ABSTRACT

Title of Document: AN INVESTIGATION OF THE EFFECTS OF *READ 180*® ON FOURTH GRADE READING ACHIEVEMENT AND HOW SELECTED TEACHERS IMPLEMENT THE PROGRAM

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This study examined the effects of the *READ 180*® program on the reading achievement levels of fourth grade students who participated in the *READ 180*® program (Scholastic Incorporated, 2005) compared to fourth grade students who were reading below grade level but who were not participating in the *READ 180*® program. The study compared the *Scholastic Reading Inventory (SRI)* scores of each group administered in September 2009 and May or June 2010. The mean reading achievement gain for each group was compared to determine if there was a significant difference between the reading scores.

Results of the One-Way ANCOVA yielded no significant statistical differences, at the probability level (*p* level) of .05, in the posttest *SRI* reading score means for students in *READ 180*® and non-*READ 180*® reading programs, after controlling for initial differences on the pretest *SRI* scores. However, if the probability was set for *p*=< .10, the results of the study would demonstrate a statistically significant difference between the posttest *SRI* scores. Although there was evidence *READ 180*® was statistically significant and beneficial to students, the results are not conclusive. The results of the Two-Way ANCOVA showed no significance of interaction between reading program status and *TerraNova Third Edition*™ qualification criteria on posttest reading scores.

The study also investigated whether teachers supplemented the standard *READ 180*® program with other reading interventions, activities, and modifications based upon the needs of the students. Teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation were surveyed using a web-based survey program. Survey results indicated teachers supplemented the standard *READ 180*® program including Whole Group, Small Group, and Independent Reading Group rotations with reading interventions, activities, and modifications based upon the needs of the students. Supplementary activities included the use of Internet resources, reading materials, Smartboard activities, and alternate methods for evaluating student progress. The use of other commercially available materials and activities for written language instruction were included to expand the *READ 180*® curriculum. Modifications and interventions were rarely made to *READ 180*® Software instructional sessions, with the exception of keyboarding devices and headsets.

AN INVESTIGATION OF THE EFFECTS OF *READ 180*® ON FOURTH GRADE READING ACHIEVEMENT AND HOW SELECTED TEACHERS IMPLEMENT THE PROGRAM

By

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Dedication

This doctoral dissertation is dedicated to my parents, John and Adele Hubbard. Their love and wisdom have guided me to where I am today. With all my love, thank you.

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The undertaking and completion of my doctorate was made possible by the support of many individuals. I would like to thank my Doctoral committee for their support and guidance. A special appreciation goes to Dr. Margaret McLaughlin for her valuable feedback and encouragement as I was writing my dissertation. I will be forever grateful. Several colleagues assisted with developing and pre-testing my survey. Others offered resources and suggestions for my dissertation topic. I appreciate their contributions and support. To my friends and family members who always offered their encouragement and advice, thank you.

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CHAPTER I

Introduction to the Study

Reading is an essential and vital element in the lives of children, as well as adults. The acquisition of reading can be the single most important educational skill in a child's life. Students who do not learn to read will face difficulties throughout their lives, due to the demands of higher level reading skills in the worksites (Torgesen, 2002). There is an urgency to teach children to master basic reading skills at an early age. The International Reading Association (International Reading Association, 1998) asserts all children have a right to literacy instruction and to learn to read, which leads to higher rates of achievement. In first grade, children who are identified as poor readers may continue to be characterized as poor readers even in fourth grade, due to lack of phonemic awareness, as well as poor decoding, comprehension, and listening skills. These students may develop their reading skills with intense instruction in phonemic awareness, decoding skills, and vocabulary development at the earliest age (Juel, 1988). Students who have not learned to read by age eight will have difficulties with reading all through their lives (O'Shaughnessy, Lane, Gresham, & Beebe-Frankenberger, 2003).

Results from the 2007 reading tests of the *National Assessment of Educational Progress (NAEP)* reveal that only 31% of fourth grade students scored at the proficient or advanced levels (Lee, Grigg, & Donahue, 2007). The average national scores for students in public schools who completed the *NAEP* assessment in 2007 were as follows: Below Basic- 34%; Basic- 34%; Proficient- 24%; and Advanced- 7%. Results from the 2009 reading tests of *NAEP* display an increase to 33% of fourth grade students scoring at the Proficient or Advanced levels. The average national scores for students in public

schools who completed the *NAEP* assessment in 2009 were as follows: Below Basic- 33%; Basic- 34%; Proficient- 25%; and Advanced- 8% ("NAEP 2009," n.d.). This was a slight improvement from 2007. Although these results represent improvements from 1992 when the assessment reporting began, there were no significant differences from the previous *NAEP* results in 2007. There were still many children performing at the Below Basic and Basic levels, while the higher levels of performance are not increasing substantially.

Background to the Study

This study was conducted in one district of a large school system serving children of military personnel. Students in fourth grade were the selected age group to study. Fourth grade students attending this school system obtained the following results in the 2007 *NAEP*: Below Basic- 22%; Basic- 38%; Proficient- 32%; and Advanced- 8% (Lee, Grigg, & Donahue, 2007). These scores remained virtually unchanged for the 2009 *NAEP* results: Below Basic- 23%; Basic- 38%; Proficient- 32%; and Advanced- 7% ("NAEP Grade 4", n.d.). Although the students in the participating school system performed at a higher level than the national average on the *NAEP* assessment, there is room for improvement. Sixty-one percent of the fourth graders in the participating school system read at the Basic or Below Basic level. The students who scored in the Below Basic category represent the major concern for educators. Students reading at this level are unable to acquire knowledge and understand concepts from basic grade level text (Lee et al., 2007). The goal of every educator in the participating school district is to teach all students the essential skills to become efficient readers.

The participating school system initially invested in the *READ 180*® program in 1999 (Electronic Education Report, 1999) to use with middle school students who were struggling with their reading skills. The developers of *READ 180*® defined struggling readers as possessing:

(1) Lack of decoding skills and reading fluency;

(2) Poor comprehension due to inability to form mental models, lack of vocabulary, and limited background knowledge;

(3) Inability to read and understand grade-level content with academic language;

(4) Lack of motivation and connection to materials and school (Scholastic Incorporated, 2006a, p.4).

When Scholastic Incorporated developed an elementary school model for *READ 180*®, the participating school system implemented this program with fourth and fifth graders in 2003. Some fourth and fifth grade students who were receiving special education services in the participating school system were also included in the *READ 180*® classes, based upon their specific Individual Education Plan (IEP) goals and objectives and teacher recommendation.

Empirical researchers have examined the effectiveness of the *READ 180*® program with middle and high school students; yet, little rigorous research has focused on elementary school students. There were testimonials and editorials citing the turnaround reading behaviors of previous nonreaders ("Scholastic Incorporated Research and Results", n.d.). Teachers discussed the ease of implementing the program in their schools and the students' willingness to participate in a once disliked subject (Pascopella, 2004). The *READ 180® rBook, Teacher's Edition* (Scholastic Incorporated, 2005) and the

Scholastic Incorporated website (http://read180.scholastic.com/reading-intervention-program) contained research studies focusing on specific aspects of reading and *READ 180*® implementation. However, these studies did not contain the rigor of the required research documentation for replication and/or statistical analysis. Therefore, the proposed study addressed this need by compiling the reading achievement gains of fourth graders in one district within the participating school system. Specifically, the mean September 2009 pretest and May or June posttest 2010 Scholastic *Reading Inventory (SRI)* scores were compared for fourth graders who participated in the *READ 180*® program to fourth graders with below grade level reading scores who did not participate in the *READ 180*® program.

In addition, the researcher developed an online survey to gather specific information about the *READ 180*® reading program from teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation in the targeted school district. The survey sought information on whether the teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

Characteristics of Effective Reading Programs

The characteristics of effective reading programs include skill focus on the competencies of fluency, comprehension, decoding, phonemic awareness, and phonics (National Reading Panel, 2000). Small group size for reading instruction has also been demonstrated as a characteristic of effective programming (Menzies et al., 2008; Rashotte, et al., 2001; Torgesen, 2002; Vaughn et al., 2003). Computer assisted reading and language arts instruction has made its way into the classrooms over the last twenty

years. The International Reading Association (2001) endorses the use of Information and Communication Technology in literacy instruction programs. Reading and writing assessments may include the use of technology tools, instead of the traditional pencil and paper tasks. The usage of computers can aid students to advance vocabulary (Torgesen, Waters, Cohen, & Torgesen, 1988), comprehension (Pearman, 2008; Sung, Chang, & Huang, 2008), and oral reading fluency skills (Sorrell, Bell, & McCallum, 2007; Torgesen et al., 1988). CD-ROM storybooks can be a vital addition to the classroom. CD-ROM storybooks can provide a multi-sensory experience to aid the student with comprehension, fluency, and decoding skills (Pearman, 2008).

Teachers must be up-to-date and knowledgeable about effective programming for students, as well as continually monitor and assess student progress to ensure students become proficient in reading skills. Teachers must have a thorough knowledge of the elements of effective reading instruction to develop reading skills in at-risk students (Menzies, Mahdavi, & Lewis, 2008). Older students who struggle with reading may come to the classroom with additional problems. They may have been exposed to poor reading instruction during their early grades. They may not have been taught or were poorly taught the fundamental reading skills for understanding text and fluency skills. Some students may possess a learning disability and may need specific teaching methods to learn to read (Roberts, Torgesen, Boardman, & Scammacca, 2008). The *READ 180*® program (Scholastic Incorporated, 2005) was developed to assist teachers to meet the needs of elementary through high school students who are struggling readers.

READ 180® Program

The *READ 180*® program (Scholastic Incorporated, 2005) was developed based on the research that identified the characteristics of effective reading instruction. Dr. Ted Hasselbring of Vanderbilt University designed a computer software program in 1985 which individualized reading instruction. In 1997, Scholastic Incorporated worked with Dr. Hasselbring, the University of Florida, and the Orange County Public Schools in Florida to design the program which would eventually become *READ 180*®. By 1999, the *READ 180*® program was implemented in schools around the United States.

The *READ 180*® program was implemented in schools across the United States and the participating school system as a research-based program to use with students who were reading below grade level. The *READ 180*® Instructional Model consists of a 90-minute program, divided into three main segments: (a) Whole Group Direct Instruction; (b) Small Group Rotations (Small-Group Direct Instruction, *READ 180*® Software, and Modeled and Independent Reading); and (c) Whole Group Wrap-up. In the Whole Group Direct Instruction segment, the teacher focuses on systematic instruction in the areas of reading, written language, or a specific reading skill with the entire class for twenty minutes. The next 60-minutes are divided into three 20-minute segments for student rotation. In the Small-Group Direct Instruction, the teacher uses the *rBook* (*READ 180*® curriculum source book) and other *READ 180*® instructional materials to address specific student needs. In the *READ 180*® Software segment, students work individually on the computer directed skill practice. During the Modeled and Independent Reading segment, students use *READ 180*® paperback books or audio books to build reading

comprehension and fluency skills. The final ten minutes of the program is devoted to the Whole Group Wrap-up with the entire class to reinforce the day's skill activities.

The *READ 180*® program was implemented in the participating school district school system in 1999 initially for middle and high school students. When the program was expanded by Scholastic Incorporated to include elementary school students, the participating school district instituted this reading program in the schools in 2003, targeting fourth and fifth graders who were reading below their grade level and/or scored at or below the 35th percentile on the *TerraNova-2nd Edition*™ assessment. At the time of this study, the criteria for fourth graders for program entry in the participating school district included: *TerraNova Third Edition*™ Total Reading and/or Language score at or below the 35th percentile, *Scholastic Reading Inventory (SRI)* Lexile level at least one to two years below grade level; and parent and/or teacher recommendation. Due to the limited number of student spots, students who will complete the school year were selected first over students who were scheduled to leave during the school year. Students who presented challenging behaviors or those who lacked independent work skills typically were not selected for the program. The 15 to 18 student spots per session usually were filled by the first month of school. Students who transferred to the school during the year might not participate in the *READ 180*® program due to unavailability of classroom spots. Students typically remained in the *READ 180*® program for the school year. However, if a student developed grade typical reading skills and the ability to continue to read on grade level, he may graduate from *READ 180*® to return to the general education class reading/language arts program. When this occurred, another qualifying student may join the *READ 180*® class program. Depending upon the reading

programs offered at the school and the specific Individual Education Plan (IEP), a student who receives special education services may qualify to attend the *READ 180*® program.

Research on *READ 180*®. The *READ 180*® program was used throughout the participating school district in the high schools, middle schools, and elementary schools. As noted, research had been conducted that examined the effectiveness of the *READ 180*® program with middle and high school students. However, little rigorous empirical research had been conducted which focused on the effects of this program for the reading achievement of elementary school students. Teachers discussed the ease of implementing the program in their schools and the students' willingness to participate in a once disliked subject (Pascopella, 2004). The *READ 180® rBook, Teacher's Edition* (Scholastic Incorporated, 2005) and the Scholastic Incorporated website (http://teacher.scholastic.com/products/read180/research/results.asp) contained research studies focusing on specific aspects of reading and *READ 180*® implementation. These studies did not contain the rigor of required research documentation for replication and/or statistical analysis; however, positive reading outcomes were noted in the studies.

In five of the six studies focusing on the *READ 180*® program (Scholastic Research and Evaluation Department, 2003; Scholastic Research and Evaluation Department, 2007a; Scholastic Research and Evaluation Department, 2007b; Thomas, 2003; White, Williams, & Haslem, 2005) outcomes noted that *READ 180*® students showed a greater than expected gain in reading growth and students performed significantly better after the exposure to the *READ 180*® program. North Carolina fourth and fifth grade *READ 180*® students gained at least one achievement level in reading on

the North Carolina standards, Levels I-IV (Scholastic Research and Evaluation Department, 2003). *READ 180*® was a positive factor for increases in reading and language arts standardized test scores with students in grades four through nine in selected Department of Defense Education Activity (DoDEA) schools (Scholastic Research and Evaluation Department, 2007a). New York Public Schools third grade students gained an average of 191 Lexile points on their *SRI* assessment (Scholastic Research and Evaluation Department, 2007b). Ninety percent of the fourth through eighth grade students in the *READ 180*® program increased their reading levels from pretest to posttest scores during the four years of a study in Missouri (Thomas, 2003). In a Community School District in New York City, fourth through eighth grade *READ 180*® students averaged larger scale score point increases than nonparticipating *READ 180*® students in the same school on the 2001 End of Year Reading and Language Arts (ELA) exam (White, Williams, & Haslem, 2005). See Appendix A, Research Studies Methodological Critique Matrix-*READ 180*® Studies, for a brief summary of the studies involving the *READ 180*® program with elementary school aged students.

Need for the Study

The *READ 180*® program had been a fixture in the participating school system for over ten years. *READ 180*® was the main reading program employed to advance the reading skills of low level readers. The *READ 180*® program typically began with fourth grade students. Yet, there was little indication that a thorough assessment of the *READ 180*® program's effectiveness with elementary school aged students was obtained before the program was implemented in the participating school district for use with the younger students and students receiving special education services. Criteria for program entry in

the participating school district included: *TerraNova Third Edition*™ Total Reading and/or Language score at or below the 35th percentile, *Scholastic Reading Inventory (SRI)* Lexile level at least one to two years below grade level; and parent and/or teacher recommendation.

Although *READ 180*® appears to be a successful reading program, there is almost no research validating the success of this program with students in the participating school district system. After an exhaustive search of the electronic databases EBSCO, ERIC, and PsycINFO and the *READ 180*® website research studies, only one study measuring the effectiveness of *READ 180*® was found which included students from the participating school system. The study of the 128 students in grades four through nine, from nine schools in the USA and Germany, was completed during the 1999 to 2000 school year (Scholastic Research and Evaluation Department, 2007a, May). Results of this study indicated increased self-esteem and reading achievement among the *READ 180*® participants (Scholastic Research and Evaluation Department, 2007a).

In October 2009, What Works Clearinghouse reviewed the *READ 180*® program to determine the potential for success with increasing reading achievement in adolescents. Studies were reviewed which focused on students in grades 4-9. Seven of the 110 studies met the What Works Clearinghouse standards, but "With Reservations". Based on this review, the evidence for *READ 180*® to increase comprehension and general literacy achievement in adolescents is Medium to Large (Zehr, 2009). This is important to note, but with only seven studies passing the rigorous What Works Clearinghouse standards, more research needs to be initiated to determine the effectiveness of the *READ 180*® program.

In addition, the participating school district conducted extensive professional development on how to implement *READ 180*®. The teachers at the professional development meetings shared other ideas and educational practices which they included in their *READ 180*® instruction. By incorporating these additions, the teachers were not using the *READ 180*® program according to its prescribed implementation. This is important to note because students who attend on-model *READ 180*® programs demonstrate the highest reading skill development (Scholastic Incorporated, 2005). This lack of standardization may lead to a reduction in the potential reading score gains by the below grade level readers who were enrolled in *READ 180*®.

Purpose of the Study

There were two purposes for this study. The first purpose was to examine the reading achievement levels of fourth grade students who were participating in the *READ 180*® program compared to fourth grade students who were reading below grade level, but who were not participating in the *READ 180*® program in the selected school district. The second purpose of this study was to determine if the teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

Research Questions

The following research questions guided this study:

1. Is there a difference in the *Scholastic Reading Inventory* reading achievement between fourth grade students with below grade level reading skills participating in the *READ 180*® program and fourth grade students with below grade level

reading skills who are not participating in the *READ 180*® program in the selected school district for the 2009-2010 school year?

2. Are there additional reading interventions, activities, and modifications which teachers employ to supplement the *READ 180*® instruction for students with below grade level reading skills in the selected school district?

The hypothesis was that fourth grade students with below grade level reading skills (*TerraNova Third Edition*™ Reading and/or Language subtests scores were at or below the 35th percentile) who attended the *READ 180*® program would demonstrate statistically significant gains in their *SRI* scores, from September 2009 through May or June 2010, compared to fourth grade students with below grade level reading skills (*TerraNova Third Edition*™ Reading and/or Language subtests scores were at or below the 35th percentile) who were not participating in the *READ 180*® program and who received their reading instruction in the general education classroom or other settings. For the purpose of this study, students with below grade level reading skills were defined as students scoring at or below the 35th percentile on the Reading and/or Language subtests on the *TerraNova Third Edition*™ assessment. An additional hypothesis was that *READ 180*® teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

Significance of the Study

The study was significant due to the lack of research documenting the success of the *READ 180*® program with elementary school aged students. The *READ 180*® program was initially developed for use with middle and high school students. In recent years, program materials have been created for elementary school students, specifically

fourth and fifth graders (Scholastic Incorporated, 2005). There has been limited research on the effectiveness of *READ 180*® with the participating school district students. The participating school district superintendent office representatives and district reading/language arts coordinators were concerned the *READ 180*® program may not be as effective as once thought. Based upon personal experience, school principals were questioning the validity of the *READ 180*® program. The traditional classroom reading programs may be just as successful as *READ 180*® in developing the reading skills of below grade level readers, at a fraction of the cost. By researching the effectiveness of the *READ 180*® program and its implementation, this research study added to the participating school district representatives' knowledge base in determining if Region A should continue to use *READ 180*® as the preferred reading program for below grade level readers.

