each classroom. The data analysis from the Adolescent Motivation to Read Survey also mostly did not support the anticipated outcomes. It is important to note that there was not a pre and postsurvey, which resulted in there not being a comparison for this portion of the program evaluation.

## Chapter 5: Findings

### Introduction

A large number of students in the United States are rated as not proficient in third grade ELA standards. Even with the large amount of effort by state and local officials to increase reading proficiency, little improvement has been made. Researchers have recommended that education leaders focus on supporting early literacy development of students during the primary grades when most of the reading gaps occur and when corrective measures could be most effective (NAEP, 2013). The purpose of this mixed-methods research study was to examine the reading strategies/skills within the North Carolina RtA Program and the growth low-income, third-grade students made in reading during the summer reading camp. The following are research questions.

### Research Questions

1. Is there a significant difference in reading achievement scores for all students prior to attending summer reading camp and after summer reading camp as measured by the RtA assessment?
2. What strategies/skills within RtA impacted achievement scores for students who participated in the RtA Program and summer reading camp?
3. What is the reading motivation and student perception after attending the summer reading camp as measured by the reading survey?

The data for this study were obtained from a variety of sources including quantitative data from the North Carolina RtA assessment, a survey, and qualitative data from an open-ended interview question.

In this chapter, the researcher summarizes the findings of the study as they relate to these research questions. The relationship between the findings and previous research

from the literature review also is discussed. The chapter concludes with recommendations for further research, policy, and practice.

### **Overview**

The North Carolina RtA Program is currently being used in all North Carolina school districts to help students acquire the skills critical to become proficient readers by the end of third grade. A concurrent mixed-methods approach was utilized to determine if the program was having the intended effect on student reading achievement. The North Carolina RtA Program was implemented during the 2014-2015 school year. As a result, this study sought to determine the extent to which the North Carolina RtA Program had an effect on student reading achievement, the strategies and skills used during the RtA summer camp, and the extent to which student perceptions were associated with reading achievement.

### **Interpretation of Findings**

A mixed-methods approach was used for this study. The set of qualitative and quantitative data analysis provides a more comprehensive understanding of the research problem than using either in isolation (Creswell, 2012). Caruth (2013) defined the mixed-methods approach as “a method of both quantitative and qualitative designs in the same research study” (p. 2). This approach allows for greater depth of insight into the research problem and questions than a quantitative or qualitative study alone (Caruth, 2013). Mixed-methods research has become increasingly popular for research problems that need to be both explored and explained (Creswell, 2003). As a result, the data from the analysis of the teacher interview and the student survey have been incorporated to provide insight into the data collected from the North Carolina RtA assessment to help answer the research questions.

**Research Question 1: Is there a difference in reading achievement scores for all students prior to attending summer reading camp and after summer reading camp as measured by the RtA assessment?** The Wilcoxon signed-rank test comparison of the RtA pre and postassessment scores revealed that the results overall were significant; however, when analyzed by gender, the differences were not significant for either males or females. According to the results, 0% of students who participated in the RtA assessment were proficient in reading. Based on the results, these findings support that reading comprehension is a problem and effected a significant number of the students who participated in the RtA Program. This finding is significant because students may lose up to 2 years of reading development by the time they reach sixth grade due to summer reading loss (Allington & McGill-Franzen, 2003). Studies have shown that students who are not reading on grade level by the time they reach third grade are four times more likely to drop out of high school (Sparks, 2011). For most struggling readers, the probability increases to six times more likely to drop out before earning a high school diploma. Therefore, it is imperative to intervene for struggling students to prevent summer reading loss.

According to NAEP, one third of fourth-grade students in the United States cannot comprehend text at the basic level, which requires simple inference making and information extraction from texts; and two thirds of fourth-grade students in the United States cannot comprehend text at the proficient level, which reflects abilities to integrate information, draw conclusions, and evaluate texts (Institute of Education Sciences, 2013). PIRLS revealed similar achievement patterns for international fourth-grade students (including U.S. students) on analogous achievement benchmarks, indicating that the development of successful reading comprehension also is a substantial international

concern (Thompson et al., 2012). The data are troubling and indicate that we have much more to learn about RCDs.

