THE EFFECTS OF SCHOOL-BASED TUTORING ON THE READING SCORES OF THIRD GRADE STUDENTS

by

Jenny Elisa Washington

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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APPROVED BY:

Verlyn Evans, Ed.D., Committee Chair

JoAnna Oster, Ed.D., Committee Member

Gladys C. Rosser, Ed.D., Committee Member

ABSTRACT

Reading below grade level in the third grade is a serious issue that too many students are facing. If struggling readers do not improve their reading skills prior to entering the fourth grade, they risk academic failure and limited success in the future. It is important, therefore, to get students who are not reading on grade level back on track as soon as possible. The purpose of this quantitative causal-comparative study was to determine the effectiveness of tutoring for improving the reading skills of third graders. A sample population of 2,565 third graders from 43 Title I elementary schools in a large rural school district in Southeastern North Carolina participated in this study. Deindentified data for the participants were collected from the school district's Associate Superintendent for Evaluation and Testing. The descriptive statistics was computed for each tutoring group using SPSS. This causal-comparative research design also used a two-way ANOVA in SPSS to examine the reading achievement scores on the North Carolina READY English Language Arts/Reading Assessment for the sample population for the beginning and end of the 2016-2017 school year. All three of the tutoring comparison groups of students served as treatment groups and control groups for the others. The researcher examined the following research question: Is there a difference among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring? It was determined that there was a statistically significant difference in the mean reading scores between the third graders participating in one-to-one, small-group and large-group tutoring. There was not a statistically significant difference in mean reading scores between females and males. There was a statistically significant interaction between gender and tutoring type for the difference in the BOG and EOG Reading Scores.

This study was important because the results could provide educators with information for improving students' reading skills through tutoring. Recommendations for further research based on the results of this study could include: to find out if an achievement gap remains after tracking the literacy competency levels of the participants in this study as they matriculate through school , conducting a mixed-methods study to examine the literacy skills that are being taught by third grade teachers whose students perform at or above grade level on the North Carolina READY English Language Arts/Reading Assessments for grade 3 (End-of-Grade 3 (EOG 3)) versus third grade teachers whose students do not perform at or above grade level, conducting a mixed-methods study to examine the literacy skills that are being taught by second grade teachers in the district whose previous students perform at or above grade level on the North Carolina READY English Language Arts/Reading Assessments for grade 3 (Beginning-of-Grade 3 (BOG 3)) versus second grade teachers whose students do not perform at or above grade level, and extend this study to include other school districts to determine if the results would be similar.

Keywords: large-group tutoring, one-to-one tutoring, reading tutoring, small-group tutoring, elementary reading instruction, Response to Intervention.

Dedication

My dissertation is dedicated to all the third graders who are required to pass state assessments to be promoted to the fourth grade. It is also dedicated to the families with loved ones diagnosed with Alzheimer's Disease. While I was writing my dissertation, my father, Hubert C. Underwood, Sr. and my father-in-law, Frederick D. Washington, Sr. were diagnosed with the disease. Mr. Washington passed away on January 16, 2017.

Acknowledgments

I am grateful to God for His love and guidance. I thank Him for all the people who helped me along this journey such as the patient and knowledgeable members of my dissertation team which included: my committee chairperson, Dr. Verlyn Evans, Dr. JoAnna Oster, my committee member, Dr. Gladys C. Rosser, my committee member, and Dr. Rebecca Lunde, my research consultant. These extraordinary women have been such an inspiration to me throughout this process.

I could never tell God thank you enough for blessing me with my family and friends. My amazing husband, Frederick D. Washington, Jr. encouraged and supported me in so many ways such as traveling with me for my intensives and cooking all those dinners when I had to work on my assignments. My wonderful children, Frederick Washington III and Larisa Washington, listened to me read my dissertation and presentations repeatedly. Although they are in Heaven, I could feel my little girl, Lanesha Washington and my grandparents, Carrie Underwood, William Underwood, and Ander Cogdell, looking down on me throughout this process. I was uplifted by the prayers of my mother, Edna F. Underwood, my brother, C.J., my grandmother, Gladys Cogdell, my sister-cousin, Crystal, my mother-in-law, Velma Washington, my sister-in-law, Michelle Washington, Uncle Jeffery, Uncle Andrew, and Uncle Calvin. I was rejuvenated by the energy and love that my niece, Cavannah Underwood showed me. I am proud to call the classmates that I have met along this journey my friends. They encouraged me in so many ways. The gratitude that I have for the members of my support system will be forever engraved in my heart.

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List of Abbreviations

Adequate Yearly Progress (AYP)

Beginning-of-Grade (BOG)

Common Core State Standards (CCSS)

Computer Assisted Instruction (CAI)

End-of-Grade (EOG)

Every Student Succeeds Act (ESSA)

Institutional Review Board (IRB)

More Knowledgeable Other (MKO)

National Center for Education Statistics (NCES)

National Assessment of Education Progress (NAEP)

National Institute of Child Health and Human Development (NICHD)

New Jersey Assessment of Skills and Knowledge (NJASK)

No Child Left Behind (NCLB)

North Carolina Department of Public Instruction (NCDPI)

North Carolina Standard Course of Study (NCSCOS)

Organization for Economic Cooperation and Development (OECD)

Oral Reading Fluency (ORF)

Response to Intervention (RTI)

Scholastic Achievement Management (SAM)

Scholastic Reading Counts! ® (RC)

Scholastic Reading Inventory (SRI)

Analysis of Variance (ANOVA)

Zone of Proximal Development (ZPD)

CHAPTER ONE: INTRODUCTION

Overview

The most critical year in a student's academic career is third grade when the transition from learning to read to reading to learn occurs (Abuya, Oketch, Ngware, Mutisya, & Musyoka, 2015; Paul, 2012; Richardson & Janusheva, 2012; Wolter & Pike, 2015). Third graders are expected to read fluently and simultaneously comprehend informational text (Lysenko, Borokhovski, Abrami, Wade, 2014; Wolter & Pike, 2015). If students have not learned to read fluently by the end of third grade, most of them will eventually fall further behind academically because literacy skills are needed in every subject taught in school (Chambers, Slavin, Madden, Abrami, Logan & Gifford, 2011; Chang, 2011; Coleman & Pimentel, 2012; Lee, 2014; Paul, 2012; Slavin, Lake, Davis, & Madden, 2011; Wolter & Pike, 2015). When students are unable to grasp the reading skills taught during the regular classroom instruction, they need additional assistance such as tutoring (Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein, 2012; McGeown, & Medford, 2014). This study determined the effects of one-to-one tutoring, small-group tutoring, and large group tutoring on the reading achievement scores of third graders. This chapter provides background information, presents the problem statement, describes the purpose of the study, reports the significance of the study, states the research question, and defines terms that are pertinent to the study.

Background

The reading skills of third graders must improve significantly for them to have a chance at being successful in the 21st Century (Genlott & Grönlund, 2013; Genlott & Grönlund, 2016; Wolter & Pike, 2015). The average reading score for third graders on the National Assessment of Educational Progress (NAEP) reading assessment in 2013 was only one point higher than in

2011 (National Center for Education Statistics (NCES), 2015). If students continue reading on this level, they will not be able to understand material in their math, science, and social studies classes and textbooks which require higher comprehension skills (Cain & Oakhill, 2011; Catts, Compton, Tomblin, & Bridges, 2012; Coleman & Pimentel, 2012; Jitendra Rodriguez, Kanive, Huang, Church, Corroy, & Zaslofsky, 2013; LaRusso, Kim, Selman, Uccelli, Dawson, & Jones, 2016; Perfetti & Stafura, 2014; Verhoeven, vanLeeuwe, & Verneer, 2011; Zumeta, Compton, & Fuchs, 2012).

For struggling readers to improve, they need to spend more time practicing their reading while receiving instant feedback (Allington, 2013; Chang, 2011; Genlott & Grönlund, 2013; Genlott & Grönlund, 2016). If elementary students are not reading at grade level, research has shown that tutoring will help them become more literate (Allington, 2013). The amount of reading practice is double or triple that of the time spent in the regular classroom for elementary students participating in tutoring (Vasquez, Forbush, Mason, Lockwood, & Gleed, 2011).

Historical Context

Educators have been aware for centuries that some students have more difficulties learning to read than others (Compton et al., 2014; Pressley et al., 2001; Tamsi et al., 2013). Despite decades of attention given to reading instruction and assessments by educators and lawmakers, many students still struggle with reading for various reasons (Allington, 2013; Cain, 2014; Cassidy & Ortlieb, 2013; McGeown, & Medford, 2014; Mokhtari, Neel, Kaiser, & Le, 2015; O'Reilly, Weeks, Sabatini, Halderman, & Steinberg, 2014; Solari, Denton, & Haring, 2017). Possible factors for at-risk readers could be classified as biological, familial, and demographic (Paul, 2012; Pressley & Allington, 2015). One of the main reasons for struggling

readers is that in a typical classroom, little time is available for individual students to read aloud under the classroom teacher's direct supervision (Pressley & Allington, 2015).

Tutoring is one of the oldest forms of assistance used in the United States to help elementary students become more proficient readers (Pressley et al., 2001). Response to Intervention (RTI) was a policy implemented in 2006 to standardize tutoring programs (Fuchs & Fuchs, 2011). Researchers have indicated that RTI interventions such as school-based tutoring produce positive results for students who are unable to master reading skills taught during the regular classroom instruction (Chambers et al., 2011; Fuchs & Fuchs, 2011; Olson, Keenan, Byrne, & Samuelsson, 2014). When several states in the United States adopted the Common Core State Standards in K-12 English Language Arts (CCSS) in 2009, some struggling readers experienced even more difficulties as literacy instruction shifted from just teaching them to read, to helping them to decode and comprehend what they are reading at the same time (Coleman & Pimentel, 2012; Isik, 2014; Stoops, 2013). Elementary schools have consequently become even more dependent on tutoring programs to provide struggling students with differentiated reading instruction (Goldstein, 2011; Pressley & Allington, 2015).

Social Context

There are many social consequences associated with students not reading proficiently in elementary school. If students leave elementary school with weak reading skills, they are at an extremely high risk of repeating a grade(s) and not graduating from high school (Chambers et al., 2011; Lee, 2014; Olson et al., 2014). In a longitudinal study, Hernandez (2011) found that third-graders who lack proficiency in reading are four times more likely to become high school dropouts. Hernandez (2011) also noted that students advancing through the grades are expected

to meet each year's grade-specific standards, retain or further develop skills and knowledge obtained in proceeding grades.

Students not reading on grade level by the third grade who are promoted to the fourth grade normally struggle as the reading-to-learn model, which requires reading and comprehension, is implemented in classrooms as subjects such as science, social studies, and math are taught (Chambers et al., 2011; Jitendra et al., 2013; LaRusso et al., 2016; Perfetti & Stafura, 2014). This is known as the "Matthew Effect," which is a term initially used by Walberg and Tsai in 1983, indicating that some students develop strong literacy foundations, while other students fall behind their more literate peers (Rigney, 2010l; Stanovich, 2000). The "Matthew Effect" is based on the following Bible verse: "For whosoever hath, to him shall be given, and he shall have more abundance: but whosoever hath not, from him shall be taken away even that he hath" (Matthew 13:12, King James Version). In addition, at-risk readers could experience low self-esteem and develop a negative attitude toward school and reading (Catts et al., 2012). Consequently, this could lower their academic performance and increase behavioral problems in school (Gorski, 2013).

Future career opportunities for struggling readers could also be limited and lead to economic hardship because being able to read proficiently is essential to success in modern society (Vasquez et al., 2011). Reading is critical for completing everyday tasks, to include reading instructions, magazines, newspapers, and job applications; gaining access to information, completing tax forms; and paying bills (Genlott & Grönlund, 2013; Genlott & Grönlund, 2016; Vasquez et al., 2011). If students lack reading skills, they could face long-term limitations in their futures such as difficulties driving, shopping, reading warning signs and using computers. Another social ramification of children's reading failure is that it costs the education system and

society a great deal of money and resources in special education, remediation, grade repetition, delinquency, and eventually dropout (Chambers et al., 2011; Lysenko et al., 2014). Schools and teachers in some states such as North Carolina are being evaluated, compensated, or disciplined based on how well their students perform on the reading assessments in third grade.

Theoretical Framework

The theoretical framework for this study was based on Lev Vygotsky's (1978) theories of cognitive and social development, which both suggest that children socially construct knowledge and learn through interactions with others while moving through their zone of proximal development (ZPD) (McBride, Gonzales, Morrow-Howell, & McCray, 2011). ZPD is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with capable peers" (Vygotsky, 1978, p.86). Vygotsky described the ZPD as involving those tasks that individuals have not learned to perform independently, but can achieve with the help of a more competent individual (Silver, 2011). These theories also emphasize the effects and the roles of the learning environment in shaping cognitive development (Vygotsky, 1978). The application of cognitive and social development was evident when tutoring was provided for students who were having reading difficulties (Tamis et al., 2013; VanLehn, 2011).

Problem Statement

School-based tutoring has been researched for many years. However, there are gaps and conflicts in the literature regarding the effects of school-based tutoring on the reading achievement scores of third graders (Lysenko et al., 2014; Phipps, 2015). Per Greenwood, Carta, Goldstein, Kaminski, McConnell, and Atwater (2015) and Sabitini, Halderman, O'Reilly, &

Weeks (2016), one-third of students in the United States are not reading on or above their grade level by the end of third grade. Many of these at-risk students who do not make adequate yearly progress (AYP) in reading as determined by their state-level reading assessment score, participated in school-based tutoring that Title I schools are required to provide (Rothman & Henderson, 2011; Sabitini et al., 2016).

Research regarding the effects of school-based tutoring on the reading achievement of third graders is scarce, ambiguous, or often inconclusive (Isik, 2014; Rothman and Henderson, 2011). The impact of gender difference in the reading gain of students in a school-based tutoring program needs to be researched more in-depth (Brown, 2016; Khamisi, Al Barwani, Al Mekhlafi, & Osman, 2016; Leon, Cimadevilla, & Tascon, 2014; Osman, Al Barwani, & Al Mekhlafi, 2015; Price- Mohr & Price, 2016; Robinson & Lubienski, 2011). The results from many research studies show a lack of gender differences when it comes to tutoring types, as analyses used data from different groups of students over different years, as opposed to following specific groups of students or conducting better longitudinal studies (Chang, 2011).

This research study investigated whether a significant difference in reading achievement scores existed among 1,470 male and 1,233 female third grade students attending 43 Title I elementary schools in a large rural school district in Southeastern North Carolina who participated in one-to-one, small group or large group literacy instruction during one academic school year. There was a need to have students reading on or above their grade levels by the end of third grade for them to have a chance of being academically successful in upper grades (Meeks, Martinez, & Pienta, 2014; Paul, 2012). If students lack reading skills at the end of third grade, they could face social and financial limitations in the future (Gorski, 2013; Lee, 2014 Olson et al., 2014). Some states even implemented laws preventing third graders who are not

reading at grade level from being promoted to the fourth grade (see Figure 1). The problem is that some students who participate in school-based tutoring are not reading on or above their grade level by the end of third grade.

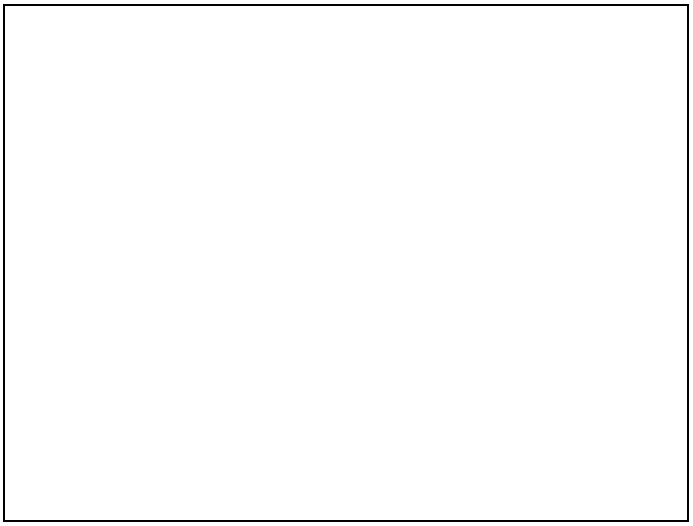

Figure 1. This figure showing the Third-Grade Reading Legislation Map was removed for copyright (Weyer, 2018). It can be found at the following link: http://www.ncsl.org/research/education/third-grade-reading-legislation.aspx

Purpose Statement

The purpose of this quantitative, causal-comparative study was to determine if there was a significant difference among the reading achievement scores of male and female third graders attending Title I elementary schools in a large rural school district in Southeastern North Carolina who participated one-to-one tutoring, small-group school-based tutoring, or large-group school-based tutoring. The research investigated if school-based tutoring (independent variable) was a solution to increasing the reading achievement scores (dependent variable) of third graders using a quantitative causal-comparative research design. Per the literature, more data was needed regarding the effectiveness of tutoring for elementary students especially about the

gender improvement differences in tutoring programs (Baye & Monseur, 2016; Chang, 2011; Cassidy & Ortlieb, 2013; Denton, Tolar, Francis, Barth, Vaughn, & Fletcher, 2013; Dishenhaus, 2015; Khamisi et al., 2016; Mokhtari et al., 2015; Osman, 2015; Price- Mohr & Price, 2016; Robinson & Lubienski, 2011; Slavin et al., 2011). This quantitative study provided information about the effectiveness of tutoring programs in regard to increasing the literacy skills of third graders by gender (independent variable) as well.