Definition of Terms

Comprehension – Comprehension is the understanding of the meaning of text, using words, numbers, and images. The presentation can be in print or digital form ("Reading Comprehension", n.d).

Lexile- A Lexile is a measure of the complexity of the sentences and the difficulty of the words in the text. The typical range of the Lexiles is L200- L1700 (easier to more difficult text), but the scores can be higher or lower. Lexile is an equal interval scale. (Scholastic Incorporated, 2006b).

Phonemic awareness- "Phonemic awareness refers to the ability to segment and manipulate the sounds of oral language. It is not the same as phonics, which involves knowing how written letters relate to spoken sounds. Activities that develop phonemic awareness in children provide practice with rhyme and with beginning sounds and syllables." (International Reading Association, 1998).

READ 180®- Scholastic Incorporated developed a specialized reading program for lower level readers. Students participate in teacher-directed instruction, technology instruction, and modeled and independent reading via a rotation basis (Scholastic Incorporated, 2005).

Research-based programs/evidenced based instruction- "An instructional program or collection of practices should have been tested and shown to have a record of success. That is, reliable, trustworthy, and valid evidence indicates that when that program or set of practices is used, children can be expected to make adequate gains in reading achievement." (International Reading Association, 2000).

Scholastic Reading Inventory (SRI)- The *Scholastic Reading Inventory* is used to document student reading growth throughout the school year. With the untimed *SRI* on-line assessment, the student reads the content, determines details, draws conclusions, and makes comparisons. The result is a Lexile level corresponding to a student's reading level ("Scholastic Reading Inventory," n.d.).

Students with below grade level reading skills- Students scoring at or below the 35th percentile on the Reading and/or Language subtests on the *TerraNova-3rd Edition*™ assessment.

Abbreviations

ADHD- Attention Deficit Hyperactivity Disorder

DIBELS- Dynamic Indicators of Basic Early Literacy Skills

DRA-2- Developmental Reading Assessment-2

DSO- District Superintendent's Office

ELL- English Language Learner

ES- Elementary School

ESL- English as a Second Language

GRADE- Group Reading Assessment and Diagnostic Evaluation

LARS- Language Arts/Reading Specialist

NAEP- National Assessment of Educational Progress

NCE- Normal Curve Equivalent

SD- Standard deviation

SRI- Scholastic Reading Inventory

TN- TerraNova Third Edition™

TOWRE- Test of Word Reading Efficiency

WPM (wpm)- words per minute

CHAPTER II

Review of the Literature

The ability to read is one of the quintessential skills a person develops in his/her lifetime. Reading is the gateway to advancement in school, job opportunities, professional development, and social engagement. Teaching children to read is one of the initial focuses of instruction at home and in school. Books have become prized possessions for children, even for toddlers who are just developing the concept of a story. Young children learn from an early age that reading is important and necessary to accomplish even the most common everyday tasks, such as cooking (reading a recipe), cleaning (reading the directions on the cleaning fluid bottle), and recreation (programing an IPOD). For those in our society who cannot read or who have limited reading skills, navigating the print rich world can become mind boggling.

Obtaining an education is a mandated right for the citizens in the United States. Yet, the opportunity to obtain a free and appropriate education has not always been available. The desire for an education and the ability to read can last a lifetime. This drive is no more apparent than in the life of Mr. George Dawson, the grandson of a slave, who was born in 1898. He started working at age eight to help support his family. Although he married and helped his seven children with their homework, he never learned to read and write. At age 98, he accepted an offer to enroll in an adult education program. It was here that he learned to read and even earned his General Education Degree (GED) at age 103. Before his death in 2001, he authored a book and even appeared on the TV talk show, *The Oprah Show.* To commemorate his life, a middle school in Texas was named after him. Students are encouraged to learn the story of Mr. Dawson and the importance of

obtaining an education (Harpo Productions, 2011). Although Mr. Dawson's path to an education may be extreme, there are still many children (and adults) who experience obstacles which they must overcome in order to obtain an education and learn to read.

In an attempt to increase the opportunities for all students to have access an appropriate education, the last thirty years have given rise to several of the most important pieces of legislation designed to improve the academic achievement of students with and without disabilities in our nation's schools. With the guidance of these laws, regulations, and policies, students with and without disabilities have reaped the benefits of a robust education. This section highlights the major laws, regulations, and guiding principles which steered the participating school system's leadership in formulating school-based reading programs for all students.

No Child Left Behind Act (NCLB Act), 2001

The NCLB Act was passed by the United States Congress in 2001. Title 1 of this law is the most recent reauthorization of the 1965 Elementary and Secondary Education Act. The intent of NCLB was to close the achievement gap between different groups of students, one of which was students with disabilities. The law intended that no child be left behind in his/her education and all children could receive the same high standard of education. The NCLB required states to have standards in at least three areas: reading, mathematics and science. The NCLB also required mandatory assessments in these three areas, holding schools accountable for results.

The Act contains four legal definitions about reading: (1) Reading; (2) Essential components of reading instruction; (3) Scientifically based reading research; and (4)

Diagnostic reading assessment. In the first definition, reading is defined as "a complex system of deriving meaning from print that requires the following:

(a) The skills and knowledge to understand how phonemes, or speech sounds, are connected to print.

(b) The ability to decode unfamiliar words.

(c) The ability to read fluently.

(d) Sufficient background information and vocabulary to foster reading comprehension.

(e) The development of appropriate active strategies to construct meaning from print.

(f) The development and maintenance of a motivation to read.

The essential components of reading instruction include: (a) phonemic awareness, (b) phonics, (c) vocabulary development, (d) reading fluency, and (e) reading comprehension strategies." ("4 Great Definitions About Reading in NCLB", n.d., p.1). Schools receiving Title I funding must report the educational progress of all children and subgroups to the public every year. States must use challenging academic content, related to the state standards, to increase student achievement. Scientifically based research based principles and instructional methods must be employed to enhance the core academic programs in schools, which include reading or language arts, mathematics, and science. Data and sound evidence are needed to show that instruction leads to high student achievement. The goal was for every child to read at least at grade level or above by the completion of third grade. Programs and strategies that have been proven to remediate or prevent reading breakdowns were to be implemented (No Child Left Behind Act of 2001, 2002).

Evidence-Based Reading Instruction

The incorporation of evidence-based instruction (or research-based instruction) is required by the NCLB Act of 2001 (No Child Left Behind Act of 2001, 2002) and Individuals with Disabilities Education Improvement Act (IDEIA), 2001 ("IDEA 2004," (n.d.). The International Reading Association (2002, May) *Position Statement on Evidence Based Instruction* defined evidence-based reading instruction as occurring if "reliable, trustworthy and valid evidence indicates that when that program or set of practices is used, children can be expected to make adequate gains in reading achievement" (p. 1). In general, educators agree that evidence of the effectiveness of a program or practice should be:

(a) Objective—data would be identified and interpreted similarly by any evaluator;

(b) Valid—data adequately represent the tasks that children need to accomplish to be successful readers;

(c) Reliable—data would remain essentially unchanged if collected on a different day or by a different person;

(d) Systematic—data were collected according to a rigorous design; and

(e) Refereed—data have been approved for publication by a panel of independent reviewers.

Participating School System English Language Arts Standards

The participating school system's grade level education standards were changed during the 2009 summer to be aligned with the National Council of Teachers of English/The International Reading Association standards. The expectation of the ELA Standards is for all fourth graders to build their vocabulary, develop an understanding on

the variations of word meanings, expand their comprehension skills, identify and analyze the main elements of a text (plot, characters, compare/contrast, cause/effect, fact/fiction, etc.), and recognize key features of textbooks. Fourth graders also read grade level appropriate classic and contemporary books, including fiction and nonfiction, which includes biographies, historical fiction, science fiction, mythology, and informational texts (System Activity, 2009b). The 2009 ELA introduction section to the standards makes it very clear that the participating school district developed a high quality curriculum which would lead the students into the 21st century. The rigorous literacy skills program also includes technology, research, and media skills. Teachers are provided with research based literacy instruction practices. Teachers are encouraged to differentiate instruction, adding other resources, as needed, to develop a high quality literacy environment (System Activity, 2009a). See Appendix B for System 2009 English Language Arts Standards for Fourth Grade.

Assessing Student Reading Performance in the System

The participating school district utilizes several pieces of assessment data to triangulate the ability levels of the students in each school. Typical measures of performance are the *TerraNova Third Edition*™ (CTB McGraw-Hill, 2008), *Scholastic Reading Inventory (SRI)* ("Scholastic Reading Inventory", n.d), *Developmental Reading Assessment-2 (DRA-2)* (Beaver, 2001), and the student's quarterly report card grades. The *National Assessment of Educational Progress-NAEP* (Lee et al., 2007) is used to document group achievement as a school system, not for an individual school or student. However, the results of the *NAEP* are frequently mentioned as a data source highlighting advancement of the participating school district students' academic gains.

TerraNova Third Edition™. The *TerraNova Third Edition*™ (CTB McGraw-Hill, 2008) is used throughout the participating school district to assess students in grades three through eleven. The areas of assessment are reading, language, math, science, and social studies. A total score for the combination of reading, language, and math sections is also recorded for each student. Percentile scores are posted each year for the participating school system, districts, and individual schools. Comparisons are made across the districts and schools. For the School Year 2010 in the Region A, 2759 fourth grade students took the test. The average fourth grade student scored at the 62nd percentile in the area of Reading and at the 63rd percentile in the area of Language. The fourth grade averages for 2010 in the area districts were: District 1 (767 students), Reading 62nd percentile, Language 63rd percentile; District 2 (526 students), Reading 57th percentile, Language 60th percentile; and, District 3 (558 students), Reading 62nd percentile, Language 63rd percentile ("System 2010 *TerraNova Third Edition*™ scores", n.d.). Table 1, Table 2 and Table 3 represented the *TerraNova Third Edition*™ Reading and Language percentile scores for each school in the three school districts in Region A. Language scores were included because these scores could be a factor when considering a child for *READ 180*® services.

Table 1

Region A, District 1, 2010 TerraNova Third Edition™ Results

School	Grade	Number of students	Reading mean score	Language mean score
A ES	4	58	62 %tile	65 %tile
B ES	4	54	61 %tile	62 %tile
C ES/MS	4	93	70 %tile	74 %tile
D IS	4	217	62 %tile	65 %tile
E MS	4	43	57 %tile	56 %tile
F ES	4	44	63 %tile	62 %tile
G ES	4	82	68 %tile	62 %tile
H ES	4	138	59 %tile	58 %tile
I ES	4	38	59 %tile	56 %tile

Table 2

Region A, District 2, 2010 TerraNova Third Edition™ Results

School	Grade	Number of students	Reading mean score	Language mean score
J ES	4	28	57 %tile	59 %tile
K ES	4	63	62 %tile	65 %tile
L ES/MS	4	9	Data records for less than 10 students are not displayed	Data records for less than 10 students are not displayed
M ES	4	27	68 %tile	67 %tile
N ES	4	69	66 %tile	61%tile
O ES	4	25	50%tile	48 %tile
P ES	4	79	56%tile	52%tile
Q ES	4	43	58 %tile	69 %tile
R ES	4	83	54 %tile	57 %tile
S ES	4	100	56 %tile	60 %tile

Table 3

Region A, District 3 2010 TerraNova Third Edition™ Results

School	Grade	Number of students	Reading mean score	Language mean score
T ES	4	33	62 %tile	62 %tile
U ES	4	63	74 %tile	75 %tile
V ES	4	95	59 %tile	60 %tile
W ES	4	68	51 %tile	48 %tile
X ES	4	20	67 %tile	75 %tile
Y ES	4	104	65 %tile	65 %tile
Z ES	4	122	59 %tile	62 %tile
AA ES	4	52	62 %tile	67 %tile

The data presented in these tables indicate that in 2010, all of Region A school district schools were scoring at or above the national 50th percentile mean average for the *TerraNova Third Edition*™ Reading and Language subtests. However, some schools were scoring lower than others in these areas. The participating school system goal is for at least 75% of students to score in the top two quartiles (50th percentile or above). The participating school district educational division is concerned with the students who were scoring in the lower quartile (0-25th percentile). The focus is to move these students out of the lower quartile into a higher quartile. Across the participating school district, eight percent of the students fell into this bottom quartile level (0-25th percentile) for *TerraNova Third Edition* Reading subtest scores for 2010 ("System 2010 *TerraNova*

scores," n.d.). *READ 180®* is one reading method in use to teach the students in the bottom quartile how to read and move toward grade level literacy skills.

Scholastic Reading Inventory (*SRI*). The *Scholastic Reading Inventory* ("Scholastic Reading Inventory," n.d.) is used to document student reading growth throughout the school year. Teachers in the participating school district typically administer the *SRI* in September, January, and May or June each year. When students transfer into a local school, they are typically tested within the first week to determine their current reading level. With the untimed *SRI* on-line assessment, the students need to read the content, determine details, draw conclusions, and make comparisons. The *SRI* assessment and reading books are calculated the same way to measure the reading level. The result is a Lexile level corresponding to a student's reading level ("System SRI/Performance Standards", n.d.). The *SRI* levels for fourth graders, correlated to the participating school district's performance standards are included in Table 4.

Table 4

Scholastic Reading Inventory: Lexile Levels/System Performance Standards 2011

Grade	Below the standard (At risk)	Partially met the standard (Basic)	At the standard (Proficient)	Above the standard (Advanced)
4	349 & Below	350 to 599	600 to 900	901 & Above

Developmental Reading Assessment-2 (DRA-2). The *DRA-2* is a standardized reading assessment which could be administered by teachers to the students in their classes. The *DRA-2* is designed to assess the student's independent reading level, as well as diagnosis the strengths and weaknesses in the areas of fluency, comprehension, and

accuracy. It takes between 10-20 minutes to administer the assessment, based on the child's reading skills and if the chosen assessment text level matches the child's reading level. The assessment is administered in a one-to-one setting with the teacher to determine a child's reading level, in conjunction with other reading assessments and observations. Depending on the child's reading level, the teacher or the student selects a text to read from a selection of two to three texts. The teacher then introduces the text. The student makes a prediction about the story content based upon pictures or a short reading from the text (depending on the student's reading level.) The student then reads the text silently. Next, the student reads a passage aloud for the teacher to record fluency and accuracy. The student is asked to retell the story or to complete comprehension questions about the story. The student is also asked about his reading preferences.

Based upon *the DRA-2* results, teachers tailor their reading lessons to focus on specific skills (Pearson Learning Group, 2003). Students can be assessed annually or semi-annually (usually the fall and spring) using the authentic texts from the *DRA-2* to notate the student's gains for levels of reading. The *DRA-2* can be given more often for students who are having difficulty learning to read. The areas of assessment of reading proficiency include oral reading fluency, comprehension, and reading engagement, which can be charted on a continuum. During the assessment the teacher is monitoring the student's ability to preview, self-correct, ask questions, reread, and use pictures to gain knowledge about the reading passage. This information can be compared to previous *DRA-2* assessments to determine a student's reading growth and areas of concern (Beaver, 2001).

National Assessment of Educational Progress (NAEP). *NAEP*, the Nation's Report Card™ (Lee et al., 2007), reports achievement data, including reading for fourth and eighth graders in U.S. schools. The *NAEP* data compare performance across rural/urban districts, public/private schools, demographic groups, and states. In 2007, the average fourth grade reading scale score was 221, up two points since 2005 and four points compared to the *NAEP* results from 15 years earlier. The average fourth grade reading scale score for 2009 was 220. The four levels of achievement for the *NAEP* are *Below Basic, Basic, Proficient,* and *Advanced*. In general, more students are performing at the *Basic* level, but the changes are not significant at the *Proficient* levels in reading, compared to previous *NAEP* results. Fourth grade students attending the participating school system schools obtained the following results on the 2007 *NAEP*: *Below Basic*- 22%; *Basic*- 38%; *Proficient*- 32%; and, *Advanced*- 8%. The average participating school system fourth grade 2007 reading scale score was 229 (Lee et al., 2007). The 2009 participating school system *NAEP* results were: *Below Basic*- 23%; *Basic*- 38%; *Proficient*- 32%; and, *Advanced*- 7%. The average participating school system fourth grade scaled score was 228 ("NAEP Grade 4", n.d.).

READ 180® Program Effectiveness

In order to be considered effective, *READ 180*® was "correlated" to the *TerraNova 2nd Edition*™ assessment by the publisher Scholastic Incorporated (Scholastic Incorporated, 2006c). The participating school system's 2004 English Language Content Standards (System, 2004) were correlated to various aspects of the *READ 180*® Stage A program (System 2006). "Correlated" is the term selected by both Scholastic Incorporated and the participating school district when aligning the *READ*

180® program with the *TerraNova 2nd Edition*™ and the 2004 English Language Content Standards. Specific *READ 180*® reading skills and strategies were correlated to various segments of the *Terra Nova 2nd Edition*™ by Scholastic Incorporated. The *TerraNova 2nd Edition*™ assessed skill areas which were correlated to the *READ 180*® program included Basic Understanding, Analyze Text, Evaluate and Extend Meaning, Identify Reading Strategies, Sentence Structure, Vocabulary and Word Meaning Multi-meaning Words, Words in Context, and Structural Units (Scholastic, 2006c).

READ 180® was correlated to the system's 2004 English Language Content Standards by the participating school system. For example, the Grade 4, Reading Content Standards, "Reading at least 25 books or equivalents, including fiction and nonfiction, as well as different literary forms", was matched with *READ 180*® program topics of *Reading Varied Genre, Discuss Reading Materials,* and *Reading Log/Journal.* The participating school system Reading Standard "Reads and comprehends books" was evidenced by *READ 180*® program topics of *Discuss Reading Materials, Discussion Questions,* and *Write a Book Review* (System, 2006). The correlations provide documentation that the *READ 180*® program was aligned with participating school system's English Language standards. *READ 180*® program usage addressed the English Language Content standards for fourth graders who were enrolled in this program. The participating school district teachers are charged with covering the educational standards for their grade level during the school year. By analyzing the targeted skills on the *TerraNova 2nd Edition*™ and the participating school system's English Language Standards, teachers could match *READ 180*® topics for an effective evidence based instruction to use for achieving highest student achievement.