The overall findings for Research Question 1 revealed that the school in this research study is not providing enough support to students who are not reading on grade level. The data analysis of this summer reading program did not support the anticipated outcomes. There are a variety of reasons discussed in this chapter that may have impacted the results. Students who participated in the summer reading program showed no reading achievement based on the North Carolina RtA assessment and fared significantly worse compared to their overall perception of reading on the Adolescent Motivation to Read Survey.

**Research Question 2: What strategies/skills within RtA impacted achievement scores for students who participated in the RtA Program and summer reading camp?** Research Question 2 was conducted by a single question interview. Overall, findings for Research Question 2 indicated that all teachers provided 90-120 minute blocks for literacy instruction in third grade. Within that literacy block, the four teachers utilized various skills and strategies to teach reading instruction. There were five types of reading instructional programs used during the study: Balanced Literacy, Words Their Way, Readers Workshop, LLI, and Orton Gillingham. The reading programs addressed several instructional strategies and a combination of one or more of the following skills: phonemic awareness, phonics, fluency, vocabulary, and comprehension.

Phonemic awareness was one skill that was mentioned in the teacher responses. Phonemic awareness became well known after the NRP report. The findings from this study support the literature that phonemic awareness is a foundation to learning phonics,

and it is important for students to engage in activities that promote that skill. Phonemic awareness involves the students knowing that words are made up of different sounds (Morrow & Gambrell, 2011). When students have phonemic awareness, they recognize that the sounds of spoken language are combined to form words, and these words convey the meaning (Tankersley, 2003).

Instruction in phonemic awareness involves helping children examine and manipulate phonemes in spoken syllables and words. Beginning readers must be able to make the connection that words are made up of sounds and that sounds are made up of letter combinations. In addition to understanding sounds, a child also needs to understand the concept of a word, how the position of a word makes a difference in a sentence, and that words are consisted of individual letters (Morrow & Gambrell, 2011).

According to the NRP (2000) report, the stage of phonemic awareness that children possess when first beginning reading and their knowledge of letters are the two best predictors of how well students will learn to read during the first 2 years of formal reading instruction. Based on the report, the results showed that teaching children how to break words into individual sounds has been very effective in a variety of learning environments. Education utilizing phonological awareness of children improves their reading.

Another skill that was used consists of reading and decoding acoustics. Phonics refers to the ability to identify that there is a connection between the individual sounds, letters, and words. Decoding is the ability to use visual clues to determine the meaning of words and phrases. The findings from this study support the research that students should be aware that there is a connection between the letters and the spoken sounds. A strong base in phonetics from the outset in the process of reading gives students success

in reading (Tankersley, 2003). According to Allington (2006), mastering phonics skills has a positive relationship with reading success in early childhood. For this reason, a separate meta-analysis was conducted. The results show that researchers and teachers can influence the reading results for students with RDs. All students can benefit from the interventions (Scammacca et al., 2007). In addition, Scarborough (as cited in Southwest Educational Development Laboratory, 2009) reported that 5-10% of children who read satisfactorily in early grades struggle less in later grades.

Vocabulary is one more skill that was shared in the teacher responses.

Vocabulary is a significant factor to literacy success. The findings from this study supported the literature that vocabulary is important for students to engage in activities that promote that skill. One teacher used Words Their Way for students to learn more Latin/Greek prefixes, root words, and suffixes. The teacher found that students struggle with reading comprehension because they do not have the skills to help them determine word meaning. The teacher also had students brainstorm different words that had the specific root/prefix/suffix; and after they had a tree of words, the students used the tree to lead a discussion about what the words meant and what the root could mean. Morrow and Gambrell (2011) found many reliable strategies to build children's vocabulary. Reading aloud is the most popular approach. This approach was used during the study which is a component of Balanced Literacy. There is a positive correlation between the frequency of how often children listen to reading aloud and the size of their vocabulary (Morrow & Gambrell, 2011).

Expanding the experiences that students have around new words has a strong influence on the expansion of a student's vocabulary. There are four stages in vocabulary. The first level is no knowledge of a word in any working vocabulary. The

second level is when we have heard words but are not sure of the meaning. The third level is having a vague sense of the meaning of the word; and the final level is we fully understand the meaning and can integrate the new word into one or more working vocabulary (Tankersley, 2003).