Significance of the Study

This study was significant in that it determined whether third graders could increase their understanding of reading after receiving tutoring as determined by their reading assessment scores at the beginning and ending of an academic school year (Hirsch, 2011; Rothman & Henderson, 2011; Sabitini et al., 2016). School leaders and educators, who know the importance of using evidence-based tutoring programs, normally do not have the time and resources to conduct research to determine which programs are suitable for their specific student population (Holliday, 2012; Meeks et al., 2014). The significance of this study also lies in its potential to provide school leaders with data to make evidenced-based decisions when planning and adopting reading tutoring programs for elementary students especially third graders (Meeks et al.; Slavin et al., 2011). The results of this study could substantiate the need for more state and local funding to continue, increase, and improve the school district's tutoring programs so that no third grader is retained due to poor reading skills (Slavin et al., 2011). This study's data could contribute to the field of education by inspiring educators and policy makers to make better efforts, such as developing best practice strategies to prepare teachers to implement school-based tutoring, to address the gender gap in literacy for elementary students (Disenhaus, 2015).

Many third graders who are struggling to read on their grade level do not have the sufficient or adequate assistance needed to become better readers outside of the school setting for various reasons (Genlott & Grönlund, 2013; Genlott & Grönlund, 2016; Isik, 2016; Marchand & Furrer, 2014). School-based tutoring programs may be the only resource for struggling readers that could potentially help them improve their reading skills at the rate needed to pass the Reading EOG as required by some state laws for them to be promoted to the fourth grade (Dubin, 2013; Nix, 2017; Sabitini et al., 2016; Schmitt, Balles, & Venesky, 2013). This research study determined how successful school-based tutoring was for third graders. It was determined that several third graders did not pass the Reading EOG. The results of this study could lead to the improvement of the school-based tutoring programs. The programs could be explored and restructured on a continuous basis until there is a positive change in the test scores of all students based on the results of this study (Meeks et al., 2014; Sabatini, Shore, Holtzman, & Scarborough, 2011).

Research Question

The research question for this study was as follows:

RQ1: Is there a difference among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring?

Null Hypotheses

The null hypotheses for this study were the following statements:

$H_0$1: There is no significant difference among the reading achievement scores of third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring.

$H_0$2: There is no significant difference between the reading achievement scores of male and female third grade students.

$H_0$3: There is no significant interaction among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring?

Definitions

For this study, the following definitions are used:

1. *Adequate early progress (AYP)* - An indicator of annual progress as mandated by No Child Left Behind Act of 2001 (NCLB, 2001).
2. *Beginning- of- grade tests (BOG 3) for reading*- Tests mandated by North Carolina that are given at the beginning of the school year to measure students' proficiencies in various areas prior to instruction of the curriculum (North Carolina Public Schools, 2015; Released Reading Test Form for End of Grade 3; Testing Program and General Information Polices).
3. *End-of-grade Tests (EOG 3) for Reading* - Tests mandated by North Carolina that are given near the end of the school year to measure students' proficiencies in various areas of the curriculum (North Carolina Public Schools, 2015; Released Reading Test Form for End of Grade 3; Testing Program and General Information Polices).
4. *Gender achievement differences* - Gender disparities in school achievement (Baye & Monseur, 2016; Chang, 2011; Robinson & Lubienski, 2011; Slavin et al., 2011).
5. *Large-group tutoring* – One tutor: six or more students (Baye & Monseur, 2016; Chang, 2011; Johnson, Gupta, Rosen, & Rosen, 2013; Rothman & Henderson, 2011; Slavin et al., 2011).

6. *Literacy* – The ability to read, speak, listen, and think to learn, communicate, and making meaning of increasingly complex print and online texts (Dean, Irvin, Meltzer, & Mickler, 2010).
7. *No Child Left Behind (NCLB)* - Elementary and secondary education act signed into legislation in 2001, reauthorized by President George W. Bush as the federal legislation for helping students at risk of academic failure, with the goal of improving academic achievement for all students (NCLB, 2011).
8. *One-to-one tutoring* – One tutor working with one student (Calderon, Slavin, & Sanchez, 2011; Chambers et al., 2011; Chang, 2011; Lee, 2014; Mokhtari, Niederhauser, Beschorner, & Edwards, 2011; Reis, McCoach, Little, Muller, & Kaniskan, 2011; Schwartz, Schmitt, & Lose, 2012; Slavin et al., 2011; Warren-Kring & Rutledge, 2011).
9. *Reading* – A complex and purposeful socio-cultural, cognitive and linguistic process in which readers simultaneously use their knowledge of spoken and written language, their knowledge of the topic and text, and their knowledge of culture to construct meaning with text (Commission on Reading of the National Council of Teachers of English, 2016).
10. *Small-group tutoring* – One tutor working with two to five students. (Chambers et al.; Chang, 2011; Kaminksi, Powell-Smith, Hommel, McMahon, & Aguayo, 2015; Lee, 2014; McBride et al., 2011; Mokhtari et al., 2011; & Slavin et al., 2011).
11. *Tutoring* – An instructional arrangement used to reduce the skill disparity between students (Vasquez et al., 2011).

CHAPTER TWO: LITERATURE REVIEW

Overview

Many students attending Title I elementary schools in the United States are currently struggling to pass or even failing state proficiency reading assessment exams (Coleman, & Pimental, 2012; Herbers, Cutuli, Supkoff, Heistad, Chan, Hinz, & Masten, 2012; Hirsch, 2011; Koyama, 2011; North Carolina Public Schools, 2015: Testing Program and General Information Polices; Rothman & Henderson, 2011). Title I is the title referring to the federal law that provides guidelines and provisions dealing specifically with ensuring that all children have a fair and equal chance of obtaining a high-quality education in kindergarten through high school and reaching proficiency on state assessments (Allington, 2011; Gorski, 2013; O'Reilly et al., 2014). Grade level state assessments are given to students attending schools in the United States in grades 3 through 12. (North Carolina Public Schools, 2015: Testing Program and General Information Polices; Woods, 2017). Reading and mathematics assessments are given in grades 3 through 8. Fifth and eighth graders also take science examinations. High school students are assessed in mathematics, reading, and science at least once (Woods, 2017).

Title I Schools are required to offer supplementary educational services (SES) to at-risk students in reading, mathematics, and science (Allington, 2011; Au, 2011; Koyama, 2011; Rothman & Henderson, 2011; Short, Echevarria, & Richards-Tutor, 2011). Schools normally provide SES in the form of tutoring programs. This chapter will review the literature on the achievement gaps that appears to exist between male and female elementary students participating in various types of school-based tutoring based on their reading assessment scores. The contents of this chapter include the theoretical framework for the study and a review of

research findings related to the effects of one-to-one tutoring, small-group tutoring, and large-group tutoring on the reading skills of elementary students.

Theoretical Framework

The theoretical framework for this study, which focused on the effects of school-based tutoring on the reading achievement scores of male and female third graders, was based on Vygotsky's (1978) theories of cognitive and social development. Both the cognitive and social development theories suggest that children socially construct knowledge and learn through interactions with others. Vygotsky's (1978) theories emphasized the effects and the roles of the learning environments, such as the regular classroom instruction and tutoring in shaping cognitive development. Reading is considered a social activity where literacy skills are improved by communicating socially with parents, peers, teachers, and media (Genlott & Grönlund, 2016). The cognitive and social development theories also explained why students such as the at-risk third-graders in this study are more likely to be successful in reading after completing sessions with tutors, and then eventually implementing the literacy strategies on their own.

Cognitive Development Theory

For Vygotsky (1978), a child's cognitive skills can only be understood when they are examined and interpreted within the child's social world. He believed that the mind lives in society. Cognitive development, consequently, occurs as a child interacts with others and gains knowledge from their culture (Vygotsky, 1987). The cognitive development theory indicated that sociocultural backgrounds, experiences, and events impact children's learning and development through collaboration with others (Crawford, 1996).

Social Development Theory

Vygotsky's social development theory claimed that social interaction is critical in the cognitive development process. He believed that social learning precedes development because the range of skills that children can accomplish with adult guidance exceeds what they can achieve alone. Vygotsky (1978) argues: "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological)" (p.57). Vygotsky focused on the connections between people and the way they act and interact in shared experiences, as he believed that children's thinking was affected by their knowledge of their social communities (Crawford, 1996).

The cognitive and social development theories are based on the *more knowledgeable other* (MKO) and the *zone of proximal development* (ZPD) principles. MKO refers to anyone with a better understanding or a higher ability level than the learner in a particular area (Vygotsky, 1978). The MKO is normally thought of as being a teacher, coach, or older adult, but the MKO could also be peers, a younger person, or even computers. In this study, the MKO refers to the adult tutors who, according to Vygotsky (1978), are an important source of cognitive development.

The concept of the MKO is integrally related to the second important principle of Vygotsky's work, the ZPD. The ZPD is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with capable peers" (Vygotsky, 1978, p. 86). Students learn while moving through their ZPD, which is the level of development attained when students engage in social behavior, which in turn forms the

foundation of cognitive development (VanLehn, 2011). Vygotsky (1978) described the ZPD as involving those tasks that students have not learned to perform independently but can achieve with the help of a more competent individual. As for this study, the ZPD could help students who cannot achieve reading competence on their own learn to read proficiently with the help of an adult tutor (Allington & Gabriel, 2012).

The MKO and the ZPD form the basis of the scaffolding component of instruction (Massey & Lewis, 2011; McLeod, 2012). Scaffolding is defined as the parts of a task that are above students' capacities until they can complete the items that are within their range of competence (Wood, Bruner, & Ross, 1976). Theoretical views of scaffolding emphasize that the support or instruction can "enable a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts" (Wood et al., 1976, p. 90). Scaffolding was used by the tutors in this study to organize tasks, enabling the tutees to learn to read at or above grade level, which otherwise would not be independently achievable (Solari et al., 2017).

According to Vygotsky (1978), some of the most important learning by a child occurs through social interaction with a knowledgeable tutor who models behaviors and provides verbal instructions for the child. The child tries to understand what one observes and follows the instructions received by copying and internalizing them, while learning to apply them to one's own performance (Farr, 2014). Vygotsky (1978) referred to this process as collaborative or cooperative dialogue. The benefits of collaboration occur when the tutor, a person with more expertise, helps the tutee, the person with less expertise, through a process of practicing and internalizing more advanced reading skills (Farr, 2014; Vygotsky, 1978).

The tutoring programs in reading offered at the 43 Title I elementary schools in this study were current applications of Vygotsky's (1978) theories, which support situations such as tutoring where students actively participate in the sessions. Learning that occurs during tutoring is meant to be more interactive than it is in the traditional classroom where the teacher to student ratio is normally much higher. During reading tutoring, the tutors and tutees collaborate in learning and practicing the following key skills: summarizing, questioning, clarifying, and predicting (Wijekumar, Meyer, & Lei, 2012; Wijekumar, Meyer, Lei, Lin, Johnson, Spelvogel, & Cook, 2014). The tutor's role in the process is reduced over time (McBride et al., 2011).

Vygotsky's (1978) theories emphasized the importance of tutoring provided by schools. School-based tutoring involves positive interaction with peers and closer relationships with tutors so that learning is concentrated and students are encouraged to improve their academic skills (Allington & Gabriel, 2012; Sabatini et al., 2011; Van Lehn, 2011; Vygotsky, 1978). In the context of this study, the third graders participated in tutoring sessions where groups were smaller than in their regular classroom settings. Their tutoring programs focused on the specific foundational reading concepts, then moved to individual concepts to help them become more proficient readers (Wijekumar et al., 2014).

Related Literature

Overview of Elementary Reading Instruction

The North Carolina Standard Course of Study (NCSCOS), which was the current curriculum taught throughout North Carolina, is comprised of Common Core State Standards and Essential Standards that describe what students should know and can do from kindergarten through twelfth grade (North Carolina Public Schools, North Carolina Standard Course of Study, 2015). The Common Cores State Standards and Essential Standards have also been adopted by

45 other states (*Figure 2*) to meet the standard requirements mandated by the Every Student Succeeds Act (ESSA), which is an extension of No Child Left Behind (NCLB) (2001) (Woods, 2017). Students in schools using Common Core and Essential Standards learn skills in subjects such as reading and mathematics in earlier grades than the previous less rigorous educational standards (Woods, 2017). Algebra concepts, for example, are introduced as early as third grade in the new standards. Foreign languages are often being taught to students in the Common Core state standards in kindergarten.

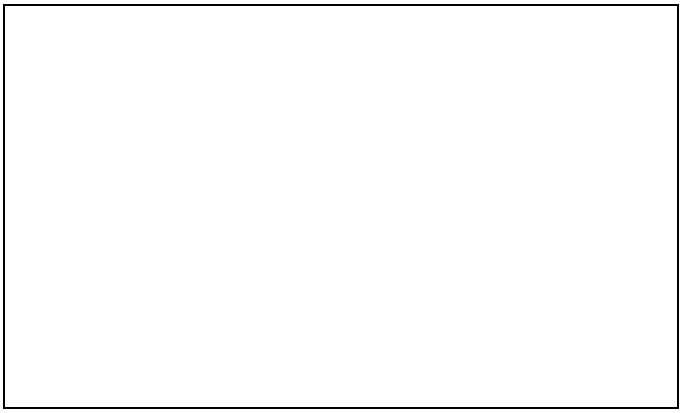

Figure 2. This figure showing the Common Core State Standards Adoption Map was removed for copyright (ASCD, 2012). It can be found at the following link: http://192.168.1.1:8181/http://www.ascd.org/ASCD/pdf/siteASCD/commoncore/CCSSSummitReport.pdf

Learning to read fictional texts is the main objective of the literacy curriculum in grades K-2 in elementary schools using the Common Core and Essential Standards (Connor, Phillips, Kaschak, Apel, Kim, Otaiba, & Lonigan, 2014; Hudson, 2012; Paul, 2012). Many teachers in North Carolina, including the teachers of the participants in this study, have used either the mixed methods approach or the comprehensive reading approach when teaching literacy (Kim,

Park, & Wagner, 2014). Both approaches focus on phonics and fluency. The comprehensive reading approach includes phonemic awareness, vocabulary, and comprehension (Ardoin, Christ, Morena, Cormier, & Klingbel, 2013; Decker, Hixson, Shaw, & Johnson, 2014; North Carolina Public Schools, North Carolina Standard Course of Study, 2015).

In kindergarten, students learn how to identify characters, settings, and major events in a story with teachers' assistance (Stoops, 2013; Valle, 2011). During first grade, students are expected to be able to independently perform the same reading tasks that they did in kindergarten, in addition to using key details from the story (Decker et al., 2014). Describing how characters in a story respond to major events and challenges is added to the reading objectives during second grade (Ardoin et al., 2013). Once students enter third grade, the focus of literacy sessions changes from being able to read fluently to being able to extract meaning from texts and comprehending texts (Allington, 2012; Au, 2011; Calderon et al., 2011; Coleman & Pimentel, 2012; Hudson, 2012; Hudson, Torgesen, Lane, & Turner, 2012; Verhoeven et al., 2011; Weiser & Mathes, 2011).

According to Brown, Cullen, Ham, Hill, & James (2016), third graders must be able to describe characters in a story (e.g. their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. Students in fourth grade and above are expected to be able to read like a detective to reflect on, deconstruct, organize, and analyze more difficult informational and expository text for understanding and communication (Connor et al., 2014; Herman & Wardrip, 2012). For narrative text, students are expected to make simple inferences, locate information in text, identify supporting details, describe character's motivations and mood, and describe the problem (Connor et al., 2014). When reading informational text,

students should be able to find the topic sentence or main idea, supply supporting details, identify the author's purpose, and make simple inferences (Connor et al, 2014).

Literacy Achievement

Literacy proficiency in early elementary grades provides educators with initial signs of a child's potential academic achievement (Gullo, 2013). With early literacy being a leading indicator of future school and personal success, there is a major emphasis on literacy instruction and achievement across the grades, especially in the primary grades (Arya, Hiebert, & Pearson, 2011; Meeks et al., 2014). As children progress through school, the literacy skills needed to succeed in each following year depend on the literacy skills acquired in previous years (Lysenko et al., 2014). Literacy achievement in many schools is measured by a student's score on a state assessment such as the instrument used in this study, the North Carolina READY English Language Arts/Reading Assessment (North Carolina Public Schools, 2015; Released Reading Test Form for End of Grade 3). Thirty-five states and Washington, D.C. require a standardized reading assessment from preschool to third grade (*Figure 3*). Thirty-one states and Washington, D.C. require school districts to offer interventions or remediation for struggling readers in preschool to third grade. Some states mandate the type of intervention or allow school districts to select from a list of approved interventions (*Figure 4*). Only twenty-three states and Washington, D.C. require schools to notify the parents or guardians regarding a student's reading deficiency, the interventions, and the chances of a student being retained (*Figure 5*).