Since the *TerraNova 2nd Edition*™ was revised and the participating school system's English Language Content Standards were updated, there is an assumption that Scholastic Inc. and the participating school system would update the *READ 180*® correlations to these new versions. Yet, as of this date, Scholastic Incorporated has not updated the correlations of *READ 180*® to the *TerraNova Third Edition*™. The participating school system has not published correlation information of *READ 180*® to the 2009 English Language Arts Standards.

Summary of Policies and Data

Current national legislation, specifically NCLB, has placed a major emphasis on increasing reading achievement. State educational standards and mandatory assessments in the areas of reading, math, and science must be in place. All students must participate in the state assessments, with or without accommodations, or in an alternate assessment. NCLB also defined the essential components of reading and required the use of scientifically based reading research and diagnostic assessments (No Child Left Behind Act of 2001, 2002).

The participating school district's 2009 English Language Arts Standards were aligned with the National Council of Teachers of English/the International Reading Association standards (System, 2009b). All students have access to the general education curriculum and are exposed to these standards. Teachers are provided with literacy-based instruction practices. Teachers are encouraged to differentiate instruction so that all students are exposed to a high quality literacy environment.

Student reading performance in the participating system's schools is evaluated using several different types of assessments. Reading performance is measured with the

yearly system wide assessment *TerraNova Third Edition*™ (CTB McGraw-Hill, 2008). Student percentile scores can be compared from year to year, across students, student subgroups, grade levels, district schools, regions, and the entire school system. The school system can compare the student scores to students in stateside schools to evaluate the effectiveness of the school system. The students in the participating school system typically scored above the 50th percentile and tended to outperform students in many states. Although less than 10% of the students scored in the bottom quartile (0-25th percentile), the goal is to enhance reading skill instruction so that students are able to score in higher percentile levels. The *National Assessment of Educational Progress (NAEP)* (Lee et al., 2007) reported achievement data for fourth and eighth graders in U.S. schools. The average fourth grade reading score in 2009 was 220 scale score. The participating school system students scored higher at 228 scale score. However, 23% of the participating school system's students scored in the lowest level of *Below Basic* ("NAEP Grade 4", n.d.). The *Scholastic Reading Inventory (SRI)* ("Scholastic Reading Inventory", n.d.) and *Developmental Reading Assessment (DRA)* (Beaver, 2001) are typically administered at the beginning of the school year as a baseline measure of a child's reading skills and to drive reading instruction. Students may be reassessed midyear and at the end of the school year to calculate reading growth.

READ 180® was correlated to the *TerraNova 2nd Edition*™ assessment (Scholastic Incorporated, 2006c) and the participating school system's 2004 English Language Content Standards (System, 2006). Since the *TerraNova 2nd Edition*™ was revised and the 2004 the participating school system's English Language Content Standards were updated, there is an assumption that Scholastic Inc. and the participating

school system would update *READ 180*® correlations to these new versions. The correlations represented the alignment of *READ 180*® to the participating school system's general education curriculum. If students are participating in the *READ 180*® program, they should gain the reading and language arts skills necessary to score in the higher quartile levels on the *TerraNova Third Edition*™ system-wide assessment. As the students in the *READ 180*® program develop higher level reading skills, their *SRI* and *DRA-2* scores should grow. The positive outcomes should lead to stronger scores on the *TerraNova Third Edition*™. Stronger scores should lead to fewer students in the lower quartile, increasing the number of students moving toward the participating school system's target of at least 75% of the students scoring in the top two quartiles on the *TerraNova Third Edition*™ assessment.

Review of Research on Reading Instruction and *READ 180*®

To discover which were the most appropriate articles to use for implementing reading instruction and learning about the *READ 180*® program, an electronic search of the databases Digital Dissertations, EBSCO, ERIC, JSTOR, Mental Measurements Yearbook, PsycINFO, RefWorks, and Social Sciences Citation Index was performed. Two discrete searches were carried out. The first search focused on research articles dealing with reading with special education students and struggling readers at the elementary school level. Research studies were selected which highlighted the critical aspects of the *READ 180*® program, which included small group instruction, vocabulary development, oral fluency practice, and comprehension skills with elementary school aged students. Computer assisted instruction was also a parameter. The second search targeted research dealing with the *READ 180*® program.

Several separate searches of different key word combinations were utilized. The key words used were: *reading, elementary education, assessment, and reading programs.* A refined search was attempted with the key words *reading, assessment, and special education* which netted 225 total studies. Next, the parameters were refined to *reading, curriculum-based measure (CBM),* and *special education.* School-aged, six through twelve years, was added to specify the search which highlighted 98 articles. The abstracts were reviewed for those involving experimental research designs with elementary school aged students (grades kindergarten through sixth) in the area of *reading programs, reading assessment, small group instruction,* and *computer instruction.* This netted 33 articles. Next, a hand search was conducted by reviewing the references from selected studies and a recently published article on reading curriculum-based measurements (Wayman, Wallace, Wiley, Ticha, & Espin, 2007). The age group was expanded to eighth grade. Five more articles were relevant to the study criteria within the selected years 2000-2009. Finally, the abstracts of the 38 articles were reviewed for topics which were relevant to *READ 180*® program, including small group instruction, reading vocabulary and comprehension development, reading interventions, and computer usage for reading instruction. Elementary school aged students and students who received special education services were the targeted population. The 38 articles were scanned for more in-depth information on the selected topics. The articles which were missing key information from the study (design, method, analyses) were not chosen. Of the ten selected articles to review, six studies included special education students. Two studies listed general education students as the participants, but the authors did not specifically state that students receiving special education were not included. The selected research

articles focused on small group instruction, comprehension skills, and the development of vocabulary skills with students who were reading below grade level or who were receiving special education services at the elementary school level. The incorporation of the computer for reading skill instruction was the focus for six of the articles. See Appendix C, Research Studies Methodological Critique Matrix, for an overview of these studies.

The second search targeted quantitative research-based studies dealing with the *READ 180*® program. An electronic search of the databases Digital Dissertations, EBSCO, ERIC, JSTOR, Mental Measurements Yearbook, PsycINFO, RefWorks, and Social Sciences Citation Index was performed using the key phrase *READ 180*®. Twenty-eight abstracts were reviewed. Of these, no quantitative research articles were listed for elementary school aged students. The *READ 180*® *rBook Teacher Edition* (Scholastic Incorporated, 2005) and the *READ 180*® website (http://teacher.scholastic.com/products/read180/research/results.asp) were scanned to locate relevant research studies with elementary school aged students. Twenty-four "Scientific Reports", using what Scholastic considers the most rigorous form of research in a standard study design, were reviewed. Of these, six focused on elementary school students enrolled in *READ 180*®. These are included in the Research Studies Methodological Critique Matrix-*READ 180*® Studies, Appendix A.

Synthesis and Critique of Research Studies

In this section, ten research articles were reviewed that were pertinent to the purpose of this study. These studies highlighted the critical aspects of the *READ 180*® program, which included small group instruction, vocabulary development, oral fluency

practice, and comprehension skills, with elementary school aged students. Of these ten studies, five dealt specifically with computer usage for reading instruction. Computer usage research was selected due to the core computer rotation for individualized instruction in the *READ 180*® program.

Research designs and samples. Various research designs were employed in the reviewed articles. The specific methods used for these empirical research designs were: (1) multiple-baseline design; (2) pre/post experimental and non-specific treatment group design; (3) repeated measures design; (4) counterbalanced randomized treatment design; (5) quasi-experimental design; (6) multi-element baseline design with four treatment conditions; and, (7) a two-between and one-within factor repeated-measures design. Sample sizes ranged from 12 second through fifth grade students from a rural county in eastern Tennessee (Sorrell et al., 2007) to 192 fourth and fifth graders from a mid-Western Canadian city (Leong, 1995) and to 283 third and fifth graders in a small Midwestern public school (Nelson et al., 2007). The students in the samples were from first through sixth grade in U.S. and Canada in rural and urban districts. The students in the study samples received general education, special education, and/or English Language Learner services based upon their school district eligibility requirements. The rigor, as well as potential threats to validity and credibility, was apparent in many of the studies. The analyses varied depending upon the design of the study. ANOVA, MANCOVA, and descriptive analysis were used to document the intervention significance and the effect sizes.

Characteristics of effective reading programs. Determining an effective size of reading instruction groups was the purpose of three studies. Menzies et al., (2008)

devised an empirical study which used a small sample of 42 first grade students from a small urban area in southern California, with a high transient rate, to document best practices in the area of reading, including the size of an instructional group. Explicit instructional strategies were integrated into the existing curriculum. No random assignment or control group was employed. Student reading scores at the completion of the intervention were compared to scores from the year before. Although large gains in student skill acquisition were noted, as demonstrated by comparing the *Test of Early Reading Abilities (TERA)* and *Developmental Reading Assessment (DRA)* reading scores from the beginning of the year to the end of the year, the researchers were unable to confidently state which instructional strategy: frequent assessment to determine skill instruction; high intensity instruction with low student/teacher groupings; and/or explicit instruction was most effective for the students.

To demonstrate control for the teacher and classroom effects, Vaughn et al. (2003) employed a two-between and one-within factor repeated-measures design for use with student samples from across classrooms for each of the three different sizes of instructional groupings of teacher/student ratio of 1:1, 1: 3, and 1: 10. However, it was virtually impossible to control for classroom and teacher effects on the validity of the intervention of small groupings. No comparison group of students with reading problems who did not participate in the intervention was used to determine if the student progress was associated with the intervention. The sample size of 77 (out of the original 90) students from ten Title I elementary schools was not evenly distributed in all three intervention groups due to students moving before completion of intervention, thus possibly impacting the final results.

Rashotte, MacPhee, and Torgesen (2001) used a multiple-baseline single subject research design to test the effectiveness of small group delivery models of three to five students for reading programs, across the treatment and then later the control group. The researchers used a larger sample of 116 Newfoundland, Canada elementary students across different classes and grades one through six. Students were randomly divided into the groups for classroom instruction of fifteen students or the treatment group of three to five students receiving the *Spell Read* phonetically based reading program. The *Spell Read* program was found to be a powerful reading program in the areas of phonological development, reading comprehension, reading accuracy, fluency, and spelling skills for deficient readers. The small group instruction was found to be effective for students with reading difficulties. Effect sizes ranged from moderate to very strong across all grades, with smaller gains for fluency measures.

Vocabulary instruction is an integral component of effective reading programs. In a pre/post experimental and non-specific treatment group design, Nelson and Stage (2007) chose 283 third through fifth grade students from a small Midwestern public school system. The students were randomly assigned to experimental or non-experimental treatment to assess the effects of contextually based multiple meaning vocabulary instruction on vocabulary instruction and recalling comprehension. According to the authors, this was the first study on multiple word meanings. In the area of vocabulary knowledge, students showed improvement from pre-to post-test treatment. Students in the experimental condition showed moderate to large improvement in reading comprehension, compared to students in the non-specific treatment. Yet, problems were noted in the study. The timeframe of the study did not allow for full assessment of the

effects of contextually-based multiple meaning vocabulary instruction over the course of one year. No information was noted about the core vocabulary or reading comprehension instruction, making true replication of the study impossible. The teachers, instead of the researchers, selected the words for the students to learn. Some words may have been known by the students and may not have been critical for future learning. The results of the study may have been impacted by the use of only one vocabulary and comprehension measure. Other or additional dependent measures may have shown higher student growth. There was no observational data on treatment fidelity. Teachers were not observed to ascertain the vocabulary and reading comprehension activities which were used. The researchers really had no idea of what was occurring in the classroom.

Vadasy and Sanders (2008) made use of a quasi-experimental design with 54 fourth and fifth grade students with below level reading skills from an urban area in the Southwest. These students were randomly assigned to dyads to determine the effectiveness of the use of *Quick Reads* as a supplement in remedial reading fluency. The dyads were randomly assigned to treatment or control groups. The control group of 65 students came from varying classrooms. Tutors were trained in the *Quick Reads* program, with follow-up training and observations throughout the study. Treatment students had mean word reading accuracy and efficiency one standard deviation (SD) below the mean, which may have been too low to develop their reading rate and reduced the fluency effects of the *Quick Reads* intervention. There were significant positive treatment effects of passage comprehension, vocabulary, and word comprehension. Yet, there were not significant treatment effects for fluency rate and word level reading skills. There was a

lack of data on classroom reading instruction, so the validity of the intervention may be jeopardized due to classroom instruction effects.

Research on use of computers. Five articles were concerned with the usage of computers and their impact on instruction. Pearman (2008) employed a repeated measures design to assess the effectiveness of CD-ROM storybooks aiding comprehension with 54 second grade students from a large rural school district in southern United States. Student retelling of the stories, after listening to the story on a CD-ROM storybook format, was audiotaped to be scored by independent raters at a later time. Mean retelling scores were significantly higher for students after reading electronic texts with the dependent samples. For students with medium and high proficiency reading levels, there was no significant difference between oral retelling in the two text formats. For students with low proficiency levels, a significant difference was found between oral retelling of the two text formats, with retelling scores for electronic text at a higher level. There was no significant difference between first and second oral retellings. Access or no access to a computer had no significant impact on oral retellings for the electronic text.

Torgesen et al. (1988) used a multi-element baseline design with four treatment conditions (1) auditory-visual, (2) auditory-only, (3) visual-only, and (4) no treatment to evaluate the effectiveness of three variations of a computer program to increase reading fluency. Using Newman Keuls procedure, all three treatment conditions demonstrated significant improvement in accuracy and speed of responding. The no-treatment condition performance remained the same. The seventeen students in first through third grade with learning disabilities were told the purpose of the study, possibly impacting the outcome of the design results. Reliability and validity were not discussed.

Leong (1995) incorporated on-line text materials in an experimental design with random assignment to experimental conditions with 192 fourth through sixth graders from two representative schools in Midwestern Canada. The selection and assignment process were not mentioned. The four independent conditions were designed to use on-line reading and DECtalk auding (hearing) of unsimplified passages or simplified passages with an explanation or no explanation of difficult words. Metacognitive activities pertaining to each passage prior to reading and auding was part of one of the conditions. Highly significant differences were found in grades, reading levels, and modes of responses to the inference question and summary answers. No significant differences were found with the experimental conditions. The results suggest that computer mediated reading, with or without DECtalk, may not be superior to off-line reading for prose or language comprehension. Reliability or validity factors were not discussed in the article.

Sung, Chang, and Huang (2008) developed CASTLE, a computerized multistrategy reading assistance system, which was used as an intervention in a quasi-experimental design with 130 sixth-grade students from four elementary school classes in Taiwan equally split between experimental and control groups. The students came from middle class families and ranged in ages from 12-13 years old. Classes were randomly assigned to an experimental or control group. The experimental group performed better than control group in applying the majority of strategies for text comprehension. The results determined that strategy instruction was feasible to use with a computer design. When the students' reading strategies improved, comprehension also improved. The

researchers found that multiple strategy instruction could benefit students with lower reading levels. Reliability or validity factors were not discussed in the article.

Sorrell et al. (2007) randomly assigned twelve second through fifth grade subjects from a rural county in eastern Tennessee to computer reading with the Kurzweil 3000 or traditional reading methods to research the effectiveness of computer reading software. Similar reading rate and reading comprehension means were noted across the reading presentations. Six students with a baseline average reading rate below 78 words per minute (wpm) increased scores by approximately four wpm after the computer condition while decreasing scores by two wpm after the traditional reading condition. Six students with a baseline average reading rate above 78 wpm decreased their scores by one wpm after the computer reading condition, yet they increased their scores by six wpm after the traditional reading condition. Comprehension rate decreased for fast readers while reading via computer. Slower readers had similar comprehension results for both the traditional reading and computer reading conditions. Due to the selected reading text, there was a high variability within the comprehension scores. The researchers used the Accelerated Reading texts, but other assessments may have been more accurate. Large standard deviations due to variability in scores made it difficult to find significant differences in the results. The dependent measure, reading rate scores measured as words read correct per minute (wpm), could have been more fully operationalized to account for reliable results due to the intervention. Reliability or validity factors were not discussed in the article.

Summary of Effective Reading Programs and Use of Computers

Limitations were noted in the research articles dealing the specific reading topics. Reliability or validity were not discussed in many of the articles. Generally, the studies involved small samples, thus limiting the generalizability of the results. In addition, students were not randomly assigned to groups (Menzies et al., 2008; Vaughn et al., 2003). There were concerns with control for teacher effects (Menzies et al., 2008; Vaughn et al., 2003) and the lack of a defined dependent variable (Sorrell et al., 2007). Vadasy and Sanders (2008) discovered students involved in their study may have possessed reading skills which were too low to achieve the full effects of the research intervention. The time frame for implementing the intervention was limited due to consent and budgetary restrictions in the study conducted by Nelson and Stage (2007). According to Sorrell et al. (2007), the use of a computer for reading skills intervention may have enhanced or hindered the intervention results for specific students. Sorrell also noted computer problems occurred, including the inability for the computers to perform the intended function and the delay of material presentation on the screen. Torgesen et al. (1988) postulated the criteria for an activity completion may have not have been set at an appropriate level to allow for full development of skills on the computer. Long-term effects of the intervention were not established. In their study where multiple interventions were employed, Menzies et al. (2008) were unable to decipher the impact of each specific intervention to prove which was the most effective with the students. Rashotte et al. (2001), Leong (1995), Sung et al. (2008), and Pearman (2008) listed no specific limitations in their studies.

Future research needs were suggested in all but two of the reviewed studies (Pearman, 2007; Rashotte et al., 2001). Several studies focused on the size of instructional groups during reading instruction. Menzies et al. (2008) devised a study in which the school staff created programs and devised interventions to increase the phonological skills in the students by using small groups of students paired with an adult (who was not necessarily a teacher.) Follow-up progress of students over time was necessary to determine the lasting effectiveness of small group intervention. Vaughn et al. (2003) questioned whether group size was an influencing factor for students to reach criteria and maintain criteria in reading.