Fluency also is a skill that was pointed out in the teacher responses. NRP (2000) conducted an extensive and systematic literature review on two approaches to the development of fluency. The studies were experimental tests of the process of fluency with students in kindergarten through Grade 12. The purpose of the report of NRP was to review the changing concepts of fluency as an essential aspect of reading. NRP selected fluency for review and analysis because there was a growing concern that children were not achieving fluency in reading (NRP, 2000).

Reading comprehension is the skill that was taught the most from the teacher interview. The North Carolina RtA Program is based on student performance on the goals, objectives, and grade level reading competencies based on NCSCS. Reading comprehension is critical and a vital component of literacy and successful reading. While the ability to decode words and read with fluency is necessary for successful reading, it is vital for students to be able to comprehend (Morrow & Gambrell, 2011).

Scamacca et al. (2007) looked at a meta-analysis of 31 studies in which early intervention in reading can improve the understanding of the struggle for readers. Gains in reading comprehension were critical for struggling readers to succeed in content-area classes, demonstrate proficiency on high stakes state reading tests, and read for pleasure.

Reading comprehension problems affect a significant number of elementary school children. According to NAEP, one third of fourth-grade students in the United States cannot comprehend text at the basic level, which requires simple inference making

and information extraction from texts; and two thirds of United States fourth-grade students cannot comprehend text at the proficient level, which reflects abilities to integrate information, draw conclusions, and evaluate texts (Institute of Education Sciences, 2013).

Some teachers discussed using three or more programs to implement strategies to find an effective and cohesive literacy program to be used throughout their school. One teacher reported working with students in short-term, small groups as a literacy intervention system based around a series of leveled texts. LLI provided explicit instruction in phonological awareness, phonics, fluency, comprehension, and the expansion of oral language skills including vocabulary. Throughout the interview, teachers mentioned that there was a short window of opportunity to ensure students had the skills necessary to be successful readers, but targeted differentiated support was essential for all students in the classroom. By implementing different interventions, students were given opportunities to read and feel successful through repeated readings and with support from their summer teacher. Based on analysis of the interviews, all four teachers mentioned bringing additional resources to meet student needs based on the data from the pre-RtA assessment.

In addition, the second research question explored the different types of strategies and skills used to instruct students in third grade. The overall findings indicated that the strategies and skills used within RtA varied in the teacher interviews but were consistent with the student assessment portfolio. From the total of four teachers interviewed, the finding was parallel with literature that teachers reported that 90-120 minutes were allocated for literacy instruction each day. All teachers were asked to describe in detail the types of strategies used to provide reading instruction to students. A society where

social exchanges take place through reading, writing, and oral or visual language requires training that takes account of the full insertion of the individual in literate culture. The reading should be constantly worked through the pedagogical activities, with lots of texts and books of children's literature.

The overall finding for Research Question 2 is that schools utilize a number of different whole and small group reading programs and materials, often in combination during classroom literacy instruction. The RtA camp lacked the consistency and continuity of providing enough time to effectively implement reading practices and resources for students.

**Research Question 3: What is the reading motivation and student perception after attending the summer reading camp as measured by the reading survey?**

Research Question 3 was designed to determine student reading motivation and student perception of the value of reading as measured by the Adolescent Motivation to Read Survey. Researchers have recognized that motivation is important when it comes to reading (Fulmer & Frijters, 2009, p. 226). This survey was designed to assess motivation to read as well as the perceived value of reading. Students in the program were administered this survey at the end of the North Carolina RtA summer camp. Based on the results from the North Carolina RtA, the findings would suggest that students should show a lower motivation to read after participating in the RtA summer program; however, the results from the North Carolina RtA did not show a correlation to the reading survey. Reading motivation in particular has gotten a substantial amount of attention as it applies to student learning.

To provide a deeper look into the research question, Tables 10 and 13 were studied in greater detail. These questions are very specific and directly relate to

determining how students see themselves as readers and how they value reading. The results are a positive sign for the summer reading program that the school has created an encouraging environment for readers. For a majority of the questions in Tables 10 and 13, the student responses were positive in their perception and value of reading. In comparing this study's findings to others, one study showed a positive attitude toward reading after program completion but a small decrease for academic reading (McTague & Abrams, 2011). The results from the current program study aligned with these findings. Another study found that as students got older, they placed less value on reading and their motivation to read declined as well (Kelley & Decker, 2009; Wigfield & Eccles, 1994). More recently, a meta-analysis of 69 data sets involving more than 125,000 students concluded a view that it is naturally easy to assume that students who read well do so because they are motivated to read, and those students who do not read will struggle because they are not motivated (Möller, Pohlmann, Köller, & Marsh, 2009).