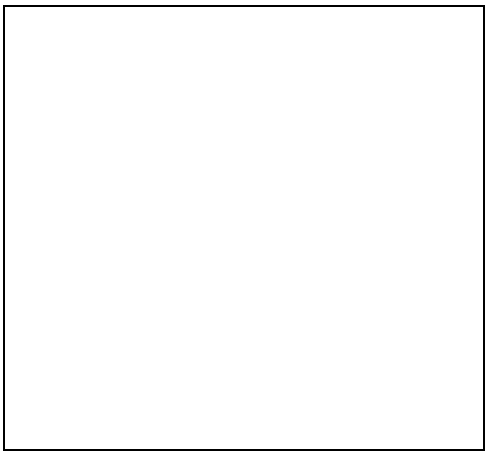

Figure 3. This figure showing the states that require students in preschool through third grade to take a reading assessment was removed for copyright (Samuels, 2015). It can be found at the following link: http://www.edweek.org/ew/articles/2015/01/08/early-grades-crucial-in-path-to-reading.html

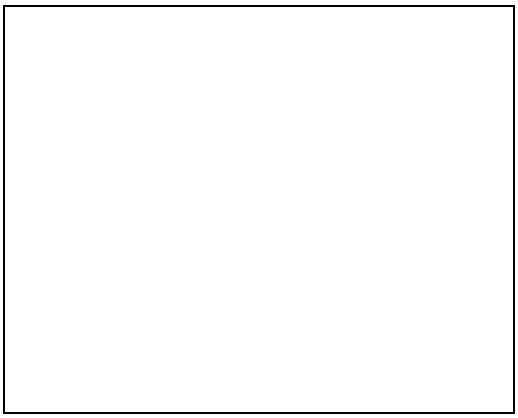

Figure 4. This figure showing the states that require interventions for struggling readers in preschool through third grade was removed for copyright (Samuels, 2015). It can be found at the following link: http://www.edweek.org/ew/articles/2015/01/08/early-grades-crucial-in-path-to-reading.html

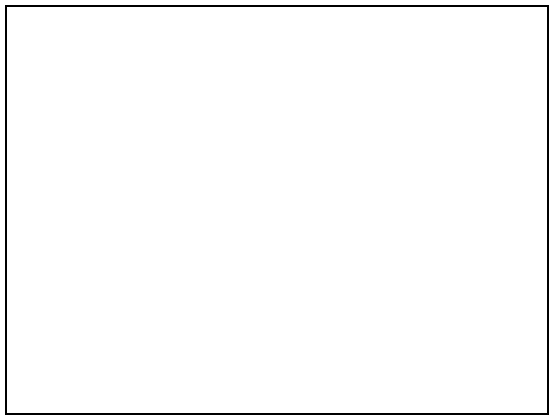

Figure 5. This figure showing the states that require schools to notify the parents or guardians regarding a student's reading deficiency, the interventions, and the chances of a student being retained students in preschool through third grade was removed for copyright (Samuels, 2015). It can be found at the following link: http://www.edweek.org/ew/articles/2015/01/08/early-grades-crucial-in-path-to-reading.html

Literacy Achievement Gap

Children who are not reading on grade level in early grades normally find it difficult to close the literacy achievement gaps that may result between themselves and their peers who are reading on grade level (Lysenko et al., 2014; Nuttall & Doherty, 2014; Slavin et al., 2011). Slavin et al. (2011), for instance, determined that children who are at-risk readers in third grade, similar to the participants in this study, are still struggling academically by ninth grade. In addition, third grade reading scores can reasonably predict the possibility of high school graduation and a student's future progress because literacy is a key factor that affects economic prospects for students and communities. McNamara, Schissons, & Gutknecth (2011) and Meeks et al. (2014) demonstrated a widening gap between good and poor readers, which was evident as early as kindergarten and grew wider as students entered the third grade and beyond. Literacy is

among of the most important leading indicators in education because it is a critical component needed to improve students' outcomes and reduce achievement gaps (Gullo, 2013).

Various research studies have found evidence that achievement gaps exist between males and females (Genlott & Grönlund, 2016; Khamisi et al., 2016; Price- Mohr & Price, 2016; Wang & Carr, 2014; Young, Rasinski, & Mohr, 2016). Many studies indicated that males perform lower than girls in literacy (Cassidy & Ortlieb, 2013; Genlott & Grönlund, 2016; Dishenhaus, 2015). Although there is an enormous amount of literature supporting a literacy achievement gap between male and female elementary students participating in school-based tutoring, there is also some research with conflicting, mixed, and ambiguous results (Dishenhaus, 2015; Nuttall & Doherty, 2014; Wang & Carr, 2014). The results of this study, which focused on the effects of school-based tutoring on the reading achievement scores of male and female third graders, could prompt districts to offer professional development opportunities to educators in regard to finding more effective ways to minimize the literacy achievement gap between at-risk third graders and their literate classmates (Lysenko et al., 2014; Martinez, & Pienta, 2014; Nuttall & Doherty, 2014).

Literacy Issues

By the time children complete the third grade, they are expected to have the fundamental skills and knowledge required to be proficient readers who are prepared for the radical shift from *learning to read* to *reading to learn* that occurs during the fourth grade (Gullo, 2013, p. 414). Unfortunately, the odds of one being a struggling reader by third grade nationwide is estimated at one in three (Greenwood et al., 2015). In addition, 40% of U.S. fourth graders, who are expected to read to learn material in other curriculum areas such as social studies, science, and mathematics, fail to reach the basic reading level (Aud, Wilkinson-Flicker, Kristapovich,

Rathbun, Wang, & Zhang, 2013; Jitendra et al., 2013). Successfully adapting to *reading to learn* is difficult for children who have not acquired basic language and literacy skills (Richardson & Janusheva, 2012). The sample population of 2,565 third graders attending 43 Title I elementary schools located in Southeastern North Carolina who were not reading on their grade level represent 56.4% of the district's 4,787 third graders.

The challenge of teaching elementary students to read gained attention in the early 1990s (Sweet & Snow, 2003). It was during this timeframe when the National Institute of Child Health and Human Development (NICHD) identified the failure to learn to read as a crucial educational and public health issue (Armbruster, Fran Lehr, & Jean, 2016; Sweet & Snow, 2003). Currently, elementary teachers are continuing to have problems addressing the specific literacy needs of struggling, diverse, and at-risk readers on a consistent basis in their classrooms (Genlott & Grönlund, 2013; Genlott & Grönlund, 2016; Hirsch, 2011; Massey & Lewis 2011; Morrow & Gambrell, 2011). Elementary teachers need on-going assistance in helping students develop critical reading-to-learn skills that literacy research has identified as necessary for academic success and future success as an adult citizen in society (Herman & Wardrip, 2012; Isik, 2014). School-based tutoring sessions may be the most practical and cost-effective way to provide this assistance to elementary students in reading due to budget constraints and the removal of teacher assistants from most elementary classrooms (Jung, Olfese, and Larson, 2011; Mokhtari et al., 2011; & Schwartz et al., 2012).

Reading Interventions

An important part of helping struggling readers is to use the right interventions at the right time. The 43 Title I Elementary schools in the large, the southeastern school district that will be used in this research study had begun to employ reading specialists to coordinate reading

interventions (Cassidy & Ortlieb, 2013). A reading specialist provides struggling students with targeted reading instruction (Cassidy & Ortlieb); Gilbert, Jenkins, Fuchs, Fuchs, Cho, & Bouton, 2012; Goldstein, 2011; Morris, Trathen, Lomax, Perney, Kucan, Frye, & Schlagal, 2012). Reading specialists help teachers by co-teaching, planning, and providing additional reading support by tutoring small groups of students during regular instructional periods during the school day (Denton, 2012; O'Conner, Bocian, Sanchez, & Beach, 2014). There are standard protocol approaches and progress monitoring protocol approaches to reading interventions (Compton et al.; Hudson et al., 2012; VanDerHeyden, Witt, & Gilbertson, 2007).

Standard Protocol Approach. The standard protocol approach uses typical interventions that are fully developed, tested, and ready for use by teachers trying to improve students' outcomes (VanDerHeyden et al., 2007). The general classroom instruction that third grade student in this study received was an example of the *standard protocol approach*. Universal standard interventions are advantageous as they are available as soon as it is determined that the interventions would be beneficial to the students and they are used until they are no longer needed by the students (Hudson et al., 2012). A disadvantage of standard protocol approach is that some students, like the third graders sampled in this study, may not respond positively to the generic interventions and may need a different type of differentiated instruction to meet their specific needs.

Progress Monitoring Protocol Approach. When applying the progress monitoring approach, interventions are selected for students on an individual basis. The demonstrated need and response to prior instruction are considered when developing an academic plan for a student, such as one-to-one tutoring, small-group tutoring, and large-group tutoring recommended for the third graders in this study (Compton et al., 2012). The type and intensity of the intervention is

adjusted, dependent upon how the student is progressing. The progress monitoring protocol relies on skilled and knowledgeable professional staff members who can select interventions that best fit the specific concerns and needs of children and when necessary, teach other staff members how to use them. The results of this study could encourage districts to provide educators with more professional development to enable them to use data to drive their instruction, to conduct progress monitoring of third graders on a more frequent basis, and to modify lessons, the type of instruction or tutoring session for students as needed to help remediate their reading deficits (Holliday, 2012, Slavin et al., 2011). The need for more state and local funding to provide the school district's tutoring programs and professional development for elementary teachers could also be substantiated by the data revealed in this study (Sabatini et al., 2011; Slavin et al., 2011).

Response to Intervention (RTI). RTI was implemented in 2006 as NCLB (2001) began requiring administrators and teachers to pay closer attention to students are struggling to make adequate yearly progress (AYP). Either the standard protocol or the progress monitoring protocol is used in RTI (Johnston, 2011; O'Conner et al., 2014; Speece, Schatschneider, Silverman, Case, Cooper, & Jacobs, 2011; Zumeta et al., 2012). Evidence-based standard RTI interventions may be selected for two main reasons. First, they may be chosen if they address a concern that is important to most of the children in the school such as reading on grade level by the end of third grade. The second reason is because teachers and staff can be taught how to use the interventions ahead of time (Zumeta et al., 2012).

Reading is the academic area that is mostly targeted in schools like the Title I Elementary Schools that were used in this study that implemented RTI models to assist students who were having academic difficulties before referring them to special education (Allington, 2012; Denton,

2012; Slavin et al., 2011). RTI is a flexible intervention approach that shifts from the traditional educational model of waiting for students to qualify for special education before assisting them (Allington, 2013). Instead, RTI allows immediate intervention to provide children with opportunities to learn. RTI also prevents at-risk students from experiencing towering amounts of difficulties (Denton, 2012). In addition, RTI interventions can identify developmental delays before they become disabilities by moving educational resources toward the delivery and evaluation of instruction, and away from classifications of disabilities (Fuchs et al., 2012; Mokhtari et al., 2011). Although RTI can be implemented at any grade level, the development of literacy skills is addressed most prominently up to third grade which is the grade level targeted for this study (Allington, 2012).

There are three main goals of RTI. The first is to combine special and general education into one comprehensive system by creating a greater ongoing collaboration between general and special education teachers (Greenwood et al., 2015). The second goal is to significantly increase the number of children with disabilities in mainstream classrooms (Slavin et al., 2011). The third goal, implied in the first two, is to strengthen the academic achievement of students with disabilities and at-risk students without disabilities (Greenwood et al., 2015).

The typical working components of RTI include (a) universal screening, such as the pre-test given to the third graders in this study, to identify students who are not meeting expected benchmarks, (b) various levels of resources so children with weak skills will receive more academic support such as literacy sessions in a timely fashion, and (c) more frequent monitoring and measurement student progress (Compton et al., 2012). Advocates for RTI cite two major benefits, including fewer inappropriate referrals to special education, and a reduction of children from minority groups into special education (Greenwood et al., 2015).

There are three RTI tiers of intervention that make allowances for the different learning needs of students (Foorman, Dombek, Smith, 2016). The first level, Tier 1, is the general classroom reading instruction for all students by a highly qualified certified teacher (Compton et al., 2012; Fuchs & Fuchs, 2011). The third-grade students in this study are screened at this tier to determine if they are reading at grade level (Compton et al., 2012). The students who were identified as struggling readers were invited to participate in Tier 2 supplementary activities that were completed in small or large group tutoring sessions (Denton et al., 2011; Fuchs & Fuchs, 2011).

Modifications to Tier 2 activities, such as allotting a student more time to complete an assignment or reducing the number of students in a support session, may be referred to as Tier 3, which provides one-to-one tutoring for students who have reading difficulties despite participating in Tier 2 activities (Compton, et al.; Denton et al., 2013; Fletcher, Stuebing, Barth, Denton, Crino, Francis, & Vaughn, 2011; Mokhtari et al., 2011; Speece et al., 2011; Waesche, Schatschneider, Maner, Ahmed, & Wagner, 2011). In addition, Tier 3 could be the assignment of students to special education (Denton et al., 2013). This study determined if the one-to-one, small-group, and large-group literacy tutoring sessions at the Tier 2 and Tier 3 levels had different effects on the reading achievement of 2,565 at-risk male and female third graders attending 43 Title I Elementary Schools in a large school district in Southeastern North Carolina. In most RTI models, all identified students continue receiving Tier 1 services while receiving an extra tier of intervention needed to accelerate their progress. Strategies used in the Tier 2 and Tier 3 tutoring sessions used in this study will be expanded upon when reading strategies is discussed.

There are several published studies on the effectiveness of RTI in reading (Chambers et

al., 2011; Fuchs et al., 2012; Greenwood et al, 2015). Chambers et al. (2011), for example, determined that RTI models encouraged the use of small-group tutoring for students who have difficulty after the regular classroom instruction. The participants in this study were in first and second grade. The role of the tutor along specific strategies used with tutees were outlined by Chambers et al (2011). This study is explained in more detail when school-based tutoring and reading outcomes is discussed.

Fuchs et al. (2012) examined students who were struggling with reading in the first and fifth grade. The students received RTI services similar to the ones that the students featured in this study received. The results implied that RTI can strengthen the effectiveness of reading instruction for elementary students if implemented in early grades (Fuchs et al., 2012). This research study investigated whether the same results applied to the 1,470 male and 1,233 female third grade students attending 43 Title I elementary schools in a large rural school district in Southeastern North Carolina who participated in one-to-one, small group or large group literacy instruction.

Greenwood et al. (2015) conducted research on the evidence-based reading assessments and literacy curriculum resources developed by the Center for Response to Intervention in Early Childhood (CRTIEC) that early education programs could use for preschoolers. The preschoolers who participated in the study received Tier 2 and Tier 3 interventions similar to the interventions prescribed to the at-risk students in the 43 Title I elementary schools in a large rural school district in southeastern North Carolina featured in this study. Teachers used a supplemental reading curriculum (Greenwood et al., Kelly, Goldstein, Spencer, & Sherman 2015). The curriculum consisted of two storybook programs that contained embedded

instruction and automated scripted audio lessons in small-group sessions (Kelly et al., 2015). The interactive and brief lessons, which lasted up to 15 minutes, were conducted by a classroom teacher during center time or free time in preschool classrooms (Greenwood et al., 2015; Kaminiski et al., 2015). The interventions were found to produce strong effects on improving the students' literacy skills in single-case experimental designs.

Types of RTI

There are numerous types of RTI at the three tiers. This literature review, however, focuses on tutoring, which is the main type of Tier 2 and Tier 3 RTI used at the 43 Title I Elementary schools featured in this study. Tutoring is the most common interventions used to help the tutees. The type of tutoring and the strategies, such as computer-assisted instruction (CAI) selected for the third-grade participants in this study was based on the students' individual needs.

Tutoring. One response to the literacy issue is tutoring, which is defined by Massey and Lewis (2011) as a person reinforcing what is taught in the classroom by providing a student or a small group of students with academic instruction. Tutoring is one of the oldest teaching methods and interventions, which began in early civilization when knowledge was transmitted orally to students (Nelson-Royes, 2013; Nelson-Royes, & Reglin, 2011). During the Middle Ages, children from wealthy families received their education from tutors (Hirsch, 2011). Children from less wealthy families often became apprentices to learn a craft or skill from artisans, which was an early form of one-to-one tutoring (Nelson-Royes, 2013; Nelson-Royes, & Reglin, 2011) Tutoring was used throughout Europe and other Eastern civilizations before the seventeenth century and still existed in prominent southern and northern American families well

into the twentieth century (Hirsch, 2011). The structure of today's formal educational system evolved from those early forms of tutoring.

The purpose of tutoring is to prevent academic problems from occurring, provide remediation for students who encounter difficulties, maintain students' current academic status, or enhance students' academic abilities (Massey & Lewis, 2011; McBride et al., 2011). Tutors may be adult volunteers, teachers, employees of private learning centers, peers, or college students who help students overcome their specific learning difficulties (Cassidy & Ortlieb, 2013; Miller & Connolly, 2013). For this study, tutors included parents, community volunteers such as retirees, or teachers. Their primary objective was to help at-risk third graders attending 43 Title I elementary schools in a large rural school district in Southeastern North Carolina become independent readers using various strategies to improve their ability to understand and decode text (Johnson et al., 2013; Massey & Lewis, 2011).

Types of tutoring. Tutoring programs are normally classified by methods of instruction (individual, group, or online), instructional objectives (enrichment, maintenance, remediation, support, or test preparation), and the sources of finance (public or private) (Cassidy & Ortlieb, 2013; Slavin et al., 2011). The types of tutoring that pertain to this study included one-to-one, small-group, and large-group (after-school) tutoring. Remediation for third graders reading below their grade level is the primary focus of the tutoring sessions. The tutoring sessions are financed through the students' public school district because of state mandates requiring that Title I Schools offer academic support to at-risk students.