Nelson et al. (2007) focused on specific reading interventions for future research. The documentation of instructional practices of contextually-based multiple meaning vocabulary instruction and the effects over extended periods of time for this instruction were suggested for this new area of skill intervention. In the study by Vadasy and Sanders (2008), the replacement of the vocabulary extension activity with explicit instruction in alphabetics and decoding efficiency should be researched with poor readers. In future research, classes should be observed by the researchers to ascertain the influence of classroom reading instruction on student outcomes.

Of the five research articles which focused on the usage of the computer, only Pearman (2008) did not make reference to computer issues for future study. The earliest study from Torgesen et al. (1988) found the students in his study did not like typing in answers. He questioned the usefulness of this mode of response for students in future interventions. Twenty years later, keyboarding classes are a requirement in most schools, which may have eliminated the typing concerns for most students. Leong (1995) stressed

the need for more attention to be placed on generating text materials to the computer. In the more than ten years since that study's publication, there has been a proliferation of computer-based educational and recreational materials on the public market. Sung et al. (2007) developed the CASTLE multi-strategy based system to improve reading strategies and comprehension. The researchers advocated a wider variety of reading strategies to be incorporated into the computer format. Sorrell et al. (2007) listed the greatest number of future research suggestions. The authors stressed the need to determine the conditions for which computer programs are beneficial. They recommended using multiple baseline, as well as large sample sizes, and including students with various abilities and disabilities in the research subjects. The dependent measure should be carefully selected, preferably, a norm referenced measure. Additionally, the use of reading material at and above student reading levels could be included to assess effects of computer reading rates.

In summary, the research studies point to the effectiveness of reading programs employing the use of small group sizes, comprehension, oral fluency practice, vocabulary building strategies, and the use of computers. These components are essential attributes of the *READ 180*® program. When used according to Scholastic Inc.'s guidelines, *READ 180*® should lead to higher level reading skills in all students (Scholastic, 2005).

***READ 180*® Research Studies**

There was a lack of credible research pertaining to the *READ 180*® program in the peer reviewed journals. When using the key words "*READ 180*®" for a document search in research databases, 18 articles were found. Of these, none used elementary school aged students in their research. A few experimental or quasi-experimental research studies have been conducted by Scholastic Inc. or its subsidiaries or other non-

independent research based organizations. The results of these studies may be suspect. A recent search on the Scholastic Inc. website (http://teacher.scholastic.com/products/read180/overview/instrmodel.htm) for the use of *READ 180*® in elementary schools found 24 matches. Most of these matches were a combination of elementary and middle school information. Of these matches, 15 were news articles from a newspaper, magazine, or the *Scholastic Press*. Three were *Platinum Performers* which are profiles of schools displaying strong *READ 180*® program implementation and obtaining positive reading outcomes. One match was a *Success Story* of a fourth grade boy who improved his *SRI* Lexile level by over 300 points after participating in the *READ 180*® program. Six matches were *Scientific Reports*. Scholastic has three designated levels for scientific research: Gold, Silver, and Bronze. Gold is considered to be experimental research. Silver is considered to be quasi-experimental research. Bronze is descriptive research or a case study. It is not considered to be experimental research. Of the six *Scientific Reports*, one was listed as a Gold standard, two were Silver level, and two were designated as Bronze. One report was not rated from the Scholastic website research site.

A major problem with these reports on the Scholastic Inc. website is that the research study is not included in its entirety, making it difficult to replicate the study. The numbers of students included in the studies in these reports range from 128 to 652 and were in third to ninth grades. The students attended schools in Brockton, Massachusetts; Kirkwood, Missouri; Iredell-Statesville, North Carolina; and New York City, New York. A study from the Department of Defense Education Activity (DoDEA) schools included stateside schools as well as schools located on the U.S. military bases in Germany.

Although the results of the studies are provided in Appendix A, key information regarding the selection of the students, characteristics of the students such as if they received special education or English as a Second Language (ESL) services, statistical analysis of the data, reliability, and validity reports are not available for most of the studies. Few, if any, references were cited for the reports. The significant information which can be gleamed from the reports is reported. See Appendix A for the Research Studies Methodological Critique Matrix-*READ 180*® Studies.

Syntheses of *READ 180*® studies. The one Gold Standard study was conducted by Visher and Hartry (2007) and focused on the use of the *READ 180*® program in an after school program with 300 fourth, fifth and sixth graders in the Brockton, Massachusetts public school system. The students were divided into 20 classes of 15 students each. Each student's reading level was below the Massachusetts state assessment proficiency level. The students were randomly assigned to the modified 60 minute *READ 180*® program or to a control group. The results found students who were using the *READ 180*® program during the after school program continued to attend the after school program and dropped out less frequently than those students who did not attend the *READ 180*® program. *READ 180*® attendees considered themselves to be "good" at remembering words and they read more books in the program. There were gains in oral reading fluency skills, as measured by DIBELS (Dynamic Indicators of Basic Early Literacy Skills), but these results varied by grade and school. *READ 180*® students made more than an average year's progress on word recognition, measured by the TOWRE (Test of Word Reading Efficiency) compared to a control group of students. When comparing the control group of students and the *READ 180*® students, there were no

statistically significant differences in the vocabulary and comprehension scores, based on the results of the GRADE (Group Reading Assessment and Diagnostic Evaluation). The students who began the year with the lowest interest in reading and fourth graders demonstrated the largest impact when using the *READ 180*® program.

A Silver Level standard of research (quasi-experimental research) was conducted by White, Williams, and Haslem (2005) of Policy Studies Associates analyzed end-of-year reading and language arts tests from the New York City public schools Community School District 23 (CSD 23) in Region 5 in central Brooklyn. The tests were administered by the New York Department of Education and the New York City Department of Education. The goal was to ascertain the effectiveness of the *READ 180*® program in changing student performance. The test outcomes for *READ 180*® students were compared to non-*READ 180*® students in the same schools during the school year 2001-2002. Comparisons also included the areas of student characteristics (grade), eligibility for Free or Reduced Priced Lunch program, eligibility for special education services, and the student attendance rate. In the 2001-2002 school year for the Community School District 23 (CSD 23), over half of the 652 *READ 180*® students in grades four through eight were fourth and fifth graders (31% were fourth graders and 29% were fifth graders.) Twelve percent of the 16 Community School District 23 schools' students were enrolled in *READ 180*®. During the 2001-2002 school year, 65% of the fourth through eighth grade *READ 180*® students scored in the Proficiency Level 2/Basic for the Reading and Language Arts (ELA) exam. From the spring 2001 to spring 2002, *READ 180*® students averaged larger scale-scores on the ELA exam than their non-*READ 180*® participants. For *READ 180*® students in the Proficiency Levels 1, 3,

and 4, there was no significant difference in their scale-scores from the 2001 to 2002 ELA exam. The CSD 23 *READ 180*® students who performed in the Proficiency Level 1 on the spring 2001 ELA test had statistically significant gains in the percentage of items answered correctly on the "Information and Understanding" and "Literary Response" subtests compared to their non-*READ 180*® peers. On the ELA exam between spring 2001 and spring 2002, only the *READ 180*® fifth graders averaged larger gains compared to their same school peers. The authors concluded that although the student gains on the ELA exam may not be due entirely to the *READ 180*® program, the students enrolled in the *READ 180*® program produced better results than their peers in the same school. Conversely, the exam results did not decrease for those students enrolled in the *READ 180*® program.

North Carolina's Iredell-Statesville Schools were the subject of an impact study to demonstrate the effectiveness of the *READ 180*® program with elementary and middle school students (Scholastic Research and Evaluation Department, 2003). The study was designated a Bronze Standard by Scholastic Incorporated's criteria (descriptive research or a case study). The program was used in schools with the highest Title I funding. The study included 441 students in grades four through eight, of which 135 received special education services. Seven students received ESL services. The students were performing at Level I or II in their literacy skills, as per the North Carolina's student achievement level scale. End-of-Grade Reading Comprehension Tests were compared between 2002 and 2003 for the reading test scores. The highest gains were made by *READ 180*® fifth graders. Fifth, seventh, and eighth grade *READ 180*® students showed more than twice the expected student growth, but *READ 180*® students in all of the other grades made

more than the expected student growth. The authors noted that without comparing these growth results to a comparison group of students who did not participate in *READ 180*®, the results cannot be ascribed to *READ 180*® alone.

Another Bronze Standard study (descriptive research or a case study) was completed by Scholastic Research and Evaluation Department (2007b) with third grade students who attended New York City Public Schools, Region 8. The study compared the *SRI* per school, between Fall 2004 and Spring 2005. The mean pretest score was 132 Lexiles on the *SRI*; the mean posttest score was 323 Lexiles on the *SRI*, for a gain of 191 Lexiles. After participating in the *READ 180*® program, the number of students with the Beginning Reading (BR) level on the *SRI* decreased from 31 percent to nine percent. No other information regarding this study was available. (The complete study was not available on the website, only a summary was listed.)

A study by Thomas (2003) focusing on the Kirkwood, Missouri school district was included on the Scholastic Inc. website. (This study was not rated with a research level on the Scholastic, Inc. website.) Fourth through eighth grade student reading performance data from 1999-2003, after the implementation of *READ 180*®, were discussed. Overall, reading progress was demonstrated by a high percentage of the students. Ninety percent of the students in the *READ 180*® program increased their reading levels from pretest to posttest scores during the four years of the study. Students with a language impairment disability showed significantly less progress than students with other forms of disabilities. In the area of spelling, 87 percent of the students were making progress, but the students' scores were below their expected levels. Higher increases in student reading levels were noted for the fourth and fifth graders, compared

to the students in the middle school. Implications for instruction included continuance of the 90 minute *READ 180*® model, inclusion of daily word study, and evaluation of the placement of students with language impairments in the *READ 180*® program. No statistical data or future research suggestions were noted in the study.

Scholastic Inc. included a Silver Standard study completed with DoDEA data from the 1999-2000 school year (Scholastic Research and Evaluation Department, 2007a). The 128 students in grades four through nine were from nine schools in the USA and Germany during the 1999 to 2000 school year. (The complete study was not available on the website, only a summary was listed.) The data displayed the percentage of students who had a negative attitude toward reading or self before *READ 180*® at 88 percent, decreasing to 8 percent after attending *READ 180*® classes. From Spring 1999 and Spring 2000, the reading and language arts means for on-model (90 minutes of instruction) versus off-model classroom was charted for the 128 students. *READ 180*® was a positive factor for increases in reading and language arts standardized test scores. No other relevant information was provided.

Summary of *READ 180*® research. The six research studies dealing with *READ 180*® were all located on the Scholastic Inc.'s website. Three of the studies were authored by Scholastic Research and Evaluation Department. The other three studies appeared to be independent authors. However, all six were missing key pieces of information for replication of the studies. Summary information was listed for a few of the articles. On the *READ 180*® website, there was a lack of disclosure of full research methods performed during the studies. Only one study included the research questions which guided the study (Scholastic Research and Evaluation Department, 2003). The

research design was not mentioned in five of the studies. When the design was discussed in one, it was extremely basic, with minimal information (Scholastic Research and Evaluation Department, 2007a). The independent variable in five of the studies was the *READ 180*® program, with no other added information. One study listed the specifics for the independent variable, using an adapted version of the five day, 90 minute *READ 180*® program (Visher & Hartry, 2007). The dependent variable and measures were discussed in greater detail in three studies (Scholastic Research and Evaluation Department, 2003; Visher & Hartry, 2007; White, Williams, & Haslem, 2005). The sample/participant information was basic, but enough to understand the type of student involved in the studies. Only one study (Visher & Hartry, 2007) discussed the methods and procedures in detail. Scholastic Research and Evaluation Department (2007a) had minimal information. The other four studies had no information for this area (Scholastic Research and Evaluation Department, 2003; Scholastic Research and Evaluation Department, 2007b; Thomas, 2003; White, Williams, & Haslem, 2005). Analyses of data were provided for all but one study (Thomas, 2003). These results were discussed for each study. With key information missing, it would be extremely difficult to replicate these studies. Also, without the required information, the validity of these research studies was suspect.

The six studies focusing on *READ 180*® all discussed positive student reading gains after using the program. Thomas (2003) reported higher increases in student reading levels for fourth and fifth graders, compared to students in the middle school. However, students with a language impairment disability showed significantly less progress than students with other forms of special education disabilities. Students in on-

model classrooms (teachers followed the sequence of the daily lessons for 90 minutes a day for five days a week) showed statistically significant reading growth (Scholastic Research and Evaluation Department, 2003; Scholastic Research and Evaluation Department, 2007a). Time in the program appeared to have an effect on the gains made by students.

Considering that the *READ 180*® program has been used with elementary school aged students for over five years, there was a dearth of research available focusing on this age group. Six studies were not enough to provide reliable evidence that the *READ 180*® program was effective with elementary school students. Program implementation was addressed in three studies (Scholastic Research and Evaluation Department, 2003; Scholastic Research and Evaluation Department, 2007a; Visher & Hartry, 2007). For a research based program to be considered reliable and valid, the implementation must be consistent, following the guidelines set for the reading program.

Rationale for Research Topic

This dissertation proposal was highly relevant, considering the participating school district's strategic plan goal for all students to become successful and lifelong learners. The participating school district representatives and reading/language arts coordinators were concerned that the *READ 180*® program, when used with elementary school aged students who are below grade level readers, may not be as effective as once thought. Given the lack of credible research focusing on the usage of *READ 180*® with elementary school students, this concern was indeed valid. The main focus of this dissertation was to determine if *READ 180*® was effective, compared to the general education reading program for students with below grade level reading skills. The study

examined the reading achievement gains within each student group, inclusion in *READ 180*® and non-inclusion in *READ 180*®, from September 2009 through June 2010, based upon two *Scholastic Reading Inventory (SRI)* scores, administered in both September and May or June. The mean reading achievement gain for each group was compared to determine if there was a significant difference between the reading scores. The ANCOVA statistical test was selected as the method of analysis because the scores on the dependent variable (*SRI* posttest scores) could be adjusted for the initial differences on the *SRI* pretest scores. An online survey was used to compile specific information pertaining to the implementation of the *READ 180*® program in the elementary schools. Specifically, information was gathered about the extent to which *READ 180*® teachers and special teachers were implementing the program. The study also investigated the modifications *READ 180*® teachers and special education teachers made to enhance the program for students who had below grade level reading skills or special education needs. The results of this dissertation added to the participating school district representatives' knowledge base to determine if the district should continue to use *READ 180*® as the preferred reading program for below grade level readers.

Summary

The NCLB Act was passed by the United States Congress in 2001. The NCLB act contains four legal definitions of what constitutes reading. In the law, reading is defined as "a complex system of deriving meaning from print" ("4 Great Definitions About Reading in NCLB", n.d., p.1). Scientifically based research and diagnostic reading assessment are also integral parts of this NCLB act definition. The participating school system's Language Arts Standards (System, 2009b) focus on the reading concepts of

word recognition, vocabulary development, comprehension, and analysis of text, and recognizing key features of textbooks. The system has focused on professional development for teachers to implement scientifically based reading programs and interventions to increase student achievement, in order for the system to achieve its goal for at least 75% of the students to score in the top two quartiles (50^{th} percentile or above) on the *TerraNova Third Edition*™ Reading and Language subtests.

Current research supports the need for reading instruction emphasizing comprehension skills, vocabulary development, and oral fluency practice, all within small group class sizes, for the most effective learning. The usage of computers can aid students to advance vocabulary (Torgesen et al., 1988), comprehension (Pearman, 2008; Sung et al., 2008), and oral reading fluency skills (Sorrell et al., 2007; Torgesen et al., 1988). The *READ 180*® program contains all of the necessary building blocks for a successful reading program. Activities involving phonemic awareness/phonics, oral reading fluency, vocabulary/word study, comprehension, small instructional groupings, computer usage, and curriculum-based assessment are the major components of the program. The *READ 180*® website (http://teacher.scholastic.com/products/read180/research/results.asp) contains numerous articles and testimonials which highlight the strengths and student education growth when the program is utilized in schools. Yet, there are very few, if any, research based studies including elementary school students as participants, with or without disabilities, which can be considered rigorous.

CHAPTER III

Methodology

The purpose of this study was to examine the reading achievement levels of fourth grade students who were participating in the *READ 180*® program compared to fourth grade students who were reading below grade level, but who were not participating in the *READ 180*® program in the selected school system. The study examined and compared the reading achievement gains within each group, *READ 180*® and non-*READ 180*®, as measured by pre and post Lexile scores on the *Scholastic Reading Inventory (SRI)* administered in September 2009 and May or June 2010, respectively. In addition, an online survey was used to gather specific information about interventions, activities, and modifications used in the *READ 180*® reading program from teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation.

Research Questions

The following research questions guided this study:

1. Is there a difference in the *Scholastic Reading Inventory* reading achievement between fourth grade students with below grade level reading skills participating in the *READ 180*® program and fourth grade students with below grade level reading skills who are not participating in the *READ 180*® program in the selected school district for the 2009-2010 school year?
2. Are there additional reading interventions, activities, and modifications which teachers employ to supplement the *READ 180*® instruction for students with below grade level reading skills in the selected school district?

The hypothesis was that fourth grade students who participated in the *READ 180*® program would demonstrate higher and statistically significant gains in their *SRI* scores, between September 2009 through May or June 2010, compared to students with below grade level reading skills who were not participating in the *READ 180*® program. An additional hypothesis was that *READ 180*® teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

Design of the Study

The multiple methods study was a comparative analysis of *SRI* scores between September 2009 and May/June 2010 of the fourth grade students participating in the *READ 180*® program and fourth grade students with below grade level reading skills who were not participating in *READ 180*®. The independent variable was enrollment in the *READ 180*® reading program. The dependent variable was the students' May or June 2010 *SRI* reading assessment score. The covariate was the September 2009 *SRI* assessment score. The May/June posttest mean *SRI* scores were analyzed to determine if there was a statistically significant difference between the *READ 180*® and non-*READ 180*® group scores. An on-line survey was also administered to teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation to gather information to determine if teachers supplemented the standard *READ 180*® program with interventions, activities and modifications based upon the needs of the students.

For the purpose of this study, the students in the comparison group (fourth grade students with below grade level reading skills who were not participating in *READ 180*®)

were those who obtained *TerraNova Third Edition*™ Reading/Language scores at the 35th percentile or below after taking the assessment in March 2009 during the third grade. This criterion level was set by the district to designate students who may need assistance in mastering grade level reading skills. These subtest scores were one of the initial pieces of data which teachers use to sort students who may qualify to attend the *READ 180*® program at the time of the study. Other criteria included *SRI* Lexile scores at one to two grade levels below the grade standard, teacher recommendation, and parent recommendation. Since students in the study were beginning the school year at comparable reading levels, with *TerraNova Third Edition*™ Reading/Language scores at the 35th percentile or below, the hypothesis was that significant gains in their reading achievement could be attributed in part, to their participation in a specific reading program- *READ 180*® or a non-*READ 180*® program.