Also, a *t*-test comparison was conducted on the survey questions. Based on the overall results, male scores on the Motivation to Read Survey (2016-2017) were  $M=54.92$ ,  $SD=6.543$ . For females, the results on the Motivation to Read Survey (2016-2017) were  $M=55.44$ ,  $SD=3.972$ . Male scores were  $M=27.1667$ ,  $SD=4.93288$  on the value of reading, and female scores were  $M=28.8889$ ,  $SD=2.08833$  on the value of reading. The findings show that there was no significant difference in the overall mean scores between males and females. On self-concept of reading, males scored  $M=27.7500$ ,  $SD=4.93288$  and females scored  $M=26.5556$ ,  $SD=2.55495$ , but there was no significant difference in the mean scores.

While the female mean score ( $M=28.8889$ ) was higher than the male mean score ( $M=27.16667$ ) on value of reading, the male mean score ( $M=27.7500$ ) was higher than

the female mean score (26.5556) on the self-concept of reading. Overall, there was not a statistically significant difference in their mean scores. The value of reading scores indicated that there is some broad understanding of reading, but students felt less than sufficient in expressing these interpretations through assessments. In addition, from this study, females place a higher value on reading than their male counterparts. These findings support the literature from the Motivation to Read Survey (2013) reflecting the value of participating in reading activities is related to how personally interesting it is, how important the activity is deemed to be, and how the successful completion of the activity serves future needs. Therefore, if students feel that reading is interesting because they enjoy reading or think that becoming a good reader will help them become successful, they will be more likely to engage and persist in the reading activities. Students who are interested in reading for these intrinsic or personal reasons will likely be more open to instruction development (Malloy, Marinak, Gambrell, & Mazzoni, 2013).

Moreover, low scores in self-concept indicate a need to provide more explicit instruction and modeling in how to talk about and respond to text. Students may perceive their ability to read silently as very different from their ability to read aloud. Question 19 provides a door into student perceptions of reading aloud, and low scores here might suggest some need for development of oral reading fluency such as Readers Theatre or practicing a piece for recording. The findings from the study support the literature from the Motivation to Read Survey (2013) that indicates a student who has a good self-concept as a reader is more likely to approach the reading activities with eagerness and interest. Therefore, understanding a student's self-concept as a reader prepares the teacher to provide the support required for engaged reading (Malloy et al., 2013).

The overall finding for Research Question 3 is there was no significant relationship between motivation of the third-grade students who were surveyed and their reading achievement on the RtA assessment. Students who scored poorly on the RtA assessment did not have lower scores on the reading motivation questionnaire which looks at their value of reading and their attitude toward reading. The researcher was surprised that there was not a closer correlation between the student's motivation and the student's reading achievement.

### **Discussion/Analyses of Findings**

From the study, there was a lack of consistent instructional support for students from low socioeconomic backgrounds. Previous research utilized samples that represented the entire socioeconomic spectrum, and a common conclusion of such studies was that SES is a strong predictor of change in academic ability over the summer while school is not in session (Cooper, Charlton, Valentine, & Muhlenbruck, 2000). However, little was known about how students living in poverty and in inner-city schools respond to the break in instruction during summer or how out-of-school reading factors are related to change in academic ability over the summer for this population. This study utilized a sample that was primarily low income and entirely located in an inner-city environment, allowing the opportunity to examine summer change in reading comprehension specifically for this population. The findings suggest that research concerning educational achievement and socioeconomic circumstances is not being addressed correctly. The literature established that a student's SES has a substantial effect on reading growth and achievement. The poverty gap is a problem that is not specific to the United States. A study of 30 countries found that socioeconomic factors account for 21% of student performance difference in reading. Researchers have found that the gap in the

reading levels between students from high and low socioeconomic backgrounds widens during the summer months at a greater rate than during the regular year. The finding from the study supported the research that poverty largely affects students and their school lives. Students living in poverty are not nearly as prepared to benefit from school as students who come from affluent families (Jenson, 2009). Parrett and Budge (2012) stated that poverty-related factors that interfere in students' ability to learn include limited literacy and language development, access to material resources, and level of mobility.