One-to-one tutoring. When a tutor works with one student, this is referred to as one-to-one tutoring (Schwartz et al., 2012; Warren-Kring & Rutledge, 2011). The literature demonstrated that one-to-one tutoring has traditionally been one of the most effective forms of

instruction in studies comparing it to small-group and large-group tutoring because the sessions can be personalized to fit each student's individual needs (Lee, 2014; Mokhtari et al., 2011; Reis et al., 2011). One-to-one tutoring allows sessions to be tailored to meet the student's individual reading needs (Calderon et al., 2011). One-to-one tutoring may take place in the general or special-education classroom, which makes it a practical alternative for generalized settings.

Some benefits of one-to-one tutoring include more attention being given to a student and the tutor gaining a better understanding of the child's needs (Lee, 2014). The challenges of one-to-one tutoring are that the quality of tutoring can vary, finding a fit between a tutor and a child be time-consuming, and if the tutor is not available for some reason, such as sickness, the tutee misses a session (Lee, 2014). One-to-one tutoring is also the most expensive type of tutoring if done by a certified teacher. The expense, however, could be justified if studies prove that one-to-one tutoring can make a substantial difference for a child at a critical point in their reading development and reduce later needs for special education, remediation, or grade retention (Slavin et al., 2011). Schools could also receive additional state funding if their students' scores increase (North Carolina Public Schools, 2015; Report Cards).

Jacob, Armstrong, and Willard (2015) and Jacob, Smith, Willard, and Rifkin (2014) evaluated the Reading Partners programs, which used 40-100 community volunteers to provide one-to-one tutoring to struggling readers in under resourced elementary schools throughout California, Colorado, New York, Oklahoma, Maryland, South Carolina, Texas, and Washington, DC. At each school, Reading Partners established a "reading center", placed a full-time team member on site to manage day-to-day operations such as scheduling and monitoring the one-to-one pull-out sessions for students in kindergarten through fifth grade (Jacob et al., 2014; Jacob et

al., 2015). The sessions were held during the school day or after school twice a week for 28 weeks (Jacob, Armstrong, & Willard 2015; Jacob, Smith, Willard, and Rifkin, 2014).

Their studies showed that after one year of implementation, the program significantly increased students' reading proficiency – that equaled one and a half to two months of growth in literacy achievement (Jacob et al., 2015). The Reading Partners program was effective for male and female students at different grade or baseline reading achievement levels, and for those who were not native English speakers.

Mokhatari et al. (2015) assessed the effectiveness of a yearlong supplemental reading intervention on the reading achievement outcomes of 12 first graders in the southwestern United States. The students were selected because they scored in the lowest performing quartile among all first-grade students on the school-based district benchmark assessment, which was the Texas Primary Reading Inventory test battery. The tutoring sessions, which lasted 50-55 minutes 3 times a week, were facilitated by tutors who were elementary education majors at a local university. The tutors took a reading assessment and instruction course prior to tutoring. They assessed students' reading achievement outcomes at the beginning and end of the school year using the Gates-MacGinitie Reading test (MacGinitie, MacGinitie, Maria, & Dryer, 1996). After 47 hours of one-to-one tutoring, the students (10 males and 2 females) read significantly more proficiently than non-tutored students (Mokhatari et al., 2015).

Teufel, Gilbert, Foster, Holtgrave, and Norrick (2012) found that after participating in the OASIS intergenerational tutoring program, kindergarteners and first graders became more literate than their classmates who did not participate in the program. After receiving extensive training, the volunteer tutors, who were ages 50 years or older, held tutoring sessions twice a week for 30 minutes. The OASIS's tutoring activities were aligned with the Common Core State

Standards (CCSS) and the No Child Left Behind Act (NCLB) as were the school-based tutoring activities used ty the tutors in this study. Out of the 2000 students tutored, 90% of their teachers reported improved academic performance.

Denton et al. (2013) conducted a study to determine the effects of a one-to-one tutoring program. Second grade students in 10 elementary schools in the southwestern United States to participated in a one-to-one tutoring program. The 72 students took a pre-test and a posttest. Their results showed improvement in the students' literacy skills after participating in one-to-one tutoring.

Some researchers, however, think that one-to-one tutoring is not a permanent solution to having students reading on grade level. Miller and Connolly (2013) conducted a study of the Time to Read, a program which used volunteer tutors to help children ages 8 to 9 years old in one-to-one settings improve their reading comprehension. They concluded that the program used in 200 primary schools in Northern Ireland did not have a significant effect on the students' literacy performance. Miller and Connolly (2013) planned to conduct another research study to examine the instruction provided by the tutors.

Small-group tutoring. Small-group tutoring takes place when a tutor leads a single session with a group of two to five students who need assistance with the same material (Kaminski et al., 2015; Lee, 2014; McBride et al., 2011; Mokhtari et al., 2011). The effectiveness of small - group tutoring is based on collaborative learning, where all members, guided by the tutor, are responsible for sharing their knowledge (Speece et al., 2011). Small-group tutoring may also be selected when there are more tutees than qualified tutors, which is true for many of the schools featured in this study (Lee, 2014).

Denton, Cirino, Barth, Romain, Vaughn, Wexler, and Fletcher (2011) compared the effects of reading outcomes of delivering supplementary small group intervention to 192 first-grade students at risk for reading difficulties randomly assigned to one of three different treatment schedules: extended (four sessions per week, 16 weeks), concentrated (four sessions per week, 8 weeks), or distributed (two sessions per week, 16 weeks). Fourteen tutors who were not certified teachers conducted the tutoring. This model was used as it would be more feasible in many schools and there is research evidence supporting tutoring reading intervention by uncertified paraprofessionals (Allington, 2011; Denton et al., 2011). Group means were higher on the posttest in comparison to the pretest. The groups from nine schools in two districts (urban and rural) did not differ significantly on any reading outcome related to the intervention duration or scheduling. Denton et al. (2011) recommended that educators provide reading intervention three to five times per week for 20 to 40 minutes in addition to regular classroom instruction.

Hedin and Gaffney (2013) hypothesized that 26 sixth graders who participated in tutoring would outperform their peers who did not receive the supplemental support. Fifteen sessions were conducted by five tutors with pairs of sixth graders who had not reached a proficient level (score above 218) on their state's reading assessment, the Illinois Standards Achievement Test (Hedin & Gaffney, 2013). The tutors were trained to use Wood's levels of contingent intervention, which measured students' verbal skills (Hedin & Gaffney, 2013). The 13 girls and seven boys were tutored three to four times a week for 40 minutes for five weeks. Their quantitative outcome data did not support their hypothesis when the sixth graders who participated in tutoring did not outperform their peers who did not receive supplemental support.

Denton et al. (2012) conducted a study to determine the effects of a small-group reading tutoring program. Second grade students in 10 elementary schools in the southwestern United

States participated. The 72 students took a pre-test and a posttest. Their results indicated that the program did not prove to be beneficial for improving the students' reading skills.

Large-group (after-school) tutoring. Large-group tutoring, where one tutor assists six or more students, arose during the end of the 19th century in the United States (Hirsch, 2011; Isik, 2014; Rothman & Henderson, 2011). In the past 20 years, large-group tutoring has increased with the implementation of NCLB. Large-group tutoring provides academic support services that are closely tied to the regular classroom instruction (Isik, 2014). Research studies have shown that students who participated in large-group tutoring by certified teachers scored significantly higher in reading post tutoring than students who did not participate in the large-group tutoring or were tutored by retired teachers or volunteers (Cassidy & Ortlieb, 2013; Johnson et al., 2013).

Isik (2014) and Nelson-Royes and Reglin (2011) examined the reading component of an afterschool reading tutoring program for students in an urban middle school and an urban elementary school. In these studies, large group tutoring was facilitated by certified veteran teachers employed at the school where the tutoring occurred. Large group tutoring sessions were held after school once a week for 50 minutes from week 20 of the school year to the week 35. These studies showed that the tutoring programs slightly increased reading levels and scores on standardized tests for males and females who were equally represented in the study (Isik, 2014; Nelson-Royes & Reglin, 2011).

Rothman and Henderson (2011) assessed the effectiveness of an afterschool tutoring program on standardized test scores in language arts and math for students who had low test scores using a prepost, nonequivalent control group design. Their results indicated that borderline students who participated in the school from district teachers could perform higher on

standardized tests than their borderline peers who had no tutoring (Rothman & Henderson, 2011). This study helped to support a policy change encouraging tutoring for improving standardized math and reading test scores.

The small-group and large-group tutoring offered by schools can be more of the same type of instruction that did not work the first time. These types of instruction do not allow the tutor to differentiate instruction to students' needs as much as one-to-one tutoring does (Denton et al., 2013; Slavin et al., 2011). One-to-one tutoring, consequently, was noted as the most effective type of tutoring (Calderon et al., 2011; Denton et al.; Lee, 2014; Mokhtari et al., 2011; Reis et al., 2011; Schwartz, Schmitt, & Lose, 2012; Slavin et al.; Warren-Kring & Rutledge, 2011). Jung, Olfese, and Larson (2011), Mokhtari et al. (2011), and Schwartz et al. (2012), however, noted that small-group tutoring is used more frequently in public schools rather than one-to-one tutoring because of budget restraints.

Reading strategies. The reading strategies used during the tutoring sessions examined in this study included: duet reading, echo reading, activating prior knowledge, answering and generating questions, making and verifying predictions, and skimming and scanning (T. Daniels, personal communication, June 9, 2016). Duet reading is a scaffolding strategy where the tutor and tutee hold and alternate reading a book together for 10-15 minutes (Dahl, 1979; Guzel-Ozmen, 2011). After the tutors read the text aloud while the student follows along silently, the student then reads the same text aloud (Dahl, 1979; Lo, Cooke, & Starling, 2011). This process continues until the passage has been completed. Whenever the tutee commits a reading error or hesitates for three seconds or longer, the tutor will point to and say the mispronounced word, have the student read the word correctly, have the student read the surrounding phrases that includes the word, and then continue the reading activity (Guzel-Ozmen, 2011). Dahl (1979)

conducted a study that required second graders to read a 100-word passage repetitively until they reached the criterion of 100 words per minute. He found significant gains in the reading rate and decreases in word miscues.

Echo reading is a strategy used to help students develop reading fluency. After a tutor or teacher reads a short sentence or paragraph, the student reads it back (Ehri, 2014). The student is provided with feedback if needed. This process continues during the session or in a follow-up session until the tutor or teacher is satisfied with the student's performance (Ehri, 2014).

There have been numerous studies that show a relationship between reading fluency and overall reading achievement for students in second grade and below or fourth grade and above. Lo et al. (2011), for example, conducted research that included an adult-directed repeated readings intervention for second graders, similar to the intervention used by tutors in this study. The students practiced five challenging words, read simultaneously with an adult and, then, practiced the passage up to five times while receiving feedback on errors (Genlott & Grönlund, 2016; Solari et al., 2017). Results showed that all the students increased their oral reading rates on grade level passages.

Activating prior knowledge. Prior knowledge provides a framework for new information that is learned while reading and helps the reader remember the text for longer periods of time after reading (Ogle, 1986). The tutors in this study previewed the text and helped the tutees make connections to the new text by asking the tutees what they already know about the topic, broad concept, author, or genre (T. Daniels, personal communication, June 9, 2016). After discussing the way that the text is organized, the tutor drew the students' attention to key vocabulary and phrases (Ogle, 1986).

Another strategy used to activate prior knowledge is the K-W-L Chart. Before have the tutee begins reading, the tutor draws or has a handout with a K-W-L Chart below.

K	**W**	**L**
The students write what they think they know about the topic in text.	The students write what they want to know about the topic in the text.	The students write what they learned about the topic in the text.

Figure 6. This figure shows a K-W-L Chart.

The tutor will write or have the student write what they already know about the topic in the K column. The tutor will point to the W column and ask the student what he or she would like to learn by reading the text. The tutor will write the responses as questions, which provide a purpose for reading. This incorporates question generation, which is the strategy with the strongest scientific evidence to support its use (Armbruster et al., 2016; Sweet & Snow, 2003). Students are taught to monitor their own reading by posing and answering open-ended questions about the text to help them improve their comprehension of the text as well as recall details. (Berkeley, Marshak, Mastropieri, & Scruggs, 2011; Perfetti & Stafura, 2014). While reading, the tutee will answer the questions along with any new information that was learned in the L column.

Tutors in this study also had tutees make and confirm predictions using the available information such as the title of the book, prior knowledge, category, and author (Berkeley et al., 2011). The tutors remind the tutee that it is okay if the predictions are not accurate (Berkeley et al., 2011; S. Ball, personal communication, September 7, 2016). As tutees read, the tutors

prompt tutees to confirm, revise, and make new predictions. After reading, the tutee reviews and evaluates predictions made before and during reading.

***Skimming and scanning*.** Skimming and scanning requires students to read the title of the reading material, think about it, and box it (Tamsi et al., 2013). They read the questions and underline keywords in the questions. As they find answers to the questions while looking quickly through the large passage, they put a line or star under it so they can go back and find the information easily (Tamsi et al., 2013). The tutees reread questions in order, reference the text and prove their answer. They use the process of elimination to arrive at the correct answer by crossing out the letter of the choices they reject. Skimming and scanning is normally used by the tutees when they read independently during the school day, which is also a strategy used to increase students' reading achievement that incorporates several of the other reading strategies strongly supported by research (Krastin, 2015).

Computer-assisted instruction (CAI). Tutors in this study encourage tutees to use computer programs during the tutoring sessions. The *Accelerated Reader ® 360* and the *Scholastic Reading Counts!* ® (RC) Programs, for instance, are reading interventions designed to encourage children to practice reading using a computerized component used by third graders in this study (Renaissance Learning, 2015; Scholastic, 2015). Each program operates differently, but they both provide data on students' reading comprehension performance on independent texts (Krastin, 2015). Comprehension is tested with short quizzes following the completion of each independent text. The data management systems are designed to motivate students to read more by assigning points earned for successful completion of each quiz and supply teachers with data. Both systems generate individual student data in the form of Lexile reading levels of

students, Lexile levels of books they have read, passing rates on quizzes, points accumulated, grade level equivalences, and titles of books chosen (Krastin, 2015).

The purpose of the study conducted by Krastin (2015) was to determine the relationship between students' Lexile levels, reading choices, points earned, and types of books chosen, as measured by RC data. The participants were 23 male and 28 female fifth graders in two language arts/social studies classrooms. The participants selected a book to read that was part of the RC program and was at their independent reading level as measured by the Scholastic Reading Inventory (SRI) (MetaMetrics, 2015). SRI is the computer-generated assessment used as a diagnostic tool for measuring students' reading comprehension for determining the best level in the program for them to read with success (Scholastic, 2015). It is highly correlated with the North Carolina's end-of-grade test of reading comprehension (EOG 3), which is the assessment taken by the 3,636 third graders from 43 Title I elementary schools in a large rural school district in southeastern North Carolina used in this study (North Carolina Public Schools, 2015; Released Reading Test Form for End of Grade 3). After reading the RC book, the participants took a computerized quiz consisting of ten comprehension questions (Scholastic, 2015). If a child does get at least seven out of the ten questions correct, the quiz may be taken up to two more times (Scholastic, 2015).

Krastin (2015) collected individual student reading reports with the date, student's name and personal Lexile level (PLL), average Lexile level (ALL) of the books tested, average reading level of books tested, average quiz scores, total points earned, and average words read for the RC quizzes from the Scholastic Achievement Manager (SAM), the teacher portal for RC. The information was placed into an Excel spreadsheet with column headings for each category to calculate group averages for all the categories. The results of Krastin's (2015) study noted that

the effectiveness of the RC program could be both supported and refuted based on how it was used in the classroom. Findings showed that students in the study focused more on the points accumulated rather than the challenge of reading. It was also determined that the program could be an effective program if teachers track and manage both the accumulated points and Lexile levels of book choices of students.

CAI programs are easy to implement, can be tailored to address students' specific needs, and provide activities that can supplement classroom reading instruction (Beckman, Bennett, & Lockyer, 2014). In elementary schools, such as the 43 Title I Elementary Schools in a large school district in southeastern North Carolina featured in this study, CAI applications normally consist of individual students working through self-instructional materials geared to their level of performance for two or three 30-45-minute sessions a week (Sabatini, O'Reilly, Halderman & Bruce, 2014). Because there may or may not be a teacher available during the computer time, CAI activities in reading are typically designed to be easy and repetitive (Foorman et al., 2016).

There are conflicting results in the research regarding CAI programs. Federal research, for instance, has determined that none of the computer-based reading products work as well as an adult in improving reading skills (Allington, 2011; Sabatini et al., 2014). According to Foorman et al. (2016), Genlott & Grönlund (2016), and Slavin et al. (2011), the research evaluating CAIs for reading has found few effects for struggling readers or children in general. On the contrary, the analysis of the data by Chambers et al. (2011) indicated that first and second grade students receiving the computer-assisted tutoring scored significantly higher on the Woodcock assessment than those participating in one-to-one tutoring for first grade and marginally higher for the second grade. An important outcome of the study was that schools using computer-assisted

tutoring could tutor 31% more first-graders and 46% more second-graders than schools using one-to-one tutoring (Chambers et al., 2011).