Descriptive information was about teaching practices also obtained from a web-based survey administered to teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation in the participating school district. The survey gathered detailed information regarding specific activities, interventions, and modifications *READ 180*® teachers used in the 2009-2010 school year. The information obtained from the survey was analyzed separately.

Participants

Students. The fourth grade students were identified from schools within one district in the participating school system. Figure 1, Selection of *READ 180*® Students for the Study, and Figure 2, Selection of Non-*READ 180*® Students for the Study, provide an overview of the selection process. The selected district was chosen due to the

high concentration of students in the region. *READ 180*® was also the selected reading program in use with students who were reading below grade level in these schools. At the time of the study, in this district, there are nine schools which provided services to fourth grade students and utilized the *READ 180*® program. Fourth grade was typically the first year in which students were enrolled in *READ 180*® in the system. However, within the district, some schools began the *READ 180*® program in third grade. Two of the nine schools were not selected to be in the study because the *READ 180*® program was implemented in the third grade. The study only selected schools within the district which began *READ 180*® in the fourth grade. Seven of the nine schools were selected to participate in the study. These seven schools were located in towns within a 50 mile radius of each other. Due to the high mobility of the parents in their work situations, some students in the study attended a different school within the district for the third and fourth grade. The geographical area which encompassed these seven schools was considered to be one of the largest concentrations of students and families within the school system.

TerraNova Third Edition™ Reading and Language scores at the 35th percentile or below were one of the major pieces of criteria for considering students for the *READ 180*® program. These scores were one of the initial pieces of data which teachers use to sort students who may qualify to attend the program. These were the criteria used to create a comparison group of students who did not attend the *READ 180*® program. Students who obtained qualifying *TerraNova Third Edition*™ Reading and/or Language scores may be reading below grade level. By selecting the comparison students using the same initial piece of *READ 180*® criteria data, the assumption was students in the study

were beginning the school year at comparable reading levels. Significant gains in the student reading achievement posttest could be attributed in part to the participation in *READ 180*®.

Obtaining student sample data. A request was initiated to the local DSO for the September and May/June *SRI* scores for the fourth grade students in these seven schools for the school year 2009-2010. A request was also made to disaggregate the students who attended the *READ 180*® program during the school year 2009/2010. (The *SRI* for these students must be sent separately to the DSO and designated as *READ 180*® students.) The DSO forwarded this request to the school system's regional area office. *SRI* scores were obtained from both of these offices. The data contained the *SRI* information for each student, which the system designated with a student number and home school. The fall and spring *SRI* scores were not matched in the document. The researcher matched these student numbers so fall and spring *SRI* scores were aligned for each student.

One school had not sent the *READ 180*® student *SRI* scores to the DSO. Three non-*READ 180*® student scores from this school were matched to students from other schools in the study. The rest of the fourth grade students' scores from this school were not used in the data analysis, due to this oversight. Thus, data from six schools were used for the data analysis. This yielded 54 *READ 180*® students and 409 non-*READ 180*® students with a matching September and May/June *SRI* score.

A request was made to the System's Headquarter Data Office to obtain the March 2009 *TerraNova Third Edition*™ Reading and Language subtest scores for the third grade students from the seven schools in the study. These scores were used by the teachers to select students to participate in the *READ 180*® program for the following

school year 2009-2010 as fourth graders. The scores for the third grade students in the nine schools in the district were sent, for a total of 768 third grade students. Each student was designated with a student number and home school by the system. The student numbers from the *TerraNova Third Edition*™ Reading and Language subtest list were matched with the *SRI* student numbers for the fourth grade students who attended the READ *180*® program.

The total number of students in the *READ 180*® program who had March 2009 *TerraNova Third Edition*™ Reading and Language scores and Fall/Spring 2009/2010 *SRI* scores totaled 33 fourth grade students. The *READ 180*® student data were then sorted into qualifying categories based on their *TerraNova Third Edition* ™ scores. These categories were: (a) *TerraNova Third Edition*™ Reading subtest scores at or below the 35th percentile; (b) *TerraNova Third Edition*™ Language subtest scores at or below the 35th percentile; (c) both *TerraNova Third Edition*™ Reading and Language subtest scores at or below the 35th percentile. As shown in Figure 1, this yielded five students in the Reading category, seven students in the Language category, and 15 students in the Both Reading and Language category. Six students had *TerraNova Third Edition*™ Reading and Language subtest scores above the 35th percentile, designated as the Not Qualified category.

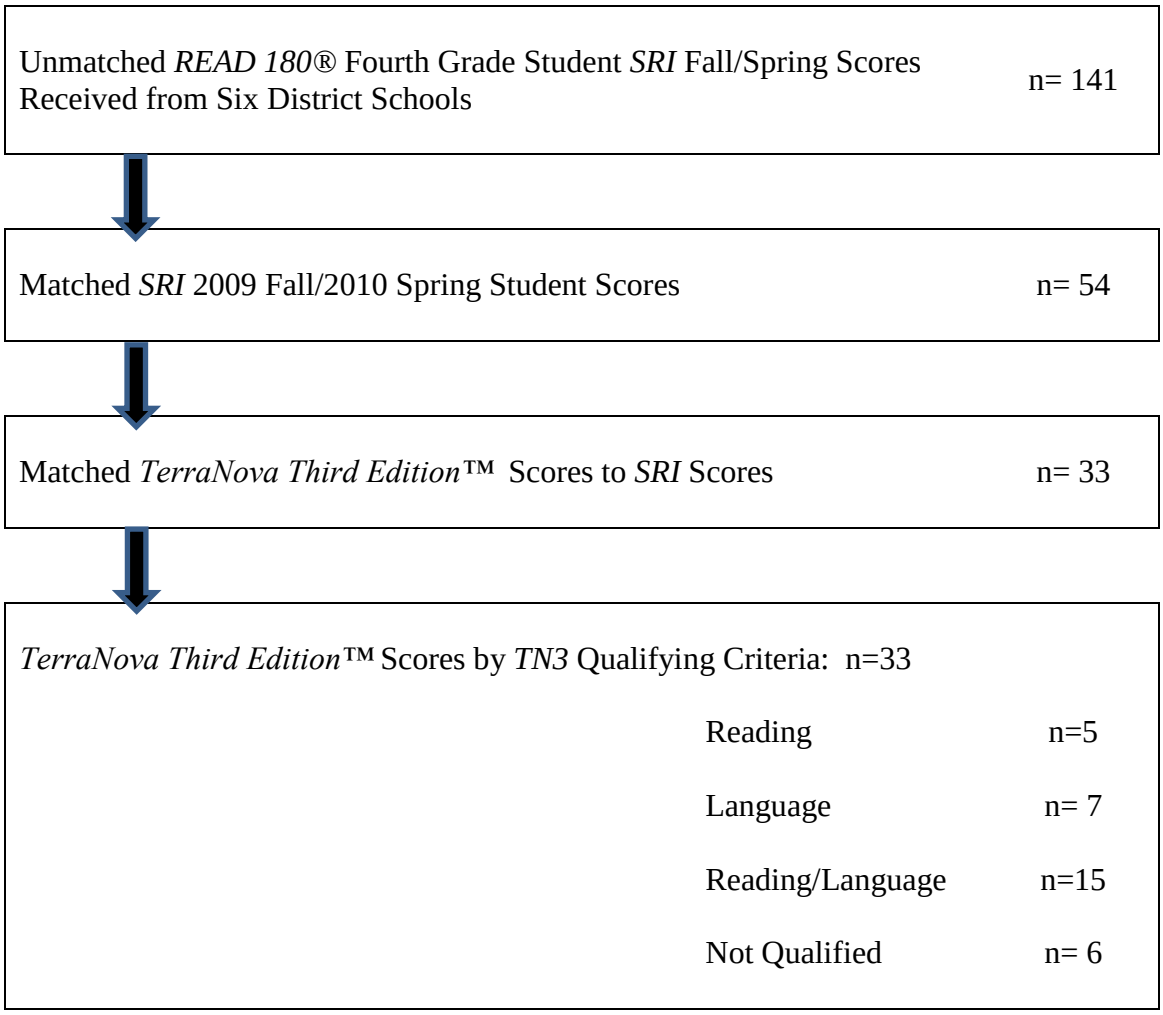

Figure 1. Selection of *READ 180*® Students for the Study

Next, the students attending the *READ 180*® program were eliminated from the *TerraNova Third Edition*™ list. The *TerraNova Third Edition*™ Reading and Language subtest list for the non-*READ 180*® students was sorted into separate groups: students who received a *TerraNova Third Edition*™ Reading score at the 35th percentile or below and students who received a *TerraNova Third Edition*™ Language score at the 35th percentile or below. There were 32 fourth grade students for the Reading group, 74 fourth grade students for the Language Group, and 87 students were qualified to be in both

groups with scores on the *TerraNova Third Edition*™ Reading/Language scores at the 35th percentile or below.

The student numbers from the *TerraNova Third Edition* ™ Reading and Language subtest list were matched with the *SRI* student numbers for the fourth grade students who attended the non-*READ 180*® program during the school year 2009/2010. Two student scores from an outlying school matched students from schools in the study; three student scores from the school which did not send in the *READ 180*® *SRI* scores matched students from schools in the study. Then, the 39 student *TerraNova Third Edition*™ scores from the two outlying schools were eliminated, since these schools were not part of the study. The 15 student *TerraNova Third Edition*™ scores from the school which did not send the *READ 180*® *SRI* scores were also eliminated from the study. This yielded 47 fourth grade students who had *TerraNova Third Edition*™ Reading and/or Language subtest scores and September and May/June *SRI* scores. The fourth grade students who did not have matching *TerraNova Third Edition*™ Reading/Language subtest scores with their *SRI* scores were not included in the data analysis.

Lastly, the non-*READ 180*® student data were then sorted into qualifying categories based on their *TerraNova Third Edition*™ scores. These categories were: (a) *TerraNova Third Edition*™ Reading subtest scores at or below the 35th percentile; (b) *TerraNova Third Edition*™ Language subtest scores at or below the 35th percentile; (c) both *TerraNova Third Edition*™ Reading and Language subtest scores at or below the 35th percentile. As shown in Figure 2, this yielded five students in the Reading category, 26 students in the Language category, and 16 students in the both Reading and Language category.

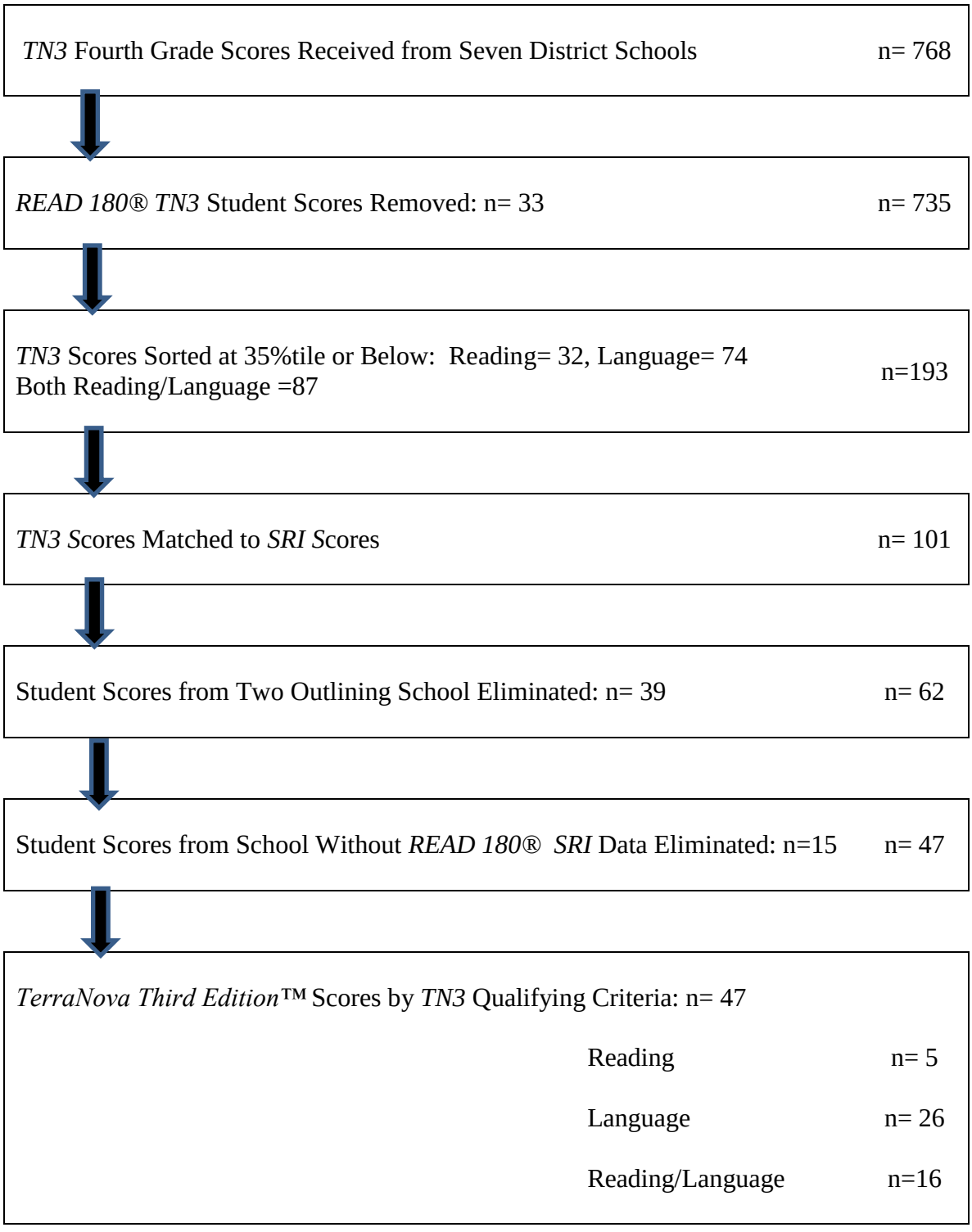

Figure 2. Selection of Non-*READ 180*® Students for the Study

Teachers. The names of the teachers who taught *READ 180*® and the special education teachers who were assigned to the seven designated schools for the study were obtained via the school district's Reading/Language Arts Instructional Specialist and the Special Education Specialist. The teacher names were matched with their school location. The teachers from the school which did not have the student *SRI* data were included in the teacher group for the survey. These teachers were included because the survey was launched and completed before the DSO determined that the school's *SRI* scores were unavailable for the data analysis.

There were two groups of teacher participants. The first group was composed of seven teachers who taught *READ 180*®. The teaching assignment from this group could be a general education teacher, Language Arts/Reading Specialist (LARS), or Literacy Coach. The second group was comprised of 16 special education teachers who consulted and worked with the *READ 180*® teachers and students. The teaching assignment from this group could a special education teacher or Speech/Language Pathologist. These teachers were included since they may directly affect the educational programming and potential modifications of the *READ 180*® program. Depending on the school situation and the needs of the student, the special education teacher co-taught in the class or worked in a specific *READ 180*® area, such as the small group or independent reading group. The special education teacher assisted the *READ 180*® teacher in lesson planning and instruction for the student who was receiving special education services to achieve mastery of his/her goals and objectives.

Data Collection Procedures

Student data. The fourth grade student *SRI* reading scores from September 2009 and May or June 2010 for the two student groups were obtained from the district DSO and the school system's regional area office. These scores were compared to determine student progress over the course of the school year between students in the *READ 180*® program and students with below grade level reading skills and who were not enrolled in the *READ 180*® program. The *SRI* assessment is typically administered in September, January, and May or June of each year in all of the fourth grade classes. This information was collected by every *READ 180*® and general education teacher and forwarded to the area DSO by the end of the school year. The *SRI* scores are maintained in the school district's data system. Scores were obtained from the DSO Data Analysis Specialist and participating school district Education Research Analyst at the system's area office. The analysts sent the data electronically to the researcher in the form of Excel spreadsheets. To ensure anonymity, the DSO and district area office coded the student data using numbers. The *SRI* information included: (a) student number; (b) school; (c) grade; (d) *SRI* Fall administration date; (e) *SRI* fall score; (f) *SRI* spring administration date; and, (e) *SRI* spring score. The *TerraNova Third Edition*™ *information* included: (a) student number; (b) school; (c) Reading percentile score; and, (d) Language percentile score. The researcher created two databases with this information. One was for students in the *READ 180*® *program* and another for the non-*READ 180*® students. The data categories in the Excel spreadsheet were the *SRI* information above, plus separate categories for the columns were added to the *SRI* categories to include the scores from the *TerraNova Third Edition*™ Reading and Language subtests. Non-*READ 180*® student scores for the

TerraNova Third Edition™ Reading and Language categories were sorted to compile the list of students who had *TerraNova Third Edition*™ Reading and/or Language at the 35th percentile or below. These student scores were then matched with *SRI* data, if it was available, to use in this study.

Survey data. A self-administered questionnaire was employed using the web-based Qualtrics Survey Program (Qualtrics Survey, 2010). The goals of the survey were to: (1) ascertain the implementation of the *READ 180*® program; (2) collect data on the instructional modifications made to the standard *READ 180*® program; and (3) determine the effectiveness of these modifications made to the *READ 180*® program. Two versions of the survey questionnaire were created, one for the *READ 180*® teachers and one for the special education teachers who assisted with *READ 180*® implementation. The survey for Group 1, *READ 180*® teachers, consisted of six main areas: (1) general and professional background of the instructor; (2) *READ 180*® student selection; (3) *READ 180*® program implementation; (4) additional reading interventions; (5) modifications to the *READ 180*® program; and (6) evaluation of student progress. The survey for the Group 2, special education teachers, consisted of six main areas: (1) general and professional background of the instructor; (2) *READ 180*® program implementation; (3) additional reading interventions; (4) modifications to the *READ 180*® program; (5) evaluation of modifications; and (6) evaluation of student progress. The responses were structured item responses or free responses. Responses were selected from multiple choice items or drop down menus to select numbers (for years, frequency questions). The selections, "None of the above." and "Other, please specify." were also available answer options for many of the questions. In addition, open-ended questions were designed to

illicit unstructured responses to gather insight and more specific details for a particular question. The teachers were given the opportunity to respond in short answer typed sentences for the open-ended questions and "Other, please specify" choice. See Appendix D, *READ 180*® Questionnaire for *READ 180*® Teachers and Special Education Teachers, for the survey.