Essentially, families with low SES often do not have the financial, social, and educational support that characterizes families with higher SES. Research completed by Mraz and Rasinki (2015) over the last few decades has shown an increase in the achievement gap for students of poverty. The number of students from low-income families continues to grow in school districts. The increase in students of poverty requires educators to examine and focus on creating opportunities for students to be more academically successful (Mraz, & Rasinki, 2015).

The findings support Parrett and Budge's (2012) findings that students who live in poverty often come to school behind their affluent peers in terms of literacy and language development. Neuman and Celano (2001) found that children who are poor hear fewer words and have fewer meaningful conversations, making it difficult to learn new words. Allington and McGill-Franzen (2003) pointed to differences in access to reading material by students from low-income families in comparison to their more affluent peers. Poverty often places constraints on the family's ability to provide other reading resources for their children as well (Parrett & Budge, 2012).

Results of the study indicated that there was no statistically significant growth and

no statistically significant difference between male and female student reading comprehension. It also was shown that there was no significant difference observed between male and female learners in the value and conception of reading; however, the findings of the study hold implications for additional teacher training and curriculum design. The results from this study support that students who do not score at acceptable levels may benefit from intensive independent reading programs or small-group sessions that guide students in finding personally interesting books and further isolate the difficulties experienced in decoding or comprehension. These strategies might lead to these improved perceptions of low self-efficacy for reading activities. Summer programs that intended to provide individualized instruction were more effective than programs without this intention (Cooper et al., 2000). Similarly, the items that explore reading as a social practice may guide teachers in adjusting or modifying classroom practices to influence the value students place on reading as a socially mediated practice.

Another finding analyzed from this study is the performance between females and males. Gender is an area of brain differentiation that is of high interest. Although for many years it was not acceptable to talk of biologically or brain-based gender differences, recently researchers have been exploring our brain-based gender differences (Jensen, 2005). According to Jensen's (2005) brain-based learning theory, brain-based learning emphasizes how the brain learns naturally and is based on what is currently known about the structure and function of the brain at varying developmental stages. Researchers have identified a number of differences in the physical, cognitive, personal, and social domains between the male and female brain. In addition, brain research has supported findings that the average male is already developmentally 2 years behind the average female in reading and writing when he enters the first days of school (Salomone, 2006).

The finding from the study supported research from Poole (2010) that male and female students not only used the same number of overall strategies but also did not differ significantly on any of the assessments. The findings also agreed with the Poole research that gender should be examined more closely in order to discover possible achievement gaps and, if possible, reduce them. Poole stated that there are “relatively few studies focused on gender reading proficiency and most of the studies show more strategy utilization by females” (p. 61).

The findings from the study supported the investigation from Hosseini et al. (2015) that there was no statistically significant difference between male and female student reading comprehension in these macro-genres. It also was shown that there was no significant difference observed between male and female learners in the overall use and employment of reading strategies in the descriptive and narrative macro-genres. In essence, boys and girls struggle with reading for a variety of reasons. Qualities such as SES or gender play an important role in student achievement in reading.

The findings support additional research similar to literature from Tatum (2005) that discussed the text that Black males read must have gender awareness and emphasis on masculinity. These findings led to several reading strategy suggestions to encourage boys to read: use texts that engage boys emotionally, use male-oriented text, expose boys to nonfiction text, and use text related to the male experiences.

In addition, the findings support literature that females have more confidence in the area of reading. As for boys, the researchers suggested that interesting text was the key to raised achievement in reading among boys. Interest is an significant part of reading. Cambria and Guthrie (2010) referred to “interest as intrinsic motivation, meaning something we do for its own sake” (p. 16).

Regardless of gender, reading instruction should be planned to meet each student's individual needs. Literacy is crucial for boys and girls to be productive members of society, and we need to find ways to help all children be successful. Supportive classrooms where students can experience success with teachers skilled in teaching reading are key to helping all students prepare for the literacy demands they will face in society.