School-Based Tutoring and Reading Outcomes

Researchers have found that tutoring produces positive learning outcomes when the tutors are properly trained and have established a good relationship with the tutees (Lee, 2014). Children generally learn to read in environments that are trusting and comfortable (McKie, Butty, & Green, 2012). School-based tutoring sessions facilitated by an adult provide environments that are conducive to learning (McKie et al., 2012).

After evaluating the progress of 105 third-grade students from three schools after participating in reading tutoring that included peer reading as an intervention strategy, Lee (2014) also found improvements in student attitudes toward reading after participating in tutoring. Chambers et al. (2011) noted that tutoring programs produced first and second grade students who grew more academically in their study that evaluated the effects of one-to-one and small group (six students) tutoring conducted by certified teachers. The tutoring activities in both conditions covered the following skills: phonemic awareness, concepts about print, letter skills, sight words, vocabulary, tracking, fluency, comprehension, and writing (Chambers et al., 2011). The tutoring sessions were held for 45 minutes at least four times a week. Chambers et al. (2011) also found that students who were a part of the one-to-one tutoring approach outperformed students who did not participate.

McBride et al. (2011) conducted a longitudinal study of the nationwide Experience Corps volunteer tutoring program. A total of 2,000 classroom volunteers assisted 20,000 low-reading students in 23 cities. The study found an increase in the reading performance of these students who participated in the one-to-one or small-group tutoring programs that were provided

(McBride et al., 2011). The students' improvement was based on their reading assessments scores before and after participation in the program (McBride et al., 2011).

Jung et al. (2011) conducted an evaluation study to determine how long it would take for a group of struggling readers to reach state achievement levels after being tutored. The groups of students received tutoring three to five days per week, 40 minutes per session, across an academic year. Overall, most of the tutees passed the state-mandated assessment. The results showed that reading performance of the students improved during tutoring, and the majority passed the initial and subsequent reading assessment test (Jung et al., 2011).

The results of the studies by Denton (2012) and Mokhtari et al. (2015) indicated a growth in reading skills for students in after school tutoring programs that focused on the literacy. The tutors worked to address the basic needs of the individual students while constantly looking for creative ways to engage students in learning the objectives. Likewise, Slavin et al. (2011) and Zumeta et al. (2015) and reported an increase in the reading performance of students enrolled in tutoring programs. Reis et al. (2011) and Woolfolk (2012) also noted improvements in student attitudes toward reading had become more positive after tutoring. The literature supports the need to determine whether school tutoring increases the reading scores of third graders who are in jeopardy of failing state proficiency exams.

School-based Tutoring Effects by Grade Levels and Gender

The results that were reported by the research studies used for this review varied on the effects of tutoring and students' gender. Slavin et al. (2011) reported that the gender of an elementary student was not related to their tutoring experience. However, Jung et al. (2011) reported that females' reading assessment scores increased more than males after participating in tutoring. After Robinson and Lubienski (2011) analyzed national longitudinal data regarding

male and female achievement in math and reading, they determined that third-grade females would probably outperform their male peers on standardized reading assessments. Robinson and Lubienski (2011) questioned if schools were trying their hardest to remediate gender differences after reviewing achievement scores at the 10^{th}, 50^{th}, and 90^{th} percentiles of males and females separately (Robinson & Lubienski, 2011). They were convinced that factors outside of the school increased the differences.

Chang (2011) investigated the grade level and gender differences in a school-based reading tutoring program for 51 first graders and 75 second graders. Teacher candidates majoring in elementary education from a Midwestern university served as the tutors after receiving training from two schoolteachers who served as the program coordinators. The results showed that first-grade struggling readers had a significantly higher reading gain than second-grade struggling readers (Chang, 2011). In addition, males in grades three and below had larger increases in reading scores after tutoring than females (Chang, 2011). Even though certain research studies have indicated positive effects of reading tutoring at various grade levels, the researchers noted that the effect of tutoring programs per grade levels is worth investigating in more detail (Cassidy & Ortlieb, 2013; Chang, 2011; Robinson and Lubienski, 2011; & Denton et al., 2013).

Summary

The review of literature identified several gaps and mixed results in determining the effectiveness of different types tutoring that schools have been using to try and ensure that students can read at or above grade level in early grades in addition to the duration, and scheduling of supplemental reading interventions (Denton et al, 2011; Khamisi et al., 2016; Meeks et al., 2014; Price- Mohr & Price, 2016; Rothman & Henderson, 2011; Sabitini et al.,

2016). Although there are numerous research studies about school-based tutoring and reading achievement, the results were scarce, mixed, and often inconclusive (Rothman & Henderson, 2011). Even though school-based tutoring programs, which are based on Vygotsky's (1978) theories of cognitive and social development, have been shown to be beneficial to struggling readers in lower grades, the impact of gender difference in the reading gain of third grade students in a school-based tutoring program needs to be researched more (Baye & Monseur, 2016; Cassidy & Ortlieb, 2013; Chang, 2011; Vasquez et al., 2011). The results from many research studies have used data from different groups of students over different years in urban areas (Holliday, 2012).

This study used data from the same group of 2,565 third graders attending 43 Title I elementary schools in a large rural southeastern School district during the 2016-2017 academic school year. Because there is little known about practical, replicable programs capable of helping educators remediate early reading deficits, the results of this study could cause school leaders to examine what occurs during one-to-one, small-group, and large-group literacy instruction (Slavin et al., 2011). The results of this study could also provide school leaders with data to make evidenced-based decisions when planning, adopting, and revising reading tutoring programs that are best for their student population (Holliday, 2012; Slavin et al., 2011). The need for more state and local funding to continue, increase, and improve the school district's tutoring programs and professional development for teachers so that no third grader is retained due to poor reading skills could also substantiate by the data revealed in this study (O'Reilly et al., 2014; Sabatini et al., 2011; Slavin et al., 2011).

CHAPTER THREE: METHODS

Overview

The researcher used a quantitative causal-comparative research design to conduct a nonexperimental investigation to determine the effects of three types of school-based tutoring and gender (independent variables) on the reading assessment scores (dependent variables) of 2,565 third graders attending 43 Title I elementary schools located in southeastern North Carolina. This chapter begins with a description of the research design that will be used in this study. The study's research question and the hypotheses are stated next. Discussions regarding the participants, setting, and instrumentation follow. Procedures and data analysis are presented to conclude this chapter.

Design

A quantitative causal-comparative research design was used in this study. The causal-comparative research design allowed the researcher to conduct a nonexperimental investigation to identify the effects of three types of school-based tutoring and gender on the reading achievement scores of third graders (Gall, Gall, & Borg, 2007). According to Gall et al. (2007), the causal-comparative research design was the most appropriate choice for this study, as the researcher was seeking to find a relationship between the independent and dependent variables after school-based tutoring in reading had occurred. The researcher did not administer a treatment to the subjects and did not manipulate the types of tutoring and gender (independent variables) to determine their effects on the reading assessment scores of third graders (dependent variables).

The independent variables for this study were type of tutoring (multiple groups) and gender. The independent variables were measured in the form of categories and form nominal

scales (eg., one-to-one, small-group, and large-group tutoring; male versus female) which are critical features of causal-comparative research which is normally used in education when experiments cannot be conducted (Gall et al., 2007). When a tutor works with one student, this is referred to as one-to-one tutoring (Schwartz et al., 2012; Warren-Kring & Rutledge, 2011). Small-group tutoring takes place when a tutor leads a single session with a group of two to five students who need assistance with the same material (Kaminski et al., 2015; Lee, 2014; McBride et al., 2011; Mokhtari et al., 2011). Large-group tutoring occurs when one tutor assists six or more students (Hirsch, 2011; Isik, 2014; Rothman & Henderson, 2011).

The researcher did not control the assignments to the tutoring groups because they were already be established and archived data was collected (Gall et al., 2007). The dependent variables were the reading achievement scores on the North Carolina READY English Language Arts/Reading Assessment for Grade 3. The causal-comparative research design has also been used in other quantitative literacy studies (eg., Isik, 2014; Phipps, 2015**;** Russ, 2015; Wheldall, Gleen, Arakelian, Madelaine, Reynolds, & Wheldall, 2016).

The North Carolina READY English Language Arts/Reading Assessment for Grade 3 was administered to all the participants as a pre-test (referred to as the beginning of grade 3 test - BOG 3) and post-test (referred to as the end of grade 3 test - EOG 3). Based on the students' reading ability benchmark scores on the BOG 3 test from 2016-2017 archived data, teachers assigned the students to one of following three tutoring groups: one-to-one, small group, or large group tutoring. The treatment and control groups in this study used the causal-comparative research design; referred to as comparison groups (Gall et al., 2007). All three of the tutoring groups served as treatment groups and control groups for the others. For instance, the scores of students in the one-to-one tutoring treatment group were compared to the scores of the students

in the small-group and large-group tutoring control groups. Using this design allowed a treatment to be applied to all the groups, as more than two groups could be used (Warner, 2013).

Research Question

The following research question guided this study:

RQ1: Is there a difference among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring?

Null Hypotheses

The null hypotheses for this study were the following statements:

$H_0$1: There is no significant difference among the reading achievement scores of third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring.

$H_0$2: There is no significant difference between the reading achievement scores of male and female third grade students.

$H_0$3: There is no significant interaction among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring.

Participants and Setting

The 2,565 participants for this study were selected using convenience sampling from 43 of the 48 Title I elementary schools located in southeastern North Carolina during the 2016-2017 school year (Gall et al., 2007). Five of the Title I elementary schools only have students enrolled in pre-kindergarten through second grade. Since state reading assessments begin in the third grade, these schools were excluded from the study. The elementary schools were considered

Title I because at least 40 percent of their student population had been designated as economically disadvantaged. Title I schools were selected as they are required by federal law to provide tutoring to at-risk students.

The participants were not introduced to this study because they were not being asked to do anything specifically for the researcher. The district's research committee was introduced to the study when the researcher submitted the Consent Form for Dissertation Research to the district's Associate Superintendent for Evaluation and Testing (see Appendix C). The researcher requested the following data for the sample of 2,565 participants from the district's Associate Superintendent for Evaluation and Testing via email after receiving approval from Liberty University's Institutional Review Board (IRB): tutoring type, gender, ethnicity, BOG 3, and EOG 3 North Carolina READY English Language Arts/Reading Assessment for Grade 3 scores for the 2016-2017 school year (see Appendices B & C). The tutoring groups were established before the research began, therefore, randomization was not possible (Gall et al., 2007). It was feasible for the researcher to use the sample population because their proximity made them accessible. The students' ages ranged from eight to 10 years old. The ethnicities of the third graders in the district are the following societies: African American (37.1%), American Indian (1.1 %), Asian (2.1%), Hispanic (5.6%), Pacific Islander (0.2), Caucasian (52.4%), Multiple/No Response (1.5%), and Other (NA). The percentage of males and females was: male: 48% and female: 52% (North Carolina Public Schools, 2015: Report Cards).

The demographics listed above for the target population, which consists of 4,787 third graders and the sample population of 2,565 participants in the school district are similar (North Carolina Public Schools, 2015: Report Cards). For instance, the students' ages range from eight to 10 years old in all tutoring groups. In addition, the ethnicities of the students are mostly

African American and Caucasian in the target and sample populations. However, there were more male students in comparison to female students in the target population. For this study, the number of participants sampled was 2,565 students which per Gall et al. (2007) exceeded the required minimum of 126 students for a medium effect size with statistical power of .7 at the .05 alpha level. The number of students participating in one-to-one, small group, or large group tutoring were 100, 1544, and 921 respectfully. See Table 1, Table 2, and Table 3 on the following pages for the tutees' ethnicities and genders.

Demographics

Table 1

Descriptive Demographic Statistics for Participants in One-to-one Tutoring.

Variable	Category	n	%
Age	8	77	77%
	9	21	21%
	10	2	2%
Gender	Female	36	36%
	Male	64	64%
Ethnicity	African American	52	52%
	Caucasian	41	41%
	Hispanic	3	3%
	Other	4	4%

Table 1 (above) summarizes descriptive information about the sample population of students participating in one-to-one tutoring. The group consisted of 100 students consisting of 64 males and 36 females. The number of Caucasian, African American, Hispanic, and Other students were 52, 41, 3, and 4 respectively. There number of eight year olds, nine year olds, and 10 year olds in this group of students were 77, 21, and 2 respectively.

Table 2

Descriptive Demographic Statistics for Participants in Small-Group Tutoring.

Variable	Category	n	%
Age	8	1,504	97.4%
	9	39	2.5%
	10	1	0.1%
Gender	Female	674	43.6%
	Male	870	56.4%
Ethnicity	African American	796	51.6%
	Caucasian	741	48%
	Hispanic	5	0.3%
	Other	2	0.1%

Table 2 (above) summarizes descriptive information about the sample population of students participating in small-group tutoring. The group consisted of 1544 students:870 males and 674 females. The number of Caucasian, African American, Hispanic, and Other students were 796, 741, 5, and 2 respectively. There number of eight year olds, nine year olds, and 10 year olds in this group of students were 1,504, 39, and 1 respectively.

Table 3

Descriptive Demographic Statistics for Participants in Large Group Tutoring.

Variable	Category	n	%
Age	8	894	97.1%
	9	24	2.6%
	10	3	0.3%
Gender	Female	455	49.4%
	Male	466	50.6%
Ethnicity	African American	460	50%
	Caucasian	452	49.1%
	Hispanic	6	0.6%
	Other	3	0.3%

Table 3 (above) summarizes descriptive information about the sample population of students participating in large group tutoring. The group consisted of 921 students: 466 males and 455 females. The number of Caucasian, African American, Hispanic, and Other students were 460, 452, 6, and 3 respectively. There number of eight year olds, nine year olds, and 10 year olds in this group of students were 894, 24, and 3 respectively.

The settings for this study were one-to-one, small group, and large group tutoring sessions that occurred in the 43 Title I elementary schools located in a large rural school district in southeastern North Carolina. The school system is the fifth largest school system in North Carolina serving approximately 51,480 students in grades pre-kindergarten through 12th grade

(North Carolina Public Schools, 2015: Report Cards). The district consists of 87 schools, including 52 elementary schools, 18 middle schools and 17 high schools (North Carolina Public Schools, 2015: Report Cards). The testing and tutoring locations included classrooms, libraries, or computer labs in the 43 elementary schools.

The causal-comparative research participants in this study were already organized in groups defined as comparison groups (Gall et al., 2007). Based on the students' reading ability benchmark reading achievement scores, teachers assigned the third-grade students to one of following three tutoring groups: one-to-one (100), small-group (1544), or large-group (921) tutoring (J. Johnson, personal communication, October 30, 2015). All three of the tutoring groups served as treatment groups and control groups for the others as mentioned in the design section.

The students who participated in one-to-one tutoring were paired with a volunteer tutor who worked with students outside of the general classroom for 45 minutes during reading time on three times a week. These students scored less than 415 on the BOG 3. They were placed with volunteer tutors because there were more volunteers than retired teachers or certified teachers that could work with them on a more consistent basis (Jacob et al., 2015; Jacob et al., 2014, J. Johnson, personal communication, October 30, 2015; M. Hill, personal communication, October 21, 2015). One-to-one tutors were volunteers including family members of the student body, teachers, or staff, college students, and other community volunteers. They were trained by the schools' instructional coaches to use guided reading. One-to-one tutoring began the fifth week of school and ended the thirty-fifth week of school.

Small-group tutoring sessions (two to five students) in this study were conducted by volunteers and a retired elementary teacher who were trained by the schools' instructional

coaches to use guided reading (J. Johnson, personal communication, October 30, 2015). The sessions were held for 30-45 minutes during reading time outside of the general classroom twice a week for students who scored between 416 and 430 on the BOG 3. One-to-one and small-group tutoring began the fifth week of school and ended the thirty-fifth week of school. Large-group tutoring sessions (six or more students) were held after school by certified elementary teachers once a week for 50 minutes from the twentieth week of school to the thirty-fifth week. These students scored between 431 and 437 on the BOG 3.

Tutors used the North Carolina Standard Course of Study (NCSCOS), the current curriculum taught throughout North Carolina (North Carolina Public Schools, NCSCOS, 2015). The NCSCOS was comprised of Common Core State Standards and Essential Standards that described what students should know and can do from kindergarten through twelfth grade (Isik, 2014; North Carolina Public Schools, NCSCOS, 2015). Each grade level builds upon the next so that by graduation, all students will be successfully prepared to enter college or the workforce (Coleman & Pimentel, 2012; Lee, 2014; Paul, 2012). The volunteers and retired teachers who served as tutors were trained by the schools' instructional coaches to use guided reading, which was the instructional tool used to develop strong independent readers (J. Johnson, personal communication, October 30, 2015).

Guided reading was the part of the curriculum that was intended to help students acquire the reading behaviors necessary to become independent readers (North Carolina Public Schools Read to Achieve, 2015; NCSCOS, 2015). The tutors adjusted instruction based on the individual reading needs of the students so the tutoring sessions focused on the skills that the individual student needed to work on the most (Chambers et al., 2011; T. Daniels, personal communication, June 9, 2016). The following reading strategies used during the tutoring sessions examined in

this study were described in detail in Chapter Two: duet reading, echo reading, activating prior knowledge, answering and generating questions, making and verifying predictions, and skimming and scanning (Berkeley et al., 2011; Dahl, 1979; Guzel-Ozmen, 2011; Krastin, 2015; Lo et al., 2011; Armbruster et al., 2016; Ogle, 1986). The tutee was provided with a clear description of the strategy, told when it should be used, had the strategy modeled for them, were guided in practicing using the strategy, and allowed to use the strategy independently (Hedin & Gaffney, 2013).