The general survey questionnaire and cover letter were pretested with a Literacy Coach and a special education teacher who were familiar with the *READ 180*® program but who were no longer using the program. Procedures were followed to ensure the highest level of survey return rate. Following the guidelines set by Creswell and Plano Clark (2007), a brief pre-notice survey letter was emailed to the participants five days before the survey was released (Appendix E). Then a cover letter email, explaining the purpose, importance of response, confidentiality, informed consent, steps to complete the survey using the web-based link, and return date was sent (Appendix F). To reduce the number of nonresponses and to encourage return rates, one of the first questions was "I currently do NOT teach *READ 180*® or consult with the *READ 180*® teacher." It was the hope that teachers in this category would complete the demographic section, select the "I currently do NOT teach *READ 180*® or consult with the *READ 180*® teacher." button, and electronically return the survey. Ten days after the original email letter was sent, a reminder email letter with a new cover letter and survey access website was emailed. This also included a "Thank You" for teachers who had completed the survey (Appendix G). Three days before the due survey due date, the respondents received a reminder email to complete the survey if they had not done so (Appendix H). For those non-respondents, a follow-up email was initiated to encourage participation.

Data Analyses Procedures

Student assessment data. In order to answer the first research question, an analysis of variance with covariate (ANCOVA) (Nolan & Heinzen, 2008) was employed for statistical analysis, using the students' *SRI* scores from September 2009 and May/June 2010. The mean reading achievement gains for each group, *READ 180*® program compared to non-*READ 180*® program students were compared. The ANCOVA statistical test was selected as a method for research because the groups were not randomly selected for the treatments (Gay et al., 2006). The groups were not equal in number. The *READ 180*® group contained 33 fourth grade students, while the non-*READ 180*® group had a total of 47 students. This method of analysis was appropriate because the scores on the dependent variable (*SRI* posttest scores) could be adjusted for the initial differences on other variables, in this case, the *SRI* pretest scores. The range of the independent variable pretest *SRI* scores varied within each group, from 0-692 Lexiles for the *READ 180*® group and from 0-859 Lexiles for the non-*READ180*® group. Also, the students in the groups, *READ 180*® and non-*READ 180*®, were not randomly selected for the treatments. By using ANCOVA, the groups could essentially start out equally, so that the end results could be compared equitably (Gay et al., 2006).

To statistically equalize all of the initial *SRI* scores, the September 2009 *SRI* scores were used as covariates. The independent variable was enrollment in the *READ 180*® program or no enrollment in the *READ 180*® program. The dependent variable was the May/June 2010 *SRI* scores.

Survey information. The information gathered from the survey was subjected to quantitative data analysis. Demographic information, focusing on the educator's general

and professional background, as well as general information regarding the school's *READ 180*® program, was analyzed using frequencies and percentages.

IRB and Confidentiality

In order to conduct this study, permission was obtained through the participating school system and the University of Maryland IRB. The information for each potential *READ 180*® student and non-*READ 180*® student was coded at the district or system office by the Data Analysts. The student numbers were used to match the *SRI* and *TerraNova Third Edition*™ Reading and/or Language scores to the appropriate student. The student numbers, school names, and the participating teacher names for the survey were separated and not used in the study. The student numbers, teacher names, and school names were destroyed at the conclusion of the study to ensure confidentiality (Creswell & Plano Clark, 2007). The web-based online survey was confidential, with no identifying information required from the teachers. The survey responses were sent to the Qualtrics Survey Program (www.qualtrics.com) to ensure anonymity.

Summary of Chapter

The first purpose of this study was to examine the reading achievement levels of fourth grade students who participated in the *READ 180*® program compared to fourth grade students who were reading below grade level, but who were not participating in the *READ 180*® program in the selected school district. The second purpose of this study was to determine if the teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

For the first research question, analysis of variance with covariate (ANCOVA) (Nolan & Heinzen, 2008) was used for statistical analysis, using the students' *SRI* scores

from September 2009 and May or June 2010 for comparison of the mean reading achievement gain between each group, *READ 180*® program compared to the non-*READ 180*® program. The *READ 180*® group contained 33 fourth grade students, while the non-*READ 180*® group contained 47 students. The non-*READ 180*® group was made up of five fourth grade students with *TerraNova Third Edition*™ Reading subtest scores at or below the 35th percentile. There were 26 fourth grade students with *TerraNova Third Edition*™ Language subtest scores at or below the 35th percentile. There were 16 students who had both *TerraNova Third Edition*™ Reading and Language subtest scores at or below the 35th percentile.

For the second question, an online web-based survey was used to gather detailed information regarding specific activities, interventions, and modifications *READ 180*® teachers used to supplement in the *READ 180*® reading program for fourth graders in the participating school district schools. The selected teachers for the survey were those who taught *READ 180*® and the special education teachers who were assigned to the seven designated schools for the study for the 2009-2010 school year. There were two groups of teacher participants. The first group was seven teachers who taught *READ 180*®. The second group of 16 teachers was comprised of special education teachers, who consulted with the *READ 180*® teachers and students. These teachers were also included since they may directly affect the educational programming and potential modifications of the *READ 180*® program. The descriptive data were summarized and responses to individual survey questions were tabulated in frequency tables to determine the amount and types of reading activities, interventions, and modifications made to the standard *READ 180*® program.

CHAPTER IV

Results

This chapter displays the results of the analyses used to examine the effectiveness of the *READ 180*® program on the reading achievement levels of fourth grade students who participated in the *READ 180*® program compared to fourth grade students who were reading below grade level but who were not participating in the *READ 180*® program. In addition, the findings from a web-based on-line survey are presented. The survey was used to determine if the teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

Analysis for Research Question 1

The first research question to answer was, are there significant differences in the *SRI* Spring posttest reading scores between *READ 180*® and non-*READ 180*® students after controlling for Fall pretest score differences? The hypothesis was that significant gains in reading achievement could be attributed in part to the participation in *READ 180*® or a non-*READ 180*® program. A total of six schools had eligible fourth grade students. These included three elementary schools, one intermediate school, one elementary/middle school, and one middle school. The fourth grade September and May/June *SRI* scores for the school year 2009-2010 were obtained from the DSO. The third grade *TerraNova Third Edition*™ Reading and Language scores for the school year 2008-2009 were obtained from the System's Headquarters Data Office.

Students in the study consisted of two groups, fourth grade students placed in the *READ 180*® program and fourth grade students with below grade level reading skills

who were not participating in the *READ 180*® program in the selected school district. The groups were not equal in number. The *READ 180*® group contained 33 fourth grade students. These *READ 180*® students were divided into four groups based upon their *TerraNova Third Edition*™ qualifying criteria: Reading, Language, both Reading and Language, and not qualified for students with *TerraNova Third Edition*™ Reading and Language scores over the 35th percentile. Table 5 presents the number of *READ 180*® students who qualified based on each of the criteria. The non-*READ 180*® group had a total of 47 students. These non-*READ 180*® students were divided into three groups, Reading, Language, or both Reading and Language, based upon their *TerraNova Third Edition*™ qualifying criteria. Table 5 presents the number of these students who qualified under each of the three criteria.

Table 5

TerraNova Third Edition™ *Qualifying Criteria for READ 180*®

Qualification Criteria	*READ 180*® n=33	Non-*READ 180*® n=47
Qualified based on reading	5	5
Qualified based on language	7	26
Qualified based on both reading/language	15	16
Not qualified	6	0

Note: *TerraNova Third Edition*™ Qualifying Criteria= *TerraNova Third Edition*™ Reading and/or Language subtest scores at or below the 35th percentile.

In order to answer the first research question, an analysis of variance with covariate (ANCOVA) (Nolan & Heinzen, 2008) was employed. To statistically equalize all initial *SRI* scores, the September 2009 *SRI* scores were the covariate. The independent

variable was participation in the *READ 180*® program or no participation in the *READ 180*® program. The dependent variable was the May or June 2010 *SRI* scores. Since students in the study were beginning the school year at comparable reading levels, the hypothesis was that significant gains in their reading achievement could be attributed in part to their participation in *READ 180*® or a non-*READ 180*® program.

Results of the One-Way ANCOVA showed there were no significant statistical differences (.058, p=<.05, F=3.70) between the post-test *SRI* scores of students who participated in the *READ 180*® program versus students who qualified for *READ 180*® but who did not participate in the program. The non-*READ 180*® post-test *SRI* scores were varied; the mean was 567.87, with a standard deviation of 211.57. In contrast, the *READ 180*® post-test *SRI* mean was higher at 588.24, with a standard deviation of 155.01, as shown in Table 6. For this study, the probability level (p level) of .05 was used, since it is the standard setting in social science resource (Nolan & Heinzen, 2008) to demonstrate power of the statistical analysis to reject the null hypothesis. However, for this study, if the probability was set for p=< .10, the results of the study would demonstrate a statistically significant difference between the posttest *SRI* scores of students who participated in the *READ 180*® program and the students who did not, thus rejecting the null hypothesis. Although there is some evidence the *READ 180*® program was statistically significant and beneficial to the students, given the limited sample size of the study with 80 students, the results are not conclusive.

Table 6

Comparison of Posttest SRI Scores Between READ 180® and Non-READ 180® Students

Source	SS	df	MS	F	Sig.
Corrected Model	1551638.169[a]	2	775819.084	46.542	.000
Intercept	451438.731	1	451438.731	27.082	.000
SRI Pretest	1543593.513	1	1543593.513	92.601	.000
Group	61679.408	1	61679.408	3.70	.058
Error	1283533.781	77	16669.270		
Total	29402602.000	80			
Corrected Total	2835171.950	79			

Note: Group = *READ 180*® and Non-*READ 180*®, $p = <.05$

a. R Squared = .547 (Adjusted R Squared = .536)

Based on the results of the One-Way ANCOVA analysis, further analysis was warranted to determine if there was a significant difference in the post-test *SRI* scores, based upon the qualifying *TerraNova Third Edition*™ Reading and/or Language scores for students who attended the *READ 180*® program compared to the non-*READ 180*® program. In order to answer this question, a Two-Way ANCOVA analysis was conducted. This method of analysis was appropriate because the scores on the dependent variable (*SRI* posttest scores) could be adjusted for the initial differences on other variables, in this case, the *SRI* pretest scores. Also, the students in the groups, *READ 180*® and non-*READ 180*®, were not randomly selected for the treatments. By using a

Two-Way ANCOVA, the groups could essentially start out equally, so that the end results could be compared equitably (Gay et al., 2006). Comparisons within the groups could be made.

The students were divided into four groups: qualified based on reading; qualified based on language; qualified based on both reading and language; and not qualified within the *READ 180*® group. For this last group, the *READ 180*® student's *TerraNova Third Edition*™ Reading and Language scores had to be above the 35th percentile. The results of the Two-Way ANCOVA showed no significant difference (.590, p= <.05, F=.532) between the students in *READ 180*® and those in the non-*READ 180*® program, based on whether they had the qualifying *TerraNova Third Edition*™ Reading and/or Language scores, as shown in Table 7. The mean non-*READ 180*® *SRI* mean post-test score was 603.80 (SD= 243.86) for the students who qualified with a *TerraNova Third Edition*™ Reading score at the 35th percentile or below. Of the non-*READ 180*® Reading qualified students, the median percentage change of *SRI* growth was 1.37% (R= -0.66 to 1.47 %.) For the students in the *READ 180*® program who qualified with a *TerraNova Third Edition*™ Reading score at the 35th percentile or below, the *SRI* post-test mean score was 682.40 (SD= 120.08). Of the *READ 180*® Reading qualified students, the median percentage change of *SRI* growth was 1.26% (R= 1.13 to 1.45 %.)

Table 7

Comparison of Posttest SRI Scores Between READ 180® and Non-READ 180® Students Based on TerraNova Third Edition™ Criteria

Source	SS	df	MS	F	Sig.
Corrected Model	1620905.741[a]	7	231557.963	13.730	.000
Intercept	491303.976	1	491303.976	29.132	.000
SRI Pretest	1078476.424	1	1078476.424	63.948	.000
READLA	53260.344	3	17753.448	1.053	.375
Group	17725.525	1	17725.525	1.051	.309
READLA * Group	17931.510	2	8965.755	.532	.590
Error	1214266.209	72	16864.808		
Total	29402602.000	80			
Corrected Total	2835171.950	79			

Note: $p = <.05$

a. R Squared = .572 (Adjusted R Squared = .530)

Summary of Results for Research Question 1

To answer the first research question, a One-Way ANCOVA was conducted to examine differences between the September through May/June *SRI* scores comparing the *READ 180*® and the non-*READ 180*® students. Results of the One-Way ANCOVA showed there were no significant statistical differences (.058, p=<.05, F=3.70) between the posttest *SRI* scores of students who participated in the *READ 180*® program versus

students who qualified for *READ 180*® but who did not participate in the program. However, for this study, if the probability was set for $p =< .10$, the results of the study would demonstrate a statistically significant difference between the posttest *SRI* scores of students who participated in the *READ 180*® program and the students who did not, thus rejecting the null hypothesis. Although there is some evidence that the *READ 180*® program was statistically significant and beneficial to the students, given the limited sample size of the study with 80 students, the results are not conclusive.

A Two-Way ANCOVA was conducted to examine the differences among the between subject factors using the student's *TerraNova Third Edition*™ Reading and Language scores as qualifying criteria. These groupings were designated as: qualified based on reading; qualified based on language; qualified based on both reading and language; and, not qualified within the *READ 180*® group. (For this last group, the student's *TerraNova Third Edition*™ Reading and Language scores were above the 35th percentile.) The results of the Two-Way ANCOVA showed no significance (.590, $p = <.05$, $F = .532$) between the students in *READ 180*® and the non-*READ 180*® program, based upon the qualifying *TerraNova Third Edition* Reading and/or Language scores.

Analysis for Research Question 2

The second research question sought to answer whether the *READ 180*® teachers and the special education teachers who assist them supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students. Seven *READ 180*® and 16 special education teachers from the participating school district were sent an online web-based survey through the Qualtrics Survey Program (http://www.qualtrics.com). Seventeen out of the twenty-three teachers

responded to the survey for a 74% return rate. Out of the initial seven general education *READ 180*® teachers, four completed the survey for a response rate of 57%. Thirteen of the initial 16 special education staff participated in the survey (81%); however, only two (13%) of the special education teachers actually worked with the *READ 180*® teacher and program. Thus, the responses reported below are based on a total of six teachers (four *READ 180*® and two special education teachers working in *READ 180*® programs). The mean duration time to complete the survey was 12 minutes (range 1-33 minutes).

Responses of the *READ 180*® Teachers

The first section of the survey, General/Professional Background Information**,** asked specific questions about the individual teacher's background. The respondents had an average of 19 years of teaching experience (R=5-40+ years). The number of years teaching in the participating school system averaged 12 years (R= 1-40+ years). The teachers taught at their current school location an average of eight years (R= 1-34 years). Among the four general education *READ 180*® teachers, two had been teaching the program for seven years. For the other two teachers, it was their first year teaching *READ 180*®. All teachers held a Master's degree and 11 teachers had taken at least 30 university graduate credits beyond the Master's degree level. The four *READ 180*® teachers had taught language arts classes from 12 to 40+ years. Three out of these four teachers had attended at least one *READ 180*® training class/in-service during each year that they had been teaching the program. Scholastic, Inc. offers specific on-line reading/language arts classes to teachers each year and all four of the teachers had enrolled in one to two of these each year. Seventy-five percent of the teachers had taken more than 15 university graduate level reading or language arts classes during their

career; one teacher had taken 14 university graduate level reading or language arts classes.

***READ 180*® student selection.** Teachers who taught *READ 180*® were asked to indicate which of four criteria choices were used to select students for inclusion in the *READ 180*® program. Table 8 lists the criteria and the responses by the four *READ 180*® instructors. Teachers were also able to write down additional information in the "Other" open response category. One teacher added an open ended response for the category Other *TerraNova Third Edition*™ percentile levels. The response was: 40%tile or below. In the open ended response for the *SRI* criteria category, one teacher stated over 100 Lexiles below grade level as a criteria level. In the Recommendation category, two teachers responded. Their responses are as follows:

Teacher 1: Transfer from other school and already in *READ 180®;*

Teacher 2: Previous reading teacher, teacher, counselor, or administration recommendation.

Table 8

Criteria Used for READ 180® Student Selection by READ 180® Teachers

Selection Criteria	Responses n=4
TerraNova Third Edition™	
Total Reading score is at or below 25th percentile	0
Total Reading score is at or below 35th percentile	0
Total Language score is at or below 25th percentile	0
Total Language score is at or below 35th percentile	0
Total Reading & Total Language score is at or below 25th percentile	0
Total Reading & Total Language score is at or below 35th percentile	1
Other *TerraNova Third Edition*™ percentile levels:	
40%tile or below	1
None of the *TerraNova Third Edition*™ choices above	1
Report Card Grade	
Reading/Language Arts	3
Math	0
Science	1
Social Studies	1
Other report card criteria:	1
No information listed	
Scholastic Reading Inventory (*SRI*)	
100-199 Lexiles below grade level	2
200-299 Lexiles below grade level	1
300-399 Lexiles below grade level	1
Other *Scholastic Reading Inventory* (*SRI*) criteria:	
Over 100 Lexiles below grade level	1
Recommendations	
Parent recommendation	2
Teacher recommendation	4
Student recommendation	0
Other recommendation criteria:	
Transfer from other school and already in *READ 180*®	1
Previous reading teacher, teacher, counselor, or administration recommendation	1

Table 9 provides the reasons students who qualified for the *READ 180*® program did not receive these reading services. As noted in the table, parent refusal or the *READ 180*® class was full, were the most common reasons given. Student behavior issues, lack of self-regulation skills/independent working skills, and student's reading level was too low to benefit from the *READ 180*® program were also given as reasons.

Table 9

Reasons for Non-Enrollment of Qualified READ 180® Students

Reason	Responses n=4
Parent refusal	4
Student behavior issues	1
Student lacks self-regulation skills/independent working skills	1
Student's reading level is too low	1
Student will move before the end of the school year	0
READ 180® class is full. No space is available for new students.	4
Other	0

***READ 180*® program implementation.** The teachers were asked the degree to which they adhered to the *READ 180*® program implementation specifications. All four *READ 180*® teachers stated they often consistently adhered to the *READ 180*® implementation specifications. Next the question asked the number of daily *READ 180*® sessions students attended in a typical five day week. Seventy-five percent of the respondents stated the students attended *READ 180*® for five sessions each week. One respondent selected one session for weekly attendance. The next question asked the days of the week for the *READ 180*® sessions during a typical five day school week. Monday through Friday was selected by 100% of the teachers. The teachers were asked to select

the number of minutes in each *READ 180*® session. Ninety minutes was select by all of the teachers.