### **Limitation of Study**

There were a number of limitations that affected this study. The small number of students, particularly students who had participated in the summer reading programs, was the primary limitation of this study. The sample size may not be as large or as representative as desired based on participation and completion of the surveys by the third-grade students from the school. The number of participants was small, with a possible 83 students eligible and only 21 actual participants in the summer reading program. This makes it difficult to focus on major trends, and the changes that were seen in their reading scores were not enough to suggest that short-term benefits can be seen from interventions during the summer camp.

Another limitation of this study was the possibility of the researcher effect. The third-grade teachers could have chosen not to be a part of the research. The surveys given to the students were dependent on the teacher giving the survey to each child and returning them to the researcher. The teacher was responsible for giving the survey to the students, collecting the surveys, and turning them in to the researcher team. The participants responded to the questionnaire with the understanding that their responses would be reviewed. In addition, student responses may have been influenced by their desire to please the teacher. It also was out of the control of the researcher that some

students had moved and other students declined to attend the camp.

Finally, another limitation to the study was the short duration of the summer reading program. With a longer duration, the effects of the intervention may have been more apparent and may have reached a level of significance. In addition, the students did not take the RtA assessment on the last day of the school year and then on the first day of the new school year. The school participating in the research was a modified year-round school. The school met the state's requirement of having a summer reading program but only had summer camp for 10 days due to beginning of school year scheduled professional developments and the earlier start date of the school year. These are all factors that the researcher was unable to control.

### **Recommendations**

This study contained a relatively small sample size. Expanding the research would allow a deeper understanding of the research questions by expanding the research to more participants, subgroups, schools, and other districts. This study focused on the scores obtained through the RtA assessment, but it would be beneficial to take a closer look at RtA summer camps across the state and focus on student achievement after the summer camp and what instructional strategies and skills are being used. This would offer additional insight into the impact of the RtA summer reading camp and the approaches to reading instruction. According to Bell and Carrillo (2007), "An effective program speeds up learning rather than allowing students' knowledge to slip away over the summer and employs positive youth development practices" (p. 2). Some programs serve low-performing students and provide remedial instruction, focusing on strategies and skills that students failed to master during the school year. Other programs serve both low- and high-performing students and focus on skills that a student will encounter

in the upcoming school year to prepare students to master the material (Cooper et al., 2000).

Summer learning programs have the potential to help children improve reading, develop social skills, and increase other positive outcomes. McCombs et al. (2011) found this to be true for low-income families who might not have access to educational resources throughout the summer. McCombs et al. also focused on the effectiveness of summer learning programs. The study conducted assessed summer learning programs and the existing evidence on effective, feasible, and sustainable summer learning programs. Other studies of voluntary summer programs and mandatory summer programs that encourage students to read at home in the summer have found positive effects on student achievement. The combined evidence from these studies suggests that all of these types of summer learning programs can mitigate summer learning loss and even lead to achievement gains (McCombs et al., 2011).

As during the regular school year, quality instruction is directly related to improved achievement. In an effort to ensure high-quality instruction, experts recommend providing professional development to teachers (Boss & Railsback, 2002). High-quality instruction also may be enhanced by enacting hiring practices that give preference to effective and motivated teachers and by providing teachers with support during the summer program through coaching (McCombs et al., 2011).

Aligning the school year and summer instruction or curriculum also may improve the effectiveness of summer programming (Boss & Railsback, 2002). The content and instruction alignment can take two forms. First, the content of summer programs is aligned with that of the prior grade to provide remediation on core concepts that students have failed to master. Second, the content is aligned to the upcoming school year so

students have previewed standards and expectations (Boss & Railsback, 2002).

Another recommendation would be to increase the amount of time students spend in the RtA summer camp. Studies would be able to look at the length of time provided to students during the summer. Even though the camp met the requirements of the state of North Carolina, the summer camp was only 10 days instead of 4-6 weeks. It is difficult to gauge changes in attitude and academic achievement during a 4-week session, even less a 10-day session. The study should be lengthened to assess reading achievement and changes in attitude over the entire summer or school year. Traditional summer learning programs typically operate in various hours and durations. The timeline could be between 4-8 weeks during the summer for 4-5 days per week (McLaughlin & Pitcock, 2009); however, many of the programs that were studied operated for a full day and also offered enrichment activities. Some summer learning programs specifically offer enrichment activities that are intended to address the achievement gap in that the summer learning program provides low-income students with opportunities that are similar to those that middle- and high-income students have during the summer (McCombs et al., 2011). McLaughlin and Pitcock (2009) recommended that programs be a minimum of 80 hours in total, while Winship (2005) recommended that programs be constructed with a much higher number of hours (360): 9 hours a day, 5 days a week, for 8 weeks.