Instrumentation

Per Gall et al. (2007), standardized tests are useful for collecting data in causal-comparative research. The purpose of the North Carolina READY English Language Arts/Reading Assessment for Grade 3, which is the instrument used in this study, is to measure the reading skills of the third graders attending public schools in North Carolina (North Carolina Public Schools Ready Initiative and Read to Achieve, 2015). This standardized test is referred to as the beginning of grade 3 (BOG 3) and end of grade 3 (EOG 3) reading assessment because it is administered to students at the beginning and end of the third grade (see Appendix A).

North Carolina READY English Language Arts/Reading Assessment for Grade 3 was developed to measure students' proficiency on the NC Standard Course of Study (NCSCS) for English language arts, adopted by the North Carolina State Board of Education in June 2010. In order to develop the North Carolina READY English Language Arts/Reading Assessment for Grade 3, the North Carolina Department of Public Instruction invited teachers to collaborate and establish recommendations for prioritizing the standards by indicating the importance of each standard and the appropriateness of the standard for a multiple-choice question (North Carolina

Public Schools, 2015: Testing Program General Information and Polices; Released Test Forms for End-of-Grade; Read to Achieve).

The curriculum and test development staff from the North Carolina Department of Public Instruction met to review the results from the teachers and to develop weight distributions across the domains for grade 3 (see Table 4). Assessment items were developed to ensure that the rigor of the test aligned to the standards in the NC*SCS* for English Language Arts for Grade 3 (North Carolina Public Schools, 2015: Testing Program General Information and Polices; Released Test Forms for End-of-Grade; Read to Achieve).

Table 4

Weight Distributions for the North Carolina READY English Language Arts/Reading Assessment for Grade 3

Domain	Percentage of total items
Reading for Literature	32-37%
Reading for Information	41-45%
Language	20-24%

It contains 42 four-response-option multiple-choice questions. The test is designed for a paper-and-pencil administration. The estimated administration time is the time that NCDPI estimates that it will take for nearly all students to complete the assessment. The allotted time for the BOG3 English Language Arts/Reading Test is 90 minutes. However, students are allowed an additional 90 minutes to work (North Carolina Public Schools' 2015: Read to Achieve, Testing Program and General Information Polices; Released Test Forms for End of Grade). Students are given 2 three-minute breaks during the test. The maximum testing time for the test is 180 minutes (North Carolina Public Schools Ready Initiative and Read to Achieve, 2015).

The NCDPI Division of Accountability Services/Testing Section provides the local education agencies (LEAs) with the answer key equating text file that they need to scan the multiple-choice answer sheets and report student performance at the local level (North Carolina Public Schools' 2015: Read to Achieve, Testing Program and General Information Polices; Released Test Forms for End of Grade). The file allows the following conversions to be possible: raw score to scale score; scale score to percentile; raw score to standard error of

measurement, and scale scores to achievement levels. After the tests, have been administered by the classroom teachers and proctors, the answer sheets are collected and accounted for by the instructional coaches who transport them to and from the board of education (J. Johnson, personal communication, October 30, 2015; J. Sorce, personal communication, November 5, 2015; M. Hill, personal communication, October 21, 2015). The tests are scored at the district's board of education by the associate superintendent for testing and his staff. The scores are distributed to the teachers by the schools' instructional coaches.

Both the BOG 3 and EOG 3 scale scores on the assessment range from 0 – 500. The range of scores for each level yielded the following sorts: level one (0-430), level two (431-437), level 3 (438-442), level 4 (443-451), and level 5 (452 – 500) (North Carolina Public Schools, 2015: Testing Program General Information and Polices; Released Test Forms for End-of-Grade. Read to Achieve).

An achievement level of 5 (452 – 500) or 4 (443-451) indicated that a student had a solid or superior command of the grade-level knowledge and skills assessed by the test and had met the college-and-career readiness standards. College-and Career-Readiness Standards define the knowledge and skills students should master by the end of each grade level to graduate from high school fully prepared to succeed in college, career, and life (Doughtery, 2013). An achievement level of 3 (438-442), indicated a student had a sufficient command of the grade-level knowledge and skills assessed by the test but had not met the college-and-career readiness standard. Achievement level one (0-430) or level two (431-437) meant a student was not reading at grade-level (North Carolina Public Schools, 2015: Testing Program and General Information Polices; Released Test Forms for End of Grade). The maximum points that a student can earn in each domain was as follows: reading for literature (165 points), reading for information (225

points), and language (110 points) (North Carolina Public Schools' Testing Program and General Information Polices; Released Test Forms for End of Grade; Read to Achieve, 2015). The researcher will look at the results as they related to tutoring.

Validity and Reliability

In order to ensure the highest level of test validity, the North Carolina Department of Public Instruction (NCDPI) solicited the expertise of educators, test developers, and testing experts when developing the North Carolina READY English Language Arts/Reading Assessment for grades three through eight to make sure the tests are content based and directly related to the statewide curriculum (North Carolina Public Schools' 2015 Testing Program and General Information Polices; Released Test Forms for End of Grade). This assessment meets the norms for reliability. The internal reliabilities (coefficient alpha) as calculated by Cronbach Coefficient Alpha and Average Proportion Correct for the North Carolina READY English Language Arts/Reading Assessment for Grade 3 by form are as follows: Forms A and C had a reliability of 0.91. Form B had a reliability of 0.92. Form A had a difficulty of 0.71. Forms B and C had a difficulty of 0.74 (North Carolina Public Schools', 2015 Testing Program and General Information Polices; Released Test Forms for End of Grade). The North Carolina Department of Public Instruction maintains that these statistics are consistent with previous administrations of the test (North Carolina Public Schools' 2015 Testing Program and General Information Polices). The instrument was used in numerous studies (e.g. Smithson, 2015; Stoops, 2013; Turner, Drill, Hill, & Sharp, 2017).

Procedures

The researcher applied for the Use of Human Research Participants to the Liberty University Institutional Review Board (IRB) (see Appendix B). After receiving IRB approval,

the researcher submitted the consent form for dissertation research to the stated county schools' district's research committee (see Appendix C). The researcher did not receive a signed copy of the form. The district's Associate Superintendent for Evaluation and Testing provided the researcher with written consent via e-mail. The e-mail was submitted with the researcher's IRB application. Once the researcher's consent form was approved by the district's research committee, the researcher collected the following de-identified archived data from the district's Associate Superintendent for Evaluation and Testing on a flash drive during a face to face meeting: tutoring type, gender, ethnicity, BOG 3, and EOG 3 reading scores for the 2016-2017 school year. The third graders' information was organized in a Microsoft Excel spreadsheet containing columns for the independent variables (tutoring type (0 – one-to-one tutoring; 1 – small group tutoring; 3 – large group tutoring), gender (0 – male; 1 – female), and dependent variables (BOG 3 and EOG 3 Reading scores for the 2016-2017 school year). The researcher knew what type of tutoring the students received based on their BOG 3 scores and the data received from the district's Associate Superintendent for Evaluation and Testing. As mentioned in the settings section, students were placed into the tutoring groups based on their BOG 3 score (J. Johnson, personal communication, October 30, 2015). Students who scored less than 415 on the BOG 3 were recommended for one-to-one tutoring. For the students who scored between 416 and 430 on the BOG 3, small-group tutoring was suggested by their teachers, reading specialist, or administrator. Large-group tutoring sessions were reserved for those students scoring between 431-437 on the BOG 3. The data was entered in SPSS by the researcher to determine the effectiveness of the specific types of tutoring as interventions for helping third graders score at or above grade level on the state standardized reading examination. Students' scores from each tutoring group were compared to see which group had the largest gains. To

account for students at different academic levels participating in different types of tutoring, tests for bias were completed to control for these potential variables (Gall et al., 2007). The data collected for this study was secured by encrypting the Excel spreadsheets. The researcher was the only person with access to the data that was collected. Once the data is no longer needed, the data files will be deleted from the researcher's computer and flash drive will be reformatted.

The researcher did not incur any costs regarding the training for the tutoring, administering, or scoring of the tests, as the school district assumed these responsibilities. The BOG3 served as a benchmark that teachers used to measure their students' reading ability before instruction began. They used the students' BOG3 scoring information to guide their instruction. None of the students who participated in this study scored above 437 on the BOG 3 assessment. A score of 438 or above indicated that a student was reading at the third-grade level.

Data Analysis

The researcher conducted an exploratory data analysis and computed descriptive statistics for each tutoring group (Gall et al., 2007). The two-way Analysis of Variance (ANOVA) statistical procedure was used to determine if the effects of one type of tutoring were better than the effects of another specific type of tutoring on the reading scores of third graders. The two-way ANOVA allowed the two independent variables (tutoring types and gender) and one dependent variable (reading scores) to be examined, so the researcher could calculate the students' growth regardless of the tutoring group they were assigned (Gall et al., 2007). It also allowed the researcher to test for the effect of each of the independent variables and an interaction effect (Gall et al., 2007; Pyrczak, 2010; Warner, 2013).

Three *F* tests were conducted (one for each of the three null hypotheses) and the probability associated with each was determined by computing independent sample *t* tests (Gall

et al., 2007; Pyrczak, 2010; Warner, 2013). The *F* test was closely related to the *t* test. The *F* test, however, was used to test the differences between more than two means (Warner, 2013). To examine any evidence of pre-treatment equality of the three tutoring groups that were already established, two-tailed independent sample *t* tests were conducted on the pretest scores between the three groups. Partial Eta Squared was calculated to determine the effect size (Warner, 2013). For a medium effect size with statistical power of .7 at a probability of less than .05, the null hypothesis would be rejected and the main effect or interaction being tested would be statistically significant because of the number of participants sampled (Gall et al., 2007). If there is a significant result for the main null hypothesis, a post hoc analysis would be done (Warner, 2013).

The assumption of randomness for the two-way ANOVA was tested by examining the research design of this study because the tutoring groups were established before the research began (Gall et al., 2007). The other assumptions for the two-way ANOVA were also tested. For data screening, the data was sorted to check for any data inconsistencies and outliers using a Box and Whisker Plot for each group (Green & Salkind, 2014; Pyrczak, 2010; Warner, 2013). The dependent variables (reading scores) were measured on an interval from 0 and 500 (North Carolina Public Schools, Ready Initiative, 2015). The observations within each variable were independent because no student participated in more than one type of tutoring. Normality was checked the Kolmogorov-Smirnov test ($p > .05$) (Green & Salkind, 2014; Pyrczak, 2010; Warner, 2013). Levene's Test for Equality of Variance was conducted to determine if all the groups in the sample population have equal variances ($p > .05$) (Gall et al., 2007; Warner, 2013).

CHAPTER FOUR: FINDINGS

Overview

A quantitative causal-comparative research design was used to determine the effects of three types of school-based tutoring and gender on the reading assessment scores of 2,565 third graders attending 43 Title I elementary schools located in southeastern North Carolina. The two-way Analysis of Variance (ANOVA) statistical procedure was selected to test for the effects of each of the independent variables (tutoring types and gender) and the interaction effects on the dependent variable (the difference in the students' reading scores on the BOG and EOG North Carolina READY English Language Arts/Reading Assessment) (Gall et al., 2007; Pyrczak, 2010; Warner, 2013). The independent variable, gender, included two categories: (a) male and (b) female. The independent variable, types of school-based tutoring, included three categories: (a) one-to-one, (b) small-group, and (c) large-group. This chapter will begin by stating the research question and the null hypotheses that guided the study. The descriptive and frequency statistics will follow. The results for each of the hypotheses and a summary of the study's results are presented to conclude this chapter.

Research Question

The following research question guided this study:

RQ1: Is there a difference among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring?

Null Hypotheses

The null hypotheses for this study were the following statements:

$H_0$1: There is no significant difference among the reading achievement scores of third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring.

$H_0$2: There is no significant difference between the reading achievement scores of male and female third grade students.

$H_0$3: There is no significant interaction among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring.

Descriptive Statistics

Data for the descriptive statistics are reported as mean ± standard deviation. Table 5 provides the descriptive statistics by tutoring groups for the third grade students who took the BOG and EOG North Carolina Reading Assessment during the 2016-2017 academic year. The table indicated that for males and females participating in one-to-one tutoring, the mean difference in the EOG and BOG scores was 9.70 ± 7.13 and 8.08 ± 5.32 respectively. The mean difference in the EOG and BOG scores for males and females participating in small-group tutoring was 7.47 ± 7.39 and 8.11 ± 6.32 respectively. For males and females participating in large group tutoring, the mean difference in the EOG and BOG scores was 7.33 ± 5.31 and 6.72 ± 5.15.

The mean difference in the EOG and BOG scores for both males and females participating in one-to-one tutoring was 9.12 ± 6.55. For both males and females participating in

small-group tutoring, the mean difference in the EOG and BOG scores for both males and females participating in large group tutoring was 7.75 ± 6.95.

Table 5

Descriptive Statistics for Difference between BOG and EOG Scores

Gender	Tutoring Type	Mean	Std. Deviation	N
Male	One-to-one Tutoring	9.7031	7.12625	64
	Small Group Tutoring	7.4690	7.38788	870
	Large Group Tutoring	7.3305	5.30836	466
	Total	7.5250	6.76667	1400
Female	One-to-one Tutoring	8.0833	5.32045	36
	Small Group Tutoring	8.1070	6.31800	673
	Large Group Tutoring	6.7165	5.15325	456
	Total	7.5627	5.89434	1165
Total	One-to-one Tutoring	9.1200	6.55248	100
	Small Group Tutoring	7.7472	6.94659	1543
	Large Group Tutoring	7.0271	5.23848	922
	Total	7.5421	6.38425	2565

Table 6 provides the frequency statistics for the third graders who took the BOG and EOG North Carolina Reading Assessment during the 2016-2017 academic year. The table indicated that the mean difference in scores was 7.54, the median difference in scores was 8, and the mode difference in test scores was 7.

Table 6

Frequency Statistics for Difference between BOG and EOG Scores

N	Valid	2565
	Missing	0
Mean		7.54
Median		8.00
Mode		7.00

Results

Data Screening

Data screening included checking for normality and testing for extreme outliers. A Kolmogorov-Smirnov Test ($p > .05$) (see Table 7) was used to examine normality because the sample was larger than 50 (Green & Salkind, 2014; Pyrczak, 2010; Warner, 2013). Table 7 indicated that all of the variables met the assumption of normality because the *p*-values were non-significant. Levene's Test for Equality of Variance (see Table 8) was conducted to determine if all the groups in the sample population had equal variances (Gall et al., 2007; Warner, 2013). An alpha of .05 or less was also used (Gall et al., 2007). Leven's test results, $F(5, 2558) = 20.99$, $p > .05$, showed that the variances of the difference in the BOG and EOG scores was not significant across the tutoring groups. A box and whisker plot was created to show each of the BOG and EOG reading scores, which were the dependent variables, for one-to-one, small- group and large-group tutoring (see Figure 7). Box and whisker plots were also created to test for extreme outliers for the males and females in each one of the three types of tutoring (see Figures 8-13). There were two outliers (cases 1,467 and 1,966) due to data entry

errors (see Figure 12). When the errors were corrected, there were no outliers noted in the boxplots.

The two-way Analysis of Variance (ANOVA) statistical procedure was used to determine the effects of gender and tutoring type on the reading scores of third graders. As mentioned in Chapter 3, the assumption of randomness for the two-way ANOVA was tested by examining the research design of this study because the tutoring groups were established before the research began (Gall et al., 2007). The dependent variables (reading scores) were measured on intervals from 0 and 500 (North Carolina Public Schools, Ready Initiative, 2015). The observations within each variable were independent because no student participated in more than one type of tutoring. All of the assumptions were met for the two-way ANOVA.

Table 7

Kolmogorov-Smirnov Tests of Normality for EOG_ BOG

Gender	Tutoring Type	Statistic	df	Sig.
Male	One-to-one Tutoring	.086	64	.200
	Small Group Tutoring	.049	870	.148
	Large Group Tutoring	.057	466	.125
Female	One-to-one Tutoring	.125	36	.173
	Small Group Tutoring	.048	673	.200
	Large Group Tutoring	.058	455	.161

Table 8

Levene's Test of Equality of Error Variances

Dependent Variable: Difference of Scores

F	df1	df2	Sig.
20.997	5	2558	.635

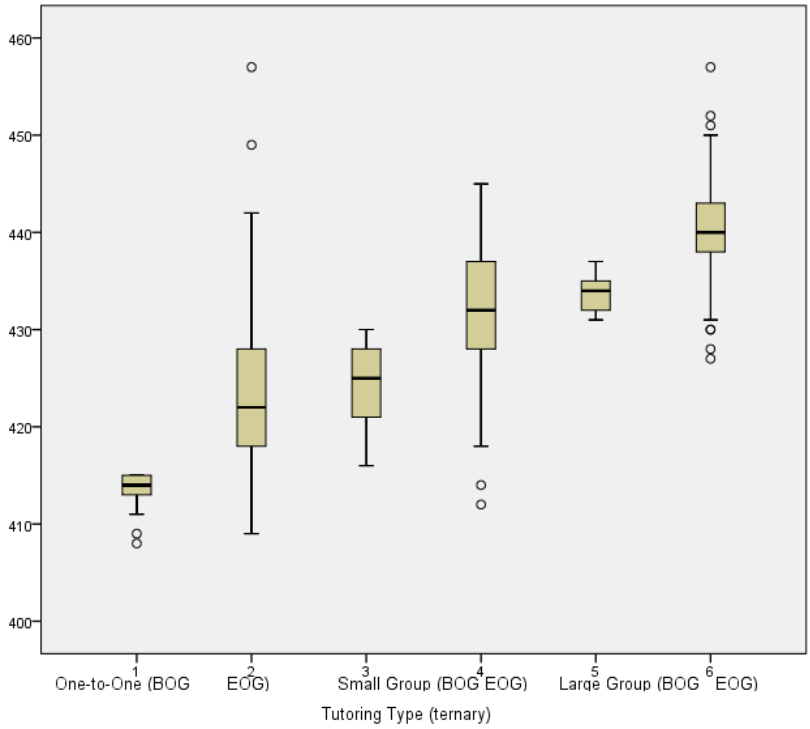

Figure 7: Box and whisker plot for each of the BOG and EOG Reading Scores

Figure 8: Box plot for the difference in reading scores for males participating in one-to-one tutoring (EOG – BOG).