The next question asked the teachers to select the maximum cut-off number for students to be in each *READ 180*® session. The number of students ranged from 15 to the cap of 18 for the respective schools as shown in Table 10.

Table 10

Responses to Maximum Number of Students in a *READ 180*® Program Session

Number of students	Responses n=4
15 students	2
16 students	1
17 students	0
18 students	1

The data in Table 11 show the results when teachers were asked to select the order of the *READ 180*® rotations during a typical *READ 180*® session. All teachers followed the recommended Scholastic, Inc. *READ 180*® rotation schedule model, beginning with a Whole Group lesson, breaking into the three Small Group Rotations, and ending with the Whole Group Wrap-up.

Table 11

READ 180® Program Rotations by READ 180® Teachers

Order of *READ 180® Program* Rotations	Responses n=4
1. Whole Group 2. Small Group Rotations (Small Group Direct Instruction, *READ 180®* software, Modeled and Independent Reading) 3. Whole Group Wrap-up	4
1. Small Group Rotations (Small Group Direct Instruction, *READ 180®* software, Modeled and Independent Reading) 2. Whole Group 3. Whole Group Wrap-up	0
Other combination of rotations	0

Table 12 shows the teachers' responses when asked the number of *READ 180®* sessions they taught each day. Seventy-five percent of the teachers taught only one session of *READ 180®* each day. One teacher taught two 90 minute block sessions of *READ 180®* each day.

Table 12

Number of Daily READ 180® Program Sessions Taught by READ 180® Teachers

Number of Sessions	Responses n=4
1	3
2	1
3	0
4	0

Teachers were asked the grade level of students taught in each *READ 180®* program session. Table 13 shows the results. Seventy-five percent of the teachers held

READ 180® classes for mixed grades. One teacher taught two sessions, one for fifth graders and the other for fourth graders. Fourth and fifth graders were taught by 100% of the teachers.

Table 13

Student Grade Level in each READ 180® session by READ 180® Teachers

Grade Levels	Responses n=4
Student class grouping in the *READ 180*® class- Session One	
Students come from the same grade level	1
Students are from mixed grades	3
Student class grouping in the *READ 180*® class- Session Two	
Students come from the same grade level	1
Students are from mixed grades	0
Teacher teaches only one session	3
Grade level of students attending *READ 180*®	
Third Grade	0
Fourth Grade	4
Fifth Grade	4

The survey also asked which classes students might miss in order to attend the *READ 180*® program. The results are shown in Table 14. Three teachers responded students missed their general education Reading/Language Arts instruction. The fourth teacher responded the students missed their general education Social Studies, Science, and Health instruction.

Table 14

Classes Missed to Participate in READ 180® Program

Classes Missed	Responses n=4
Reading/Language Arts	3
Mathematics	0
Social Studies	1
Science	1
Health	1
Special (Art, Music, PE, Host Nation)	0
Other classes	0

Additional reading interventions. Teachers were asked to indicate the frequency of use for additional materials and activities not included in the specified *READ 180*® program that they used in their instruction. Three teachers indicated they sometimes included additional reading interventions to the standard *READ 180*® program, whole group and/or small group sessions. One teacher indicated often including additional reading interventions to the standard *READ 180*® program and small group session. All indicated they rarely included additional interventions to the software instructional session. One teacher rarely added additional interventions to the whole group session. For the Independent Reading session, two rarely added additional interventions while the other two sometimes did. See Table 15.

Table 15

Frequency of Additional Reading Interventions by READ 180® Teachers

Interventions	Responses n=4
Additional Reading interventions are added to the standard *READ 180® program* during the instructional sessions	
Rarely	0
Sometimes	3
Often	1
Additional Reading interventions are added to the standard Whole Group instructional sessions	
Rarely	1
Sometimes	3
Often	0
Additional Reading interventions are added to the standard Small Group instructional sessions	
Rarely	0
Sometimes	3
Often	1
Additional Reading interventions are added to the standard *READ 180®* Software instructional sessions	
Rarely	4
Sometimes	0
Often	0
Additional Reading interventions are added to the standard Modeled & Independent Reading instructional sessions	
Rarely	2
Sometimes	2
Often	0

Teachers were asked to select which additional materials, activities, and interventions they included in their *READ 180*® program. Table 16 displays the results. For the open-ended response, two teachers responded with the following:

Teacher 1: Tracking Scholastic *Reading Counts* points and reading at home for rewards; favorite book Fridays for students to share the books they love; and using graphics to help with writing (main idea and details sentences);

Teacher 2: Daily home reading.

Table 16

Additional Reading Interventions Used by READ 180® Teachers

Interventions	Responses n=4
Literature books which coincide with the *READ 180*® literature theme	3
Book reports	2
Acting/role playing	2
Movies	1
Smartboard activities	0
Use of another commercially available reading/language arts program	1
Use of internet resources such as Brain Pop or Enchanted Learning	2
None	0
Field trips	1
Guest authors	2
Guest speakers	1
None	1
Other *READ 180*® Program Additional Reading Interventions:	
Daily home reading	1
Tracking reading counts points and reading at home for rewards, Favorite Book Fridays for students to share the books they love, using graphics to help writing (main idea and details sentences).	1
Virtual field trips using the Internet	1

Teachers were asked to indicate why they used additional non-*READ 180*® reading interventions. Table 17 displays the responses. The following reasons were given in the Other, open response section:

Teacher 1: Teacher absent- substitute lessons;

Teacher 2: Did not see much to teach (for) writing in conjunction with reading and they need it.

Table 17

Reasons for Inclusion of Additional Interventions by READ 180® Teachers

Reasons	Responses n=4
READ 180® program activity was not sufficient for students to understand the content topic	1
Activity was chosen to expand the student's understanding	4
Student needed clarification of a learning concept	3
Favorite teaching activity	1
Students enjoy the activity	2
No additional *READ 180*® reading interventions were included in the program	1
No additional reading interventions were used	0
Other reasons:	
Teacher absent--substitute lessons	1
Did not see much to teach writing in conjunction with reading and they need it.	1

Table 18 presents the responses to the question regarding which additional personnel assisted in the *READ 180*® classroom. An Instructional Assistant/Special Education Paraprofessional was reported to assist two teachers. The other two *READ 180*® teachers reported working alone.

Table 18

Additional Personnel in the READ 180® Classroom

Additional Personnel	Responses n=4
Administrator	0
General Education Teacher	0
Teacher, Learning Impaired, Mild/Moderate	0
Instructional Assistant/Special Education Paraprofessional	2
Literacy Coach	0
LARS (Language Arts/Reading Specialist) Teacher	0
High School Student Volunteer	0
Parent Volunteer	0
Community Volunteer	0
None of the Above	2
Other additional personnel who assist in the classroom during the *READ 180*®	0

The teachers were asked to select the assistive technology devices used during the *READ 180*® sessions, shown in Table 19. Keyboard devices and headsets (other than those used during the Computer Instruction session) were used in one school. Two teachers did not use assistive technology devices in the *READ 180*® program.

Table 19

Assistive Technology Used by READ 180® Teachers

Assistive Technology Devices	Responses n=4
Keyboard Devices	1
Headsets (other than during the Computer instruction session)	1
Voice activated typing programs (such as *Dragon Speak)*	0
Kurzweil technology	0
Magnification devices	0
Closed caption	0
Communication devices	0
Screen covers	0
Other Assistive Technology devices used in during the *READ 180*® sessions	0

Modifications and changes to the *READ 180*® program. Modifying the curriculum "may be accomplished through providing supplemental materials such as lower-level reading material, and using various media, and manipulatives to assist in the attainment of individual objectives." (System, 2005, p. 6-12). Teachers were asked if modifications were made to the *READ 180*® program during the instructional rotation sessions. Modifications were sometimes made to the standard Whole Group instructional sessions by all general education *READ 180*® teacher respondents. Three teachers sometimes made modifications to the standard Small Group instructional sessions and Modeled Independent Reading session, while one teacher rarely did. Modifications were rarely made to the standard *READ 180*® Software instructional sessions by all teachers. See Table 20.

Table 20

Modifications to the READ 180® Program by READ 180® Teachers

Program Modifications	Responses n=4
Modifications are made to the standard *READ 180® program* during the instructional sessions	
Rarely	2
Sometimes	2
Often	0
Modifications are made to the standard Whole Group instructional sessions	
Rarely	0
Sometimes	4
Often	0
Modifications are made to the standard Small Group instructional sessions	
Rarely	1
Sometimes	3
Often	0
Modifications are made to the standard *READ 180®* Software instructional sessions	
Rarely	4
Sometimes	0
Often	0
Modifications are made to the standard Modeled & Independent Reading instructional sessions	
Rarely	1
Sometimes	3
Often	0

The *READ 180®* teachers were given an open-ended question that asked what they would change if they could redesign the *READ 180®* program. The responses from the three teacher respondents follow:

Teacher 1: Get rid of glitches in the computer part of the program...sometimes students can't get on...earphones don't work, etc.;

Teacher 2: Additional *READ 180*® computer software and reading materials. I would also add more of a writing component;

Teacher 3: Updated computers and equipment...always breaking down. Bean bag chairs for comfortable center activities for reading independently. Self-esteem lifting ideas/posters/time. Assistants so it is more 1 to 5, than 1 to 15. Expand the cassette books...mine have read almost all of them in one year. More writing incorporated with reading at independent groups. Maybe read 3 days a week independent and then work on writing the other 2 days. Whole group - teacher reads or students present etc.

Evaluation of student progress. The *READ 180*® teachers were asked to choose the techniques used to evaluate student progress in the *READ 180*® program. For the open-ended response, one teacher stated the following: *READ 180*® scores and then extra credit added for their extra efforts; *TerraNova Third Edition*™*, SRI* scores; and teacher input. See Table 21.

Table 21

Evaluation of Student Progress by READ 180® Teachers

Evaluation Methods	Responses n=4
Scholastic Reading Inventory (*SRI*)	4
rBook Tests	3
rSkills Tests	2
Student recorded readings on the *READ 180*® program	2
Scores from *READ 180* student segment zones, words zones, spelling zones	4
Reading Counts Quizzes	4
Teacher constructed assessments	2
Curriculum-Based Measurement-CBM	2
Oral Reading Fluency Drills	2
Running Records	2
Commercially available criterion referenced assessments	2
None of the above	1
Rubrics	1
General education class tests and quizzes	3
Student self-assessment/questionnaire	1
Special Projects	3
Effort/Improvement	3
Student interview	0
Other methods for student progress evaluation:	
READ 180® scores and then extra credit added for their extra efforts. *TerraNova™, SRI* scores and teacher input.	1

Beneficial instructional sessions. The question regarding which *READ 180*® instructional session the *READ 180*® teachers felt was the most beneficial to students was the Small Group direct instruction for 50% of the teachers and the *READ 180*® Software session by the other 50% of teachers.

Lexile growth. The teachers were asked what the average number of Lexile points students improved in one year in the *READ 180*® program. Two of the four

teachers selected 200 Lexile points. One teacher selected 100 Lexiles and the other selected 225 Lexiles for the average level of growth.

Table 22 displays the responses teachers selected for the reasons why students may not increase their Lexile levels at least 100 Lexile points in a year. Three responses were chosen by 100% of the teachers for the lack of a Lexile increase. These were: student's absenteeism, student's lack of motivation, and student lacked independent and self-regulation skills to remain focused on the independent tasks. In the open response section, one teacher responded: Special Education students mixed in with regular low students- LI (Learning Impaired) students did not perform as well.

Table 22

Reasons for Students' Lack of Progress

Reasons for Lack of Progress	Responses n=4
Student attended the program less than 5 days each week	1
Student did not complete the full cycle of program implementation each day Whole Group, Small Group Rotations (Small Group Direct Instruction, *READ 180*® software, Modeled and Independent Reading), & Whole Group Wrap-up	1
None of the above	1
Student's absenteeism	4
Student's lack of motivation	4
Student's initial reading level was too low for the program	2
Student's lack of phonemic awareness/phonics skills	2
Student's lack of reading skill follow through at home	3
Student's lack of reading skill follow through in the general education classroom	1
Student lacked independent and self-regulation skills to remain focused on the independent tasks	4
Other factors which could explain this lack of advancement:	
Special Education students mixed in with regular low students. LI students did not perform as well.	1

Special Education Teacher Responses

Two Special Education teachers who consulted with the *READ 180*® teachers completed the survey. The first section of the survey, General/Professional Background Information**,** asked specific questions about the individual teacher's background. The respondents had an average of 20 years of teaching experience (R=9-32 years). The number of years teaching in the participating school system averaged 17 years (R= 4-29 years). The teachers taught at their current school location an average of 17 years (R= 4-29 years). Both teachers held a Master's Degree with at least 30 university graduate credits beyond the Master's degree level. Neither teacher had attended at least one *READ 180*® training class/in-service during each year that they had been consulting with the *READ 180*® program. Following are their responses.

Selection of students with disabilities in the *READ 180*® program. Teachers were asked for the percentage of students with disabilities in the *READ 180*® classes. Both teachers responded the range was 0-25%. The response to the question asking the number of days the students attended the program was five days for both teachers. Teachers were asked the number of minutes each day the students with disabilities attended the *READ 180*® program. Both teachers responded with 90 minutes. A question asked the number of current students with disabilities who had previously participated in *READ 180*® in third grade. One student from the group of students with disabilities attended *READ 180*® in third grade.

The survey asked which classes students might miss in order to attend the *READ 180*® program. The two teachers responded that students missed their general education Reading/Language Arts instruction. One teacher responded that the students missed their

general education Social Studies and Science instruction, also. Table 23 shows the classes which the students with disabilities might miss to attend the *READ 180*® program during the week.

Table 23

Classes Missed by Students with Disabilities to Participate in READ 180® Program

Classes Missed	Responses n=2
Reading/Language Arts	2
Mathematics	0
Social Studies	1
Science	1
Health	1
Special (Art, Music, PE, Host Nation)	0
Other classes	0

***READ 180* program additional reading interventions**. Teachers were asked to indicate additional materials and activities not included in the specified *READ 180*® program that they used in their instruction. One special education teacher often used additional materials/activities for the Small Group, Software, and Independent Reading sections. The other teacher sometimes included additional materials or activities for all of the *READ 180*® sections. Table 24 displays the results.

Table 24

Use of Additional Reading Interventions by Special Education Teachers

Interventions	Responses n=2
Additional Reading Interventions are added to the standard *READ 180® program* during the instructional sessions	
Rarely	0
Sometimes	1
Often	1
Additional Reading Interventions are added to the Whole Group instructional sessions	
Rarely	0
Sometimes	2
Often	0
Additional Reading Interventions are added to the Small Group instructional sessions	
Rarely	0
Sometimes	1
Often	1
Additional Reading Interventions are added to the *READ 180®* Software instructional sessions	
Rarely	0
Sometimes	1
Often	1
Additional Reading Interventions are added to the Modeled & Independent Reading instructional sessions	
Rarely	0
Sometimes	1
Often	1

Special Education teachers were asked to select which additional materials, activities, and interventions they included in their *READ 180*® program. The responses are listed in Table 25.

Table 25

Additional Reading Interventions Used by Special Education Teachers

Interventions	Responses n=2
Literature books which coincide with the *READ 180*® literature theme	1
Book reports	2
Acting/Role-playing	1
Movies	1
Smartboard activities	1
Use of another commercially available reading/language arts program	2
Use of Internet resources such as Brain Pop, Enchanted Learning	2
Virtual field trips using the Internet	1
Field trips	0
Guest Authors	0
Guest speakers	0
None	0
Other specific additional reading intervention activities	0

***READ 180*® program modifications.** Modifying the curriculum "may be accomplished through providing supplemental materials such as lower-level reading material, and using various media, and manipulatives to assist in the attainment of individual objectives." (System, 2005, p. 6-12). Teachers were asked if modifications were made to the *READ 180*® program during the instructional rotation sessions. Modifications were sometimes made for the general *READ 180*® program, Whole Group, Small Group, and Modeled Independent Reading by both special education teachers. One

teacher rarely made modifications to the Software session, while the other made modifications sometimes. See Table 26.

Table 26

Modifications to the READ 180® Program by Special Education Teachers

Program Modifications	Responses n=2
Modifications are made to the standard *READ 180® program* during the instructional sessions	
Rarely	0
Sometimes	2
Often	0
Modifications are made to the standard Whole Group instructional sessions	
Rarely	0
Sometimes	2
Often	0
Modifications are made to the standard Small Group instructional sessions	
Rarely	0
Sometimes	2
Often	0
Modifications are made to the standard *READ 180®* Software instructional sessions	
Rarely	1
Sometimes	1
Often	0
Modifications are made to the standard Modeled & Independent Reading instructional sessions	
Rarely	0
Sometimes	2
Often	0

The special education teachers were given an open-ended question that asked why they modified the *READ 180*® program for students with disabilities. One teacher did not respond. The response from the other teacher was as follows:

READ 180® is often used as the sole curriculum for Reading and Written Language. Writing seems to be shortchanged. Giving students writing prompts with the use of graphic organizers with a mixture of Six Traits and other teaching writing methods have been effective in reaching my students' writing needs. Learning Strategies in meeting the children's reading needs in Social Studies and Science are needed.

The teachers were asked to explain why the program was modified for students with disabilities. Only one teacher responded: Written language is a missing component with the *READ 180*® program.

Evaluation of program modification effectiveness. The Special Education teachers were asked to choose the techniques used to evaluate the effectiveness of modifications to in the *READ 180*® program. Both teachers used the mastery of IEP goals/objectives to help determine if the modifications were successful with the student. The results are displayed in Table 27.

Table 27

Evaluation of Program Modification Effectiveness by Special Education Teachers

Evaluation Methods	Responses n=2
Teacher constructed assessments	1
Curriculum-based measurement-CBM	0
Oral Reading Fluency Drills	1
Running Record	1
Rubrics	1
Commercially available criterion referenced assessments	0
General education class tests and quizzes	1
Student self-assessment/questionnaire	0
Special projects	1
Effort/Improvement	1
Student interview	0
IEP goal/objective mastery	2
Other	0
None of the above	0

Role of the special education staff in the *READ 180*® classroom. The teachers were asked to select the roles they performed in the *READ 180*® classroom. The results are listed in Table 28.