Finally, the researcher recommend starting early intervention by providing intensive summer reading programs for struggling students in earlier grades. If children have not been able to master grade level reading skills after 4 years of instruction, why would they be able to master both third and fourth grade level skills after 1 year of instruction? Bailet, Repper, Piasta, and Murphy (2009) demonstrated a significant positive impact of this intervention for prekindergartners at risk for reading failure.

Results indicated significant treatment effects on multiple measures in Years 2 and 3.

This study replicated and strengthened findings from Year 1 in demonstrating a positive impact of this intervention for prekindergartners at risk for reading failure.

### **Recommendations for Future Study**

For future study, it would be interesting to study the impact of parent involvement. The Making the Most of Summer School Meta Analytic study found that summer learning programs that included a parental involvement element were associated with higher positive achievement effects than those that did not. There are a number of reasons that involving parents might be an effective element of a summer program. First, gaining parental buy-in for a program should increase enrollment and attendance. Also, outreach to parents can include information about methods of expanding learning opportunities in the home, which could increase at-home learning as well (Cooper et al., 2000).

In addition, school districts need to provide opportunities to educate parents on the importance of early literacy acquisition and proficiency. Parents need accessible and understandable information on the regression that occurs when their children are not regularly engaged in literacy activities, especially during the summer. Parents need to understand that if their children fail to acquire the basic literacy skills in the primary grades, the gaps in their reading skills will most likely continue to widen throughout the intermediate and secondary grades (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996).

Another recommendation for future study would be to conduct a program evaluation of the North Carolina RtA summer camp to review the structure of the program. It is essential that school leaders and teachers have deep and functional

understandings of literacy acquisition in the primary grades, best practices to deliver literacy instruction, and the implementation of early literacy intervention instruction in the primary grades. Cooper et al. (2000) collected and analyzed the effects of summer school programs. The study found that students completing remedial summer programs scored about one fifth of a standard deviation higher than the control group and suggested that small-group and one-to-one instruction produced the largest student gains.

Additional studies provide strength for small-group and one-to-one instructional interventions. The study determined that identifying and monitoring the progress of readers and providing them with increasingly targeted small-group intervention would strengthen reading development (Vellutino, Scanlon, Zhang, & Schatschneider, 2008).

Furthermore, the summer reading program evaluation should examine the impact of teacher effectiveness on student achievement. Teacher quality matters. In fact, it might be the most important school-related factor influencing student achievement. A future study is recommended that would examine content specific teacher effectiveness, professional development, or school district initiatives to determine if they impact achievement in reading. Other recommended studies should be longitudinal and focus on teacher effectiveness and student achievement over 5-10 years. Several studies have found a positive effect of experience on teacher effectiveness. Specifically, the “learning by doing” effect is most obvious in the early years of teaching.

Last, a recommendation for future study would be to examine the brain and the connection to reading. Studies of neural activation during reading could show us where and when reading processes occur in the brain. Additional research could lay the groundwork for an interdisciplinary conversation between literacy education research and relevant neuroscience research (Hruby & Goswami, 2011).

## **Conclusion**

Even though the results of the research of third-grade students did not indicate a significant difference in scores, it is apparent after analyzing the RtA scores and interviewing the four classroom teachers that reading achievement is an issue. With pressure continuing to increase for schools and students to be successful on high stakes tests, it is of essence that schools know if the practices they are employing in the classroom are effective in meeting the needs of the students they serve. Educators aim for everyone to be able to read and understand text at a college-entry level or above. Moving forward, educational leaders must be equipped to make sound decisions when designing the program, support, and services required to teach all children to read. Most educators would agree that students should read on grade level by the end of third grade. Successfully reaching that goal requires lots of resources such as small classes, quality instructional time, evidence-based intervention materials and specialists, quality afterschool and summer learning opportunities, and solid parent involvement. If the state of North Carolina is serious about reaching the reading goal, the legislature will fully support the RtA Program at a level that gives school systems the resources they need to be successful.