Figure 9: Box plot for the difference in reading scores for males participating in small-group tutoring (EOG – BOG).

Figure 10: Box plot for the difference in reading scores for males participating in large group tutoring (EOG – BOG).

Figure 11: Box plot for the difference in reading scores for females participating in one-to-one tutoring (EOG – BOG).

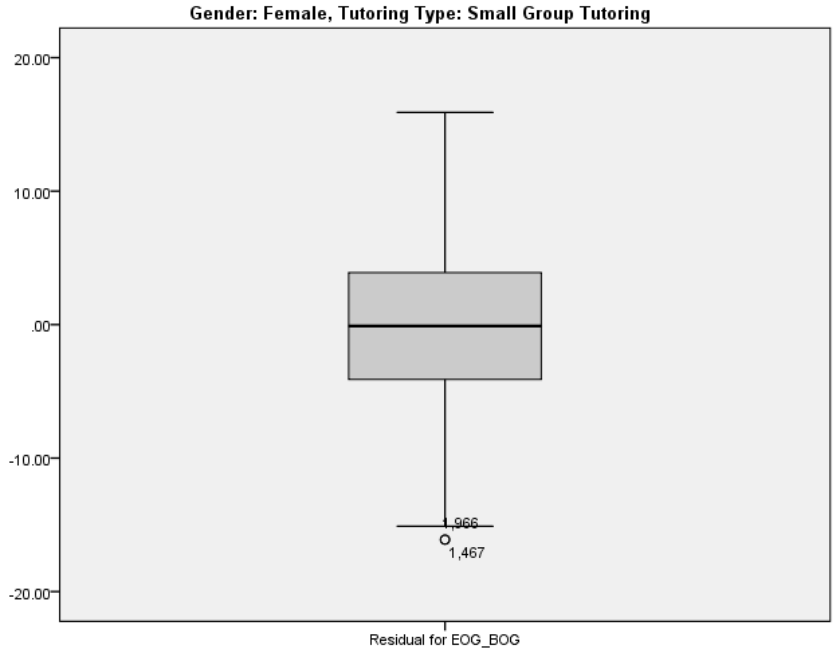

Figure 12: Box plot for the difference in reading scores for females participating in small-group tutoring (EOG – BOG).

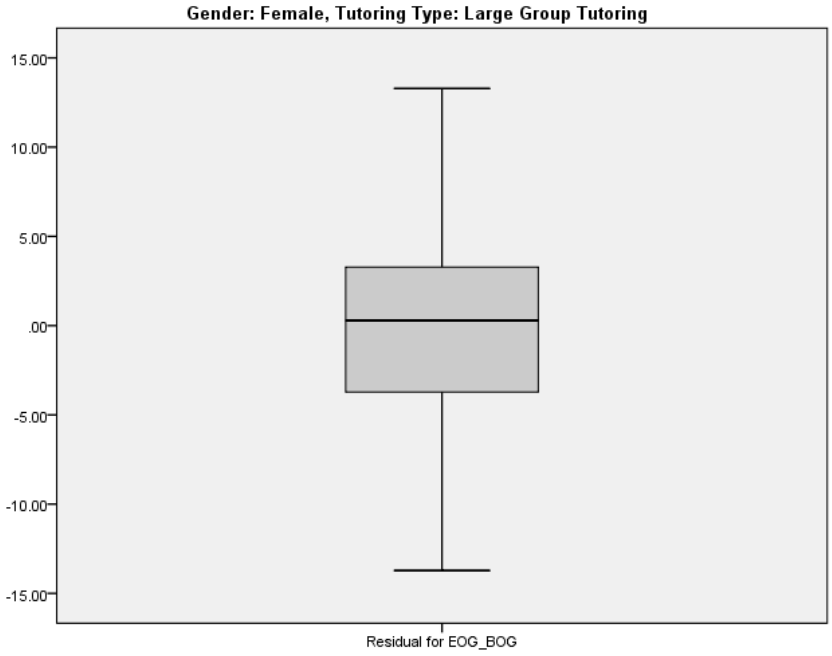

Figure 13: Box plot for the difference in reading scores for females participating in large group tutoring (EOG – BOG).

The mean difference in reading scores for females participating in one-to-one, small-group, and large group tutoring were 8, 8, and 7 points respectively. The mean difference in reading scores for males participating in one-to-one, small-group, and large group tutoring were 10, 8, and 7 points respectively.

Null Hypothesis One

The first research hypothesis for this study was that there is no significant difference among the reading achievement scores of third grade students who participated in one-to-one tutoring, small-group tutoring, or large-group tutoring. This hypothesis was rejected because there was a statistically significant difference in mean reading scores between females and males participating in one-to-one, small-group and large-group tutoring. The main effect of tutoring type on the difference in scores was significant, F (2, 2558) = 6.27, p = .002, partial $\eta 2$ = .005 (see Table 10). The difference in the reading scores was higher for students participating in one-on-one tutoring (M = 9.12, SD=6.55, N=100) than for students participating in small-group tutoring (M = 7.74, SD=6.95, N= 1,543) or large-group tutoring (M = 7.02, SD= 6.38, N=922). For males and females participating in school-based tutoring, the mean difference in scores was 1.11, 95%, CI. [0.66 to 0.16], higher for one-to-one tutoring than small-group tutoring (see Table 11). The mean difference in scores was 1.87, 95%, CI. [0.66 to 0.21], higher for one-to-one tutoring than large-group tutoring (see Table 13). The mean difference in scores was 0.765, 95%, CI. [0.16 to 0.21], higher for small-group tutoring than for large-group tutoring (see Table 13). The mean difference between the EOG and BOG reading assessment scores was not equal for the three types of tutoring. The results of the Post Hoc Analysis, the Tukey HSD test are shown in Table 9. The mean point difference in EOG and BOG reading assessment scores between one-to-one and small-group tutoring was 1.37 ± 6.75. The mean point difference in

EOG and BOG reading assessment scores between one-to-one and large-group tutoring was 2.09 ± 5.90. The results demonstrated the mean point difference between EOG and BOG reading assessment scores was statistically significant at $p < .05$ when comparing one-to-one to small group tutoring and one-to-one to large-group tutoring. The mean point difference in EOG and BOG reading assessment scores between small-group and large-group tutoring was 0.720 ± 6.09. The results demonstrated the mean point difference between EOG and BOG reading assessment scores was not statistically significant when comparing small group to large-group tutoring.

Table 9

Tukey HSD for the Difference in EOG and BOG Reading Assessment Scores

(I)EOG Score	(J) BOG Score	Mean Difference (I – J)	Standard Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
One-to-one	Small	1.373	1.218	.017	7.468	-10.193
	Large	2.093	1.218	.000	-6.612	7.435
Small Group	One-to-one	-1.373	1.218	.017	10.193	-7.468
	Large	0.720	1.218	.532	7.593	8.108
Large Group	One-to-one	-2.093	1.218	.000	-7.435	6.612
	Small	-0.720	1.218	.532	-8.108	-7.593

Null Hypothesis Two

The second research hypothesis for this study was that there is no significant difference between the reading achievement scores of male and female third grade students. This hypothesis failed to be rejected because there was not a statistically significant difference in mean reading scores between females and males. A non-significant main effect of gender on the difference of scores was found, F (1, 2558) = 1.25, p = .264, partial $\eta 2$=.000 (see Table 10). The difference in the reading scores was higher for males (M = 8.17) than for females (M = 7.64). The mean difference in the EOG and BOG scores for all three types of tutoring for males was 7.53 ± 6.77. The mean difference in the EOG and BOG scores for all three types of tutoring for females was 7.56 ± 5.89. Data are reported as mean ± standard deviation. For males and females participating in one-to-one tutoring, the mean difference in the EOG and BOG scores was 9.70 ± 7.13 and 8.08 ±5.32. The mean difference in the EOG and BOG scores for males and

females participating in small-group tutoring was 7.47 ± 7.39 and 8.11 ± 6.32. For males and females participating in large group tutoring, the mean difference in the EOG and BOG scores was 7.33 ± 5.31 and 6.72 ± 5.15. For males and females participating in school-based tutoring, the mean difference in scores was 0.532, 95%, CI. [0.29 to 0.38], higher for males than females (see Table 12).

Null Hypothesis Three

The third research hypothesis for this study was that there was no significant interaction among the reading achievement scores of male and female third grade students who participated in one-to-one tutoring, small-group tutoring, or large-group tutoring. This hypothesis was rejected because there was a statistically significant interaction between gender and tutoring type for the difference in the BOG and EOG reading scores, F (2, 2558) = 3.65, p =.026, partial $\eta 2$=.003 (see Table 10). All pairwise comparisons were run for each simple main effect with reported 95% confidence intervals and p-values Bonferroni adjusted within each simple main effect. For males and females participating in one-to-one tutoring, the mean difference in scores was 1.620, 95%, CI. [-0.98 to 4.22], higher for males than females (see Table 11). The mean difference in scores for males and females participating in small-group tutoring was 0.638, 95%, CI. [-0.00 to 1.28], higher for females than males (see Table 11). For males and females participating in large-group tutoring, the mean difference in scores was 0.61, 95% CI. [-0.21 to 1.44)], higher for males than females (see Table 11).

Table 10

Tests of Between-Subject Effects

Dependent Variable: Difference of Scores

Source	df	F	Sig.	Partial Eta Squared
Gender	1	1.25	0.264	0.000
Tutoring_type	2	6.27	0.002	0.005
Gender*Tutoring_Type	2	3.65	0.026	0.003
Error	2,558			

Table 11

*Estimated Marginal Means for Gender * Tutoring Type*

Dependent Variable: Difference of Scores

Gender	Tutoring Type	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Male	One-to-one Tutoring	9.703	0.796	8.143	11.263
	Small Group Tutoring	7.469	0.216	7.046	7.892
	Large Group Tutoring	7.330	0.295	6.752	7.909
Female	One-to-one Tutoring	8.083	1.06	6.003	10.163
	Small Group Tutoring	8.107	0.245	7.626	8.588
	Large Group Tutoring	6.71	0.298	6.131	7.302

Table 12

Estimated Marginal Means for Gender

Dependent Variable: Difference of Scores

Gender	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Male	8.168	0.292	7.595	8.740
Female	7.636	0.376	6.898	8.373

Table 13

Estimated Marginal Means for Tutoring Type

Dependent Variable: Difference of Scores

Tutoring Type	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
One-to-one	8.893	0.663	7.593	10.193
Small Group	7.788	0.163	7.468	8.108
Large Group	7.023	0.210	6.612	7.435

CHAPTER FIVE: CONCLUSIONS

Overview

This chapter will begin with a discussion regarding the purpose and a brief overview of the study. The results of the study, which were organized around the three hypotheses, will also be discussed in this chapter. The implications of the study will be stated next. Limitations that impacted the study will follow. Recommendations for further research will conclude the chapter.

Discussion

The purpose of this quantitative, causal-comparative study was to determine if there was a significant difference among the reading achievement scores of 2,565 male and female third graders attending Title I elementary schools in a large rural school district in southeastern North Carolina who participated in one-to-one tutoring, small-group school-based tutoring, or large-group school-based tutoring. As indicated earlier, third grade students who were not reading on grade level were assigned to one of three tutoring groups: (a) one-to-one, (b) small-group, and (c) large-group. The difference in reading scores of the students in each of the other groups were compared to each other to answer the following question: Is there a difference among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring? This question will be discussed based on the results, which are organized around the hypotheses, obtained from the analysis. The practical implications of the results, the limitations of the study design, and recommendations for further research will also be discussed.

Null Hypothesis One

The first research hypothesis for this study was that there is no significant difference among the reading achievement scores of third grade students who participated in one-to-one tutoring, small-group tutoring, or large-group tutoring. The difference in the mean reading scores was calculated by averaging the difference between the participants' BOG and EOG scores (EOG score – BOG score). The analysis indicated that students' reading skills improved more in one-to-one tutoring when compared to the students who participated in small-group or large group tutoring. The average points gained from the BOG and EOG assessment for students who participated in one-to-one tutoring was nine. Seven points was the average points gained from the BOG 3 and EOG 3 assessment for students who participated in small group and large group tutoring. This hypothesis was rejected because there was a statistically significant difference in the mean reading scores between the third graders in this study who participated in one-to-one, small-group and large-group tutoring. The point gains may seem minimal, but the slightest increase in points could raise a students' reading level. Both the BOG 3 and EOG 3 scale scores on the assessment range from 0 – 500. The levels and the range of scores for the BOG 3 and the EOG 3 are: level one (0-430), level two (431-437), level 3 (438-442), level 4 (443-451), and level 5 (452 – 500) (North Carolina Public Schools, 2015; Testing Program General Information and Polices; Released Test Forms for End-of-Grade. Read to Achieve). Third graders are required to be at a level 3 or higher in order to be promoted to the third grade. The range in the scores in the levels demonstrate that a one point gain could determine if a third grader is promoted to the fourth grade or remains in third grade for the next academic year.

The results of this study aligned with the literature stating that one-to-one tutoring is one of the most effective forms of instruction in comparison to small-group and large-group tutoring,

and that RTI can strengthen the effectiveness of reading instruction for elementary students (Chambers et al., 2011; Denton, 2013; Jacob et al., 2015; Lee, 2014; Mokhtari et al., 2011; Mokhtari et al., 2015; Reis et al., 2011; Schwartz et al., 2012; Slavin et al.).

Chambers et al. (2011), for example, evaluated the reading assessment scores of first and second grade students who participated in the tutoring programs featured in their study regarding the effects of one-to-one and small group tutoring conducted by certified teachers. The tutoring activities used in Chambers et al.'s (2011) study covered some of the same skills as the tutoring activities in the tutoring groups in this study such as: phonemic awareness, concepts about print, letter skills, sight words, vocabulary, tracking, fluency, comprehension, and writing. Chambers et al. (2011) also found that students who participated in one-to-one tutoring outperformed students who did not participate, which aligned with the results of this study indicating that students participating in one-to-one tutoring had a greater positive mean difference between their BOG and EOG scores.

First and fifth grade participants, who were struggling with reading, participated in a study by Fuchs et al. (2012), which examined RTI services similar to the ones that the students featured in this study received. The results of the study by Fuchs et al. (2012) and this research study both implied that RTI services such as school-based tutoring can strengthen the effectiveness of reading instruction for elementary students.

Greenwood et al. (2015) conducted research on the evidence-based reading assessments and literacy curriculum resources for preschoolers. The preschoolers who participated in the study received Tier 2 and Tier 3 interventions similar to the tutoring programs provided to the at-risk students in the 43 Title I elementary schools in a large rural school district in southeastern North Carolina featured in this study. Classroom teachers used a supplemental reading

curriculum, which consisted of using two storybook programs that contained embedded instruction and automated scripted audio lessons in small-group sessions (Greenwood et al., 2015; Kelly et al., 2015). The interventions were found to produce strong effects on improving the students' literacy skills, which was supported by the results of this study.

Denton et al. (2013) conducted a study to determine the effects of a one-to-one tutoring program using second grade students in 10 elementary schools in the southwestern United States. The 72 students took a pre-test and a posttest similar to the BOG and EOG tests taken by the participants in this study. Their results, like the results of this study, showed improvement in the students' literacy skills after participating in one-to-one tutoring.

Jacob et al. (2015) evaluated Reading Partners programs, which used community volunteers to provide one-to-one tutoring to struggling readers in under resourced elementary schools throughout California, Colorado, New York, Oklahoma, Maryland, South Carolina, Texas, and Washington, DC. Their studies showed that the program significantly increased students' reading proficiency (Jacob et al., 2015). The Reading Partners program was effective for male and female students at different baseline reading achievement levels, which was the same for the results of this study.

Mokhatari et al. (2015) assessed the effectiveness of a supplemental reading intervention on the reading achievement outcomes of 12 first graders in the southwestern United States. The students were selected because they scored in the lowest performing quartile among all first-grade students on the district's benchmark assessment. The third graders selected as participants in this study performed below the third grade reading level on their district's BOG test and required to participate in tutoring. In both studies, students' reading achievement outcomes were assessed at the beginning and end of the school year. After one-to-one tutoring, the students in

both studies read significantly more proficiently than students who did not participate in one-to-one tutoring.

The results of this study also supported the research of Isik (2015) and Nelson-Royes and Reglin (2011). After examining a large-group reading tutoring program for students in an urban middle school and an urban elementary school, their results, which were similar to the results of this study, showed that large-group tutoring slightly increased reading scores on standardized tests for males and females (Isik, 2014; Nelson-Royes & Reglin, 2011). The results of this study also coincide with the results of the study by Zumeta et al. (2015), which reported an increase in the reading performance of students enrolled in large group tutoring programs that focused on the literacy.

The results of the studies by Denton (2012) and Mokhtari et al. (2015), like the results of this study, indicated a growth in reading skills for students in large group tutoring held after school. The tutors worked to address the basic needs of the individual students while constantly looking for creative ways to engage students in learning the objectives. The results of this study also supported the results of the longitudinal study by McBride et al. (2011) of the nationwide Experience Corps volunteer tutoring program. Classroom volunteers assisted 20,000 low-reading students in 23 cities. The study found an increase in the reading performance of these students who participated in the one-to-one or small-group tutoring programs that were provided (McBride et al, 2011). The students' improvement was based upon their reading assessments scores before and after participation in the program.

The results of this study contradicted the research of Denton et al. (2011), Hedin and Gaffney (2013), and Miller and Connolly (2013) that concluded that a one-to-one tutoring or

small group tutoring did not have a significant effect on the reading skills for a group of elementary students from nineteen schools.

Denton et al. (2011) compared the effects of reading outcomes of delivering supplementary small group intervention to 192 first-grade students at risk for reading difficulties randomly assigned to one of three different tutoring schedules: extended (four sessions per week, 16 weeks), concentrated (four sessions per week, 8 weeks), or distributed (two sessions per week, 16 weeks). The tutoring was conducted by 14 tutors who were not certified teachers. The groups from nine schools in two districts (urban and rural) did not differ significantly on any reading outcome related to the intervention duration or scheduling.

The results of this study also contradicted the research conducted by Hedin and Gaffney (2013). Hedin and Gaffney (2013) reported that 26 sixth graders in Illinois who participated in literacy tutoring in small groups did not outperform their peers on their state's reading assessment who did not receive the supplemental support. The results of this study showed that the average points gained by third graders participating in small group tutoring was seven.

Miller and Connolly (2013) conducted a study of the Time to Read, a program which used volunteer tutors to help children ages 8 to 9 years old in one-to-one settings improve their reading comprehension. They concluded that the program used in 200 primary schools in Northern Ireland did not have a significant effect on the students' literacy performance, which contradicted the results of this study which showed one-to-one tutoring increasing third-graders reading assessment scores on average by nine points.

The results of this study also contradicted research studies that showed students who participated in large-group tutoring by certified teachers scored significantly higher in reading

post tutoring than students who did not participate in the large-group tutoring or were tutored by retired teachers or volunteers (Cassidy & Ortlieb, 2013; Johnson et al., 2013).

The third graders in this study who participated in large group tutoring by a certified teacher had an average point gain of only seven points; whereas, the third graders participating in one-to-one tutoring by a non-certified teacher gained nine points. The results of this study support Vygotsky's (1978) theories of cognitive and social development. Both the cognitive and social development theories suggest that children learn through interactions with others. The cognitive and social development theories explain why the third-graders in this study improved their reading skills after participating in tutoring. The results of this study supported Vygotsky's (1978) theories, which emphasized the importance of tutoring provided by schools. The points gained by the third graders who participated in tutoring sessions could be attributed to the assistance that they were provided with on individual concepts to help them become more proficient readers (Wijekumar, Meyer, Lei, Lin, Johnson, Spielvogel, & Cook,, 2014). Their teachers in the regular classroom settings may not have been able to give them the attention needed because of the number of students in the class.

Null Hypothesis Two

The second research hypothesis for this study was that there was no significant difference between the reading achievement scores of male and female third grade students. The results of this study showed that the mean difference in reading scores between males and females did not even differ by a point. The mean difference in the EOG and BOG scores for all three types of tutoring for males and females was respectively, 7.53 and 7.56. The mean difference in the EOG and BOG scores for one-to-one tutoring for males and females was 9.70 and 8.08. This difference of 1.62 points was the largest difference in comparison to small group and large group

tutoring. The mean difference in the EOG and BOG scores for small group tutoring for males and females differed by 0.64. The difference in the EOG and BOG mean difference reading scores for large group tutoring for males and females was 0.61. The second hypothesis failed to be rejected because there was not a statistically significant difference in mean reading scores between females and males. The results of this study showed no significant difference between the mean difference in the EOG and BOG scores for all three types of tutoring for males than for females.

The results of this study supported the research by Chang (2011), which investigated the grade level and gender differences in a school-based reading tutoring program for 51 first graders and 75 second graders. The results showed that first-grade struggling readers had a significantly higher reading gain than second-grade struggling readers and that males in grades three and below had larger increases in reading scores after tutoring than females (Chang, 2011).

Wang and Carr (2014) focused on the mental rotations in gender differences. Their results, which favored male students in elementary school, were supported by this research study. The results of this study showed that although it was not a significant difference in their reading assessment average scores, the male third graders performed better than the females in each tutoring group.

This study showed that the third grade males participating in one-to-one tutoring and large-group tutoring had a higher mean difference in their EOG and BOG scores than females. The mean difference in EOG and BOG scores for females was only higher than males after participating in small-group tutoring sessions. The results of this analysis were contrary to the literature highlighting achievement gaps between males and females, and that males perform lower than girls in literacy on standardized reading assessments. Jung et al. (2011) conducted an

evaluation study to determine how long it would take for a group of struggling readers to reach state achievement levels after being tutored. The results showed that reading performance of the students improved after tutoring, and the majority of the female students had a greater point gain when comparing their reading assessment tests before and after tutoring (Jung et al., 2011).

Similar results were found after Robinson and Lubienski (2011) analyzed national longitudinal data regarding male and female achievement in math and reading. They determined that third-grade females would outperform their male peers on standardized reading assessments. Research conducted by Cassidy and Ortlieb (2013) indicated that girls who participated in school-based tutoring outperformed boys in reading achievement in every state. Price- Mohr & Price (2016) surveyed primary schools in England and found that girls outperformed boys in reading, and the gender gap remained an issue. Genlott and Grönlund (2016) reported that males perform lower than females in reading achievement in countries that are part of the Organization for Economic Cooperation and Development (OECD). OECD countries include: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Lativa, Luxembourg, Mexico, Netherland, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovnia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (Genlott & Grönlund, 2016).

Null Hypothesis Three

The third research hypothesis for this study was that there was no significant interaction among the reading achievement scores of male and female third grade students who participate in one-to-one tutoring, small-group tutoring, or large-group tutoring. The difference in the BOG and EOG reading scores were affected by the categorical variables in this study, which included the participants' gender and tutoring group. Male and female third graders who participated in

one-to-one tutoring raised their reading scores more than male and female third graders who participated in small-group or large-group tutoring. Males who participated in one-to-one tutoring raised their reading scores more than males who participated in small-group or large-group tutoring. Whereas, females who participated in small-group tutoring raised their reading scores more than those who participated in one-to-one or large-group tutoring. This hypothesis was rejected because there was a statistically significant interaction between gender and tutoring type for the difference in the BOG and EOG reading scores for the participants in this study.

The results of this study supported the research of several studies mentioned in the discussion for the second hypothesis that have found evidence of interaction between the reading achievement scores of male and female students participating in school-based tutoring. Chang (2011) showed an interaction between gender and tutoring type for the difference in the BOG and EOG reading after determining that first-grade males in grades three and below had larger increases in reading scores after participating in school-based tutoring than females. The results of this study also supported the research of Wang and Carr (2014), which determined that male students in elementary school performed better than female students after receiving tutoring sessions. Genlott and Grönlund (2016), for example, documented the achievement gaps between males and females and that males perform lower than girls in literacy on standardized reading assessments after participating in school-based tutoring in OECD countries. Jung et al. (2011) showed that reading performance of female students improved more than male students after tutoring. Similar results were found by Robinson and Lubienski (2011) after they analyzed national longitudinal data and determined that third-grade females outperformed their male peers on standardized reading assessments after participating in tutoring offered by schools. Research conducted by Cassidy and Ortlieb (2013) indicated that girls who participate in school-based

tutoring outperformed boys in reading achievement in every state. Price- Mohr and Price (2016) surveyed primary schools in England and found that girls outperformed boys in reading and the gender gap remained an issue.

The results of this study contradicted the results in a research study conducted by Slavin et al. (2011), which examined the academic results for struggling readers in kindergarten through fifth grade after they participated in one-to-one tutoring, small-group tutoring, classroom instructional process approaches, and computer-assisted instruction. Slavin et al. (2011) reported that the gender of an elementary student was not related to their tutoring experience.

Implications

Since the difference in the reading scores of male and female third-graders participating in one-to-one, small-group, and large-group tutoring varied, the findings have important practical implications. Students who participated in large-group tutoring, which was conducted by certified classroom teachers at the schools, gained the least amount of points on their reading assessment. These results support the research noting that large-group tutoring offered by schools can be more of the same type of instruction that did not work the first time and does not allow the tutor to differentiate instruction to students' needs as much as one-to-one tutoring does (Calderon et al., 2011; Denton et al.; Lee, 2014; Mokhtari et al., 2011; Reis et al., 2011; Schwartz et al., 2012; Slavin et al.; Warren-Kring & Rutledge, 2011).

The results of this study provide data that school leaders could use to make evidenced-based decisions when planning, adopting, and revising reading tutoring programs that are best for their student population (Holliday, 2012, Slavin et al., 2011). The findings provide an argument against the use of standard protocol interventions, which are normally used by the school district because they require less professional development, time and money. The reading

skills of the participants in this study increased more when activities were personalized for them. The results of this study support the need for more individualized interventions for at-risk third graders. The need for more state and local funding to continue, increase, and improve the school district's tutoring programs and professional development for teachers and volunteers so that no third grader is retained due to poor reading skills is also substantiated by the data revealed in this study since small-group tutoring and large-group tutoring are used more frequently in public schools rather than one-to-one tutoring because of budget restraints (Sabatini et al., 2011; Slavin et al., 2011). Although one-to-one tutoring is normally the most expensive type of tutoring, the cost could be justified by the results of this study, which showed that one-to-one tutoring can make a difference for a child at a critical point in their reading development and reduce later needs for special education, remediation, or grade retention (Slavin et al., 2011). If schools use the data from this study to revise their tutoring programs to include activities that work best for individual children, they could receive additional state funding if their students' scores increase (North Carolina Public Schools, 2015; Report Cards).

Limitations

This study was limited to 2,565 male and female third grade students in a large rural school district in southeastern North Carolina. Therefore, because of the generalization, it cannot be determined if school-based tutoring will affect other third graders outside of this school district. This study was also limited in randomization because the tutoring groups were already established. Since the participants in this study were not assigned to groups at random, every participant did not have an equal chance of being included in any one of the tutoring groups. If the participants were randomly assigned to the tutoring groups, the results of this study probably would have yielded a closer approximation when determining the mean difference in the BOG

and EOG reading assessment scores. There would have been no systematic bias in the groups in regard to the participants' attributes such as academic performance that may affect the dependent variables, which were the BOG and EOG reading assessment scores.

Recommendations for Further Research

The following recommendations for further research are based on the results of this study:

1. A qualitative study should be conducted to track the literacy competency levels of the participants in this study as they matriculate through school to determine if a gap still remains.
2. A mixed-methods study should be conducted to examine the literacy skills that are being taught by third grade teachers whose students perform at or above grade level on the North Carolina READY English Language Arts/Reading Assessments for grade 3 (End-of-Grade 3 [EOG 3]) versus third grade teachers whose students do not perform at or above grade level.
3. A mixed-methods study should be conducted to examine the literacy skills that are being taught by second grade teachers in the district whose previous students perform at or above grade level on the North Carolina READY English Language Arts/Reading Assessments for grade 3 (Beginning-of-Grade 3 [BOG 3]) versus second grade teachers whose students do not perform at or above grade level.
4. This study should be extended to include other school districts to determine if the results would be similar.

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APPENDICES

Appendix A

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

August 3, 2017

Jenny Washington
IRB Application 2943: The Effects of School-Based Tutoring on the Reading Scores of Third Grade Students

Dear Jenny Washington,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Your study does not classify as human subjects research because it will not involve the collection of identifiable, private information.

Please note that this decision only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued non-human subjects research status. You may report these changes by submitting a new application to the IRB and referencing the above IRB Application number.

If you have any questions about this determination or need assistance in identifying whether possible changes to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School

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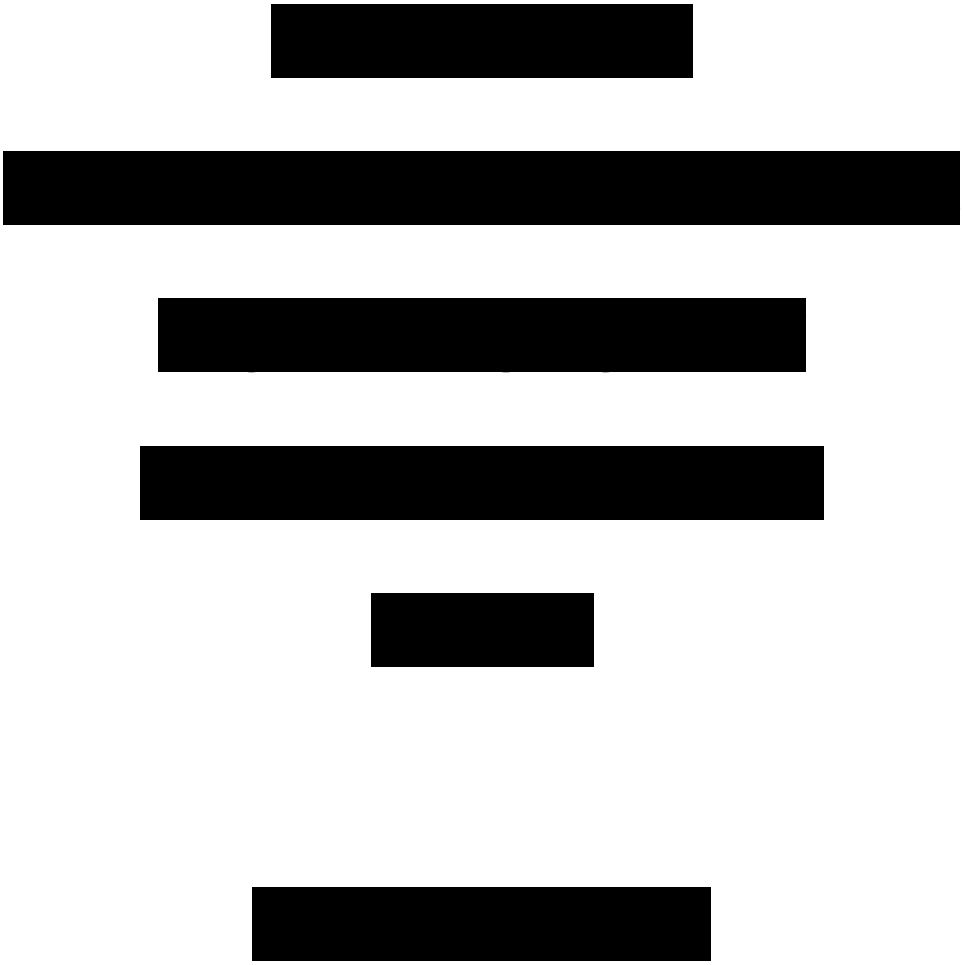
Appendix B

Appendix B contained a sample North Carolina Reading Assessment. It was removed for copyright. It can be found at the following link:

http://www.ncpublicschools.org/accountability/testing/releasedform



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Appendix C

Consent Form for Dissertation Research in the Stated County Schools

Title of Dissertation Research Proposal:

The Effects of School-Based Tutoring on the Reading Scores of Third Graders

Purpose of the Study:

To study the effects of school-based tutoring on the reading scores of male and female third graders. The outcome that is expected from this study will be sharing the data to help elementary schools develop tutoring programs to help improve the reading skills of third graders.

Methodology:

This study will involve quantitative research. A causal-comparative research design and the two-way ANOVA statistical analysis will be used in the study because the tutoring groups will already be established. The North Carolina READY English Language Arts/Reading Assessments for grade 3 (Beginning-of-Grade 3 (BOG 3) and End-of-Grade 3 (EOG 3)) is the instrument that will be used for this study. The intended subjects are students who were third graders in Stated County Schools during the 2016-2017 academic year. The data collection method would include the researcher collecting de-identified archived data from the District's Associate Superintendent for Evaluation and Testing. The information will be organized in a Microsoft Excel Spreadsheet containing columns for the third graders' needed for this research study would include student identification numbers, the independent variables (tutoring type (0 – one-to-one tutoring; 1 – small group tutoring; 3 – large group tutoring) and gender (0 – male; 1 – female), and dependent variables (BOG 3 and EOG 3 Reading scores for the 2016-2017 school

year). There will be no monetary or other compensation for participation. If approval is granted, all the information that is received would remain anonymous. After the data is obtained, it would be entered into SPSS to determine which type of tutoring programs improve reading scores more. This research would not require any additional costs to Stated County Schools.

If you have any questions about my research, please contact me (Jenny Washington) at 910-672-1587. Please sign below to grant permission for me to conduct the study described on this consent form as my dissertation research:

Signature of Approving Official(s):	Title of Approving Official:	Date:
_____	_____	_____
_____	_____	_____