This research study examined the reading strategies within the North Carolina RtA Program summer reading camp and the achievement that low socioeconomic elementary students made in reading during summer camp. This study sought to provide an insight into the North Carolina RtA Programs, instructional practices, interventions, and assessments used to teach reading to students in third grade. Based on the disaggregation reading data, the program was found to have little impact on reading achievement, but the reading surveys were encouraging that students have a positive

perception of reading. This is important because reading is an exigent activity that often involves choice; motivation is crucial to reading engagement.

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Appendix

Adolescent Motivation to Read Survey

**Figure 1**  
**Adolescent Motivation to Read Profile reading survey**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Sample 1: I am in \_\_\_\_\_.

- Sixth grade  
 Seventh grade  
 Eighth grade  
 Ninth grade  
 Tenth grade  
 Eleventh grade  
 Twelfth grade

Sample 2: I am a \_\_\_\_\_.

- Female  
 Male

Sample 3: My race/ethnicity is \_\_\_\_\_.

- African-American  
 Asian/Asian American  
 Caucasian  
 Hispanic  
 Native American  
 Multi-racial/Multi-ethnic  
 Other: Please specify \_\_\_\_\_

1. My friends think I am \_\_\_\_\_.

- a very good reader  
 a good reader  
 an OK reader  
 a poor reader

2. Reading a book is something I like to do.

- Never  
 Not very often  
 Sometimes  
 Often

3. I read \_\_\_\_\_.

- not as well as my friends  
 about the same as my friends  
 a little better than my friends  
 a lot better than my friends

4. My best friends think reading is \_\_\_\_\_.

- really fun  
 fun  
 OK to do  
 no fun at all

5. When I come to a word I don't know, I can \_\_\_\_\_.

- almost always figure it out  
 sometimes figure it out  
 almost never figure it out  
 never figure it out

6. I tell my friends about good books I read.

- I never do this  
 I almost never do this  
 I do this some of the time  
 I do this a lot

7. When I am reading by myself, I understand \_\_\_\_\_.

- almost everything I read  
 some of what I read  
 almost none of what I read  
 none of what I read

8. People who read a lot are \_\_\_\_\_.

- very interesting  
 interesting  
 not very interesting  
 boring

9. I am \_\_\_\_\_.

- a poor reader  
 an OK reader  
 a good reader  
 a very good reader

(continued)

**Figure 1 (continued)**  
**Adolescent Motivation to Read Profile reading survey**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

10. I think libraries are \_\_\_\_\_.
- a great place to spend time
  - an interesting place to spend time
  - an OK place to spend time
  - a boring place to spend time
11. I worry about what other kids think about my reading \_\_\_\_\_.
- every day
  - almost every day
  - once in a while
  - never
12. Knowing how to read well is \_\_\_\_\_.
- not very important
  - sort of important
  - important
  - very important
13. When my teacher asks me a question about what I have read, I \_\_\_\_\_.
- can never think of an answer
  - have trouble thinking of an answer
  - sometimes think of an answer
  - always think of an answer
14. I think reading is \_\_\_\_\_.
- a boring way to spend time
  - an OK way to spend time
  - an interesting way to spend time
  - a great way to spend time
15. Reading is \_\_\_\_\_.
- very easy for me
  - kind of easy for me
  - kind of hard for me
  - very hard for me
16. As an adult, I will spend \_\_\_\_\_.
- none of my time reading
  - very little time reading
  - some of my time reading
  - a lot of my time reading
17. When I am in a group talking about what we are reading, I \_\_\_\_\_.
- almost never talk about my ideas
  - sometimes talk about my ideas
  - almost always talk about my ideas
  - always talk about my ideas
18. I would like for my teachers to read out loud in my classes \_\_\_\_\_.
- every day
  - almost every day
  - once in a while
  - never
19. When I read out loud I am a \_\_\_\_\_.
- poor reader
  - OK reader
  - good reader
  - very good reader
20. When someone gives me a book for a present, I feel \_\_\_\_\_.
- very happy
  - sort of happy
  - sort of unhappy
  - unhappy

Note. Adapted with permission from the Motivation to Read Profile (Gambrell, Palmer, Codling, & Mazzone, 1996)