Table 28

Role of the Special Education Staff in the READ 180® Classroom

Role of the Special Education Staff	Responses n=2
Adapts the curriculum for student's weak processing skills in visual, auditory, or processing speed areas	1
Modifies the curriculum	1
Designs assessments	1
None of the above	1
Lead and support role (special education teacher takes a supporting role)	0
Duet teaching (both general education and special education teacher contribute equally to the lesson objectives)	0
Speak and add (one teacher leads while the other clarifies)	0
Speak and chart (one teacher leads and the other charts the lesson information)	0
Skill grouping (students are divided into groups based on ability levels)	0
Station teaching (centers are set up for targeted skill activities which are supervised by the special and/or general education teacher)	0
Parallel teaching (each teacher teaches a different part of the lesson)	0
Shadow teaching (teacher reinforces and follows-up with the lesson with guided practice and additional assistance)	0
None of the above	2
Provides learning strategies (rubrics, graphic organizers, mnemonics, etc.)	1
Includes thinking skills in the lesson for higher order thinking skills	1
Peer-mediated instruction (teacher helps students to work together to understand different skills)	0
Communication skills (teacher facilitates listening, speaking, reading, and writing skills integration in the lesson)	1
Other	1
None of the above	0

The teachers were asked if a special education paraprofessional assisted in the *READ 180*® class. Neither special education teacher had a special education paraprofessional assisting in the *READ 180*® program in their schools. The teachers were

asked if time was scheduled during the week for the general education and special education teacher to plan together for the *READ 180*® class. Both teachers replied no.

The Special Education teachers were given an open-ended question that asked what they would change if they could redesign the *READ 180*® program. Each of the two teachers' responses follows:

Teacher 1: writing component;

Teacher 2: Make it available to more students as a means to help struggling readers, also.

Evaluation of progress for students with disabilities. The Special Education teachers were asked to choose the techniques used to evaluate student progress in the *READ 180*® program. Both Special Education teachers used *SRI, Reading Counts* Quizzes, Running Records, and IEP goal/objective mastery. The results appear in Table 29.

Table 29

Evaluation of Progress for Students with Disabilities by Special Education Teachers

Evaluation Methods	Responses n=2
Scholastic Reading Inventory (*SRI*)	2
rBook Tests	0
rSkills Tests	0
Student recorded readings on the *READ 180*® program	1
Scores from *READ 180*® student segment zones, words zones, spelling zones	1
Reading Counts Quizzes	2
Teacher constructed assessments	1
Curriculum-Based Measurement-CBM	0
Oral reading fluency drills	1
Running records	2
Commercially available criterion referenced assessments	1
Rubrics	0
General education class tests and quizzes	0
Student self-assessment/questionnaire	0
Special projects	0
Effort/improvement	1
Student interview	1
IEP goal/objective mastery	2
None of the above	0
Other methods for student progress evaluation	0

Beneficial instructional sessions. The question regarding which *READ 180*® instructional session the Special Education teachers felt was the most beneficial to students was the Small Group Direct Instruction for one teacher and the Modeled and Independent Reading for the other.

Lexile growth. The teachers were asked what the average number of Lexile points students improved in one year in the *READ 180*® program. One teacher responded 100 Lexiles and the second teacher did not respond.

Table 30 displays the responses teachers selected for the reasons why students may not increase their Lexile levels at least 100 Lexile points in a year. Both teachers selected absenteeism, lack of motivation, and lack of phonemic awareness/phonics skills.

Table 30

Reasons for Students' with Disabilities Lack of Progress

Reasons for Lack of Progress	Responses n=2
Program implementation was for less than 90 minutes a day	1
Student attended the program less than 5 days each week	1
Student did not complete the full cycle of program implementation each day Whole Group, Small Group Rotations (Small Group Direct Instruction, *READ 180*® software, Modeled and Independent Reading), & Whole Group Wrap-up	1
None of the above	1
Student's absenteeism	2
Student's lack of motivation	2
Student's initial reading level was too low for the program	1
Student's lack of phonemic awareness/phonics skills	2
Student's lack of reading skill follow through at home	1
Student's lack of reading skill follow through in the general education classroom	1
Student lacked independent and self-regulation skills to remain focused on the independent tasks	1
Other factors which could explain this lack of advancement	0

Summary of Results for Research Question 2

Results of the survey indicated that criteria used to select students for *READ 180*® varied across the district. The reasons that students who qualified for the *READ 180*® program, but then did not receive these reading services included parent refusal, *READ 180*® class was full, student behavior issues, lack of self-regulation skills/independent working skills, and student's reading level was too low to benefit from

the *READ 180*® program. Students typically missed their general education Reading/Language Arts class, but some students missed Social Studies, Science or Health to attend *READ 180*®. The respondents followed the Scholastic *READ 180*® guidelines for program implementation and rotation teaching. Additional reading interventions were added to the *READ 180*® program and Small Group sessions, but rarely to the Software session. Teachers included these interventions to expand or clarify a concept. Also, *READ 180*® did not include an intervention for writing activities. Additional personnel in the classroom included the special education teacher or a paraprofessional. The use of assistive technology devices included keyboard and headset devices, other than the standard *READ 180*® issued models. Modifications were made in all of the *READ 180*® instructional areas, but rarely to the Software session.

Teachers suggested changes to the *READ 180*® which included the addition of comfortable furniture, an expansion of audio books and reading materials, additional software and updated computers, and the inclusion of a writing program. Teachers used a wide variety of methods to evaluate student progress, including formal and informal assessments. Small Group direct instruction, Software, and Modeled and Independent Reading sessions were felt to be of the most benefit to the students. Yearly Lexile growth may not occur due to student, home, or school related issues.

Students with disabilities attended the *READ 180*® program. Special Education teachers made modifications and used additional interventions in the *READ 180*® program. Modifications were made to include written language activities because that component was missing from the curriculum. In summary, the teachers supplemented the

standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

Summary of Chapter

This chapter displayed the results of the analyses used in the investigation of the study examining the effectiveness of the *READ 180*® program on the reading achievement levels of fourth grade students who participated in the *READ 180*® program compared to fourth grade students who were reading below grade level but who were not participating in the *READ 180*® program. In addition, a web-based survey was used to determine if the teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students.

In order to answer the first research question, a One-Way ANCOVA was conducted to examine differences between the September through May/June *SRI* scores comparing the *READ 180*® and the non-*READ 180*® students. Results of the One-Way ANCOVA showed there were no significant statistical differences (.058, p=<.05, F=3.70) between the posttest *SRI* scores of students who participated in the *READ 180*® program versus students who qualified for *READ 180*® but who did not participate in the program. However, for this study, if the probability was set for p=< .10, the results of the study would demonstrate a statistically significant difference between the posttest *SRI* scores of students who participated in the *READ 180*® program and the students who did not, thus rejecting the null hypothesis. Although there is some evidence that the *READ 180*® program was statistically significant and beneficial to the students, given the limited sample size of the study with 80 students, the results are not conclusive.

A Two-Way ANCOVA was conducted to examine the differences among the between subject factors using the student's *TerraNova Third Edition*™ Reading and Language scores as qualifying criteria. These groupings were designated as: qualified based on reading; qualified based on language; qualified based on both reading and language; and, not qualified within the *READ 180*® group. (For this last group, the student's *TerraNova Third Edition*™ Reading and Language scores were above the 35th percentile.) The results of the Two-Way ANCOVA showed no significance (.590, p= <.05, F=.532) between the students in *READ 180*® and the non-*READ 180*® program, based upon the qualifying *TerraNova Third Edition* Reading and/or Language scores.

The second purpose of this study was to determine if the teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students. Teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation were surveyed to: (1) ascertain the implementation of the *READ 180*® program; (2) collect data on the instructional modifications made to the standard *READ 180* program; and, (3) determine the effectiveness of these modifications made to the *READ 180*® program.

Results from the survey indicated the general education and special education teachers supplemented the standard *READ 180*® program, Whole Group, Small Group, and Independent Reading Group rotations with reading interventions, activities, and modifications based upon the needs of the students. These included the use of Internet resources, reading materials, Smartboard activities, and alternate methods for evaluating student progress. The use of other commercially available materials and activities for written language instruction were included to expand the *READ 180*® curriculum.

Modifications and interventions were rarely made to the standard *READ 180*® Software instructional sessions, with the exception of keyboarding devices and headsets.

CHAPTER V

Discussion and Implications

One purpose of this study was to examine the reading achievement levels of fourth grade students who participated in the *READ 180*® program compared to fourth grade students who were reading below grade level, but who were not participating in the *READ 180*® program in the selected school system. In addition, an online web-based survey program was used to gather specific information about the *READ 180*® reading program from teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation in order to determine how these teachers were implementing the program.

Results of Comparison of Scores

Results of the analysis of posttest *SRI* scores showed no significant statistical differences at the .05 level between the posttest *SRI* scores of students who participated in the *READ 180*® program compared to students who qualified for *READ 180*® but who did not participate in the program. Although there is some evidence that the *READ 180*® program was statistically significant at the .10 level and beneficial to the students, given the limited sample size of the study with 80 students, the results are not conclusive. Also, there were no significant differences in posttest scores between the students in *READ 180* and those in the non-*READ 180*® program, based on whether they had the qualifying *TerraNova Third Edition*™ Reading and/or Language scores. This appears to suggest that other reading programs may be just as successful in teaching reading as *READ 180*®. If this is the case, there would be no reason for the district to purchase an intervention program that has not proven to lead to significantly higher reading scores for below grade

level readers. The district would save money and the students would be able to stay in their homeroom for reading instruction with their peers. However, due to the small sample size of this study, generalizations and implications cannot be made.

There may be several factors that explain these findings. For example, the Computer Software rotation is the most popular rotation for the students, based upon the personal experience of this researcher. With computer assisted instruction, students follow along as story passages are read and they are able to make recordings of their own passages. Comprehension, vocabulary, and spelling skills are also targeted in a format which students enjoy. However, Sorrell et al. (2007) studied the effectiveness of computer reading software in increasing academic achievement among elementary school aged children. They found students with a low average reading rate increased their comprehension scores after working with computer assisted instruction. Yet, for students with a faster reading rate, comprehension decreased. This phenomenon may be occurring in the *READ 180*® program with the students who qualified based on low *TerraNova Third Edition*™ Language scores and those with Reading and Language scores above the 35th percentile. The students may be adjusting their normal reading rate to match the computer assisted instruction. If this level is too low for the students, they may be challenged to pay attention to the computer voice as they try to race ahead to read the printed word, thus diminishing their comprehension of the passage.

Another factor may be the selection criteria used by the district to place students in the *READ 180*® program. The *TerraNova Third Edition* ™ Reading and/or Language subtest scores are one of the major pieces of data used when selecting students who might qualify to attend the *READ 180*® program. Before the school year ends in June, the

reading specialists at each school examine the subtest scores to select students to join the program the following September. These teachers carefully record a list of students who scored at the 35th percentile or below on these subtests. The students who are in the greatest need are typically selected for *READ 180*®. Based upon the results of the present study, some students who qualify based on only *TerraNova Third Edition* ™ Reading or Language scores may not be suitable candidates for the *READ 180*® program. The general education school-wide reading program, which includes a comprehensive written language curriculum, may be the better option for these students to increase their literacy skills.

In the survey section, *READ 180*® Student Selection, *READ 180*® teachers were asked to select the criteria used for student selection into the program. Teacher responses indicated that criteria for student selection may differ by school. *READ 180*® Student Selection in the next section discusses this topic in more detail. If schools are not consistent with the qualifying criteria, students who would be selected for *READ 180*® in one school may not be selected in another. One *READ 180*® teacher listed the *TerraNova Third Edition* ™ cut-off score as the 40th percentile for her school. For these students, *READ 180*®, which is designed for students reading below grade level, may not be challenging enough for a student who is reading within the average range of fourth grade abilities.

Implementation of *READ 180*®

Four *READ 180*® and two special education teachers who had recent experience with the *READ 180*® program participated in the survey. These teachers represented 56% of the schools where *READ 180*® was taught to fourth graders in the district. Overall, the

teaching staff was experienced and prepared to teach reading and language arts. However, since 50% (n=2) of the *READ 180*® teachers were new to the program, they may have needed mentoring and guidance to use the program effectively. The goals of the survey were to: (1) ascertain the implementation of the *READ 180*® program; (2) collect data on the instructional modifications made to the standard *READ 180*® program; and, (3) determine the effectiveness of these modifications made to the *READ 180*® program. The study found that *READ 180*® teachers supplemented the standard *READ 180*® program with reading interventions, activities, and modifications based upon the needs of the students. However, due to the low response rate, it is difficult to draw any definitive conclusions about how the program is being implemented throughout the participating school district.

***READ 180*® student selection.** Each *READ 180*® teacher represented one school. Although all four schools were located in the same school district, criteria levels differed for the *SRI* and *TerraNova Third Edition*™ assessments, which are critical data elements used to select students for entry into the *READ 180*® program. Additional data, such as Developmental Reading Assessment (DRA) scores, report card grades, and teacher/school staff recommendations, were also important pieces in this process in some schools. School personnel do not appear to be consistent across the district in regards to the selection of students who may qualify for the *READ 180*® program intervention. This may be due to the number of 90 minute block sessions for *READ 180*® in each school, which limits the number of student participants. The recommended maximum number of students is 15 to 18 in the class (Scholastic, Inc., 2005). In some schools, additional 90

minute block sessions of *READ 180*® may be needed to accommodate all of the students who qualified for the program.

The reasons given for why qualified students do not attend the *READ 180*® program also included parent refusal, unavailable space, student behavior issues, or too low of a reading level. While these may be valid reasons, they need to be explored. For example, Hinshaw (2005) noted students with below grade level reading skills may possess low self-esteem, anger issues, and off-task behaviors to compensate for the inability to read on grade level. Nevertheless, rather than exclusion, intensive reading programs are needed to raise the reading skills of these students as part of addressing the behavior issues. Exclusion from the *READ 180*® program based on student behavior issues may not be in the best interest of the below grade level reader. Also, if the student's reading level was too low for the *READ 180*® program, a student referral to the Special Education Child Study Committee may be in order and needs to be considered as part of the selection process to make sure students do not fall through the cracks and not have their reading needs addressed.

Parents may refuse the *READ 180*® placement due to lack of understanding about the goals of the program or they do not want their child to be removed from the general education class. Besides meeting with the parent, a *READ 180*® Information Night or Open House are two methods which can successfully inform the community and answer any questions about the *READ 180*® program to increase parent understanding. However, it is important to be able to demonstrate to parents that participation in the program will benefit their child. Given the results of the present study, exclusion from the general education reading or language arts instruction may not be of benefit to some students.

Program implementation. All four *READ 180*® teachers indicated they consistently adhered to the *READ 180*® implementation specifications for 90 minute block sessions for five days each week, following the recommended rotation schedule. The *READ 180*® program sessions in three of the schools were scheduled during the students' general education Reading/Language Arts instruction. In the other school, the students missed their general education Social Studies, Science, and Health instruction. In one school, the students with disabilities missed Reading/Language Arts, Science, and Social Studies. According to the *READ 180*® guidelines (Scholastic, Inc., 2005) the recommendation is for students to attend their general education Reading/Language Arts instruction, while they miss the science and social studies instruction to attend the *READ 180*® program. The students are exposed to science and social studies concepts throughout the *READ 180*® program rotations to compensate for missing their homeroom science and social studies classes. When using this schedule, the students receive a double dose of reading instruction every day, thus leading to an increase in reading skills. Based upon information provided from the survey, only 25% (n=1) of the schools followed the recommended *READ 180*® implementation which allowed students in the *READ 180*® program to receive reading/language arts instruction twice a day. Children who experience reading problems need intensive and specific reading instruction with strong classroom instruction in order to increase reading growth (Torgesen, 2002). This lack of the extra reading and language arts instruction may be one of the reasons why the students did not demonstrate significant reading gains in the study.

Additional reading interventions. Additional materials and activities are those materials and activities or interventions not included in the specified *READ 180*®

program. General and special education teachers used additional reading materials and activities in the *READ 180*® whole group, small group, and independent reading sections. Interventions were rarely included during the software instructional session, with only keyboard devices and headsets being listed. Reading interventions included a variety of books, movies, role playing, Internet resources, guest visits, and home activities. However, additional commercially available reading/language arts programs were added for use in the *READ 180*® program, because writing activities were not included for the lesson. The lack of a clear writing curriculum is a concern. Although *READ 180*® was developed as a program to increase reading skills, students who attend the 90 minute block program are missing out on this curriculum area in the general education classroom. *READ 180*® teachers must include writing activities into the daily rotation schedule. Using this time to teach the grade level writing standards takes away from the concentrated reading activities in the *READ 180*® program.

Modifying the *READ 180*® curriculum. Teachers made modifications to all *READ 180*® rotations, Whole Group, Small Group and Modeled Independent Reading, except for the .*READ 180*® Software instructional sessions, although one of the special education teachers sometimes made modifications. One of the *READ 180*® teachers used modifications with the keyboard and headsets. These modifications could be to help the students be more comfortable at the computer. Based upon personal experience, some of the computer stations are too high for students who are smaller in stature. The students are able to work for the 20 minute rotation, but it is not comfortable. The teacher may have devised a way for these students to reach the keyboard at an acceptable height. Also, for students who have fine motor problems, striking the correct key may be extremely

difficult. The occupational therapists have several modified or extended keyboards which can be used in the place of a standard keyboard. To reduce distractions, the number row and the right side number key panel might be covered up to help the student remain focused on the letters. Headsets are useful in the class while the students are reading the audiobooks to reduce the noise level in the class and to allow several students to read audio books at the same time. Headsets also can be used as sound proofing devices to block out extraneous noise when a student is trying to read silently.

One special education teacher noted specific additional activities used to modify or augment the *READ 180*® program for students with disabilities included written language and learning strategies skills. Although *READ 180*® is used to enhance reading and language arts skills, the written language portion is not highly developed in the *READ 180*® program. In the *READ 180*® program, students are taught how to self-check the understanding of a passage, but specific learning strategies are not part of the program.

The teachers evaluated the effectiveness of modifications used for students with disabilities in the *READ 180*® program by using a wide variety of methods, which may not be included in the standard *READ 180*® program. Some include: (a) Teacher constructed assessments; (b) Oral Reading Fluency Drills; (c) IEP goal/objective mastery; and (d) General education class tests and quizzes. If modifications are being made to the program to allow a student to have greater access, the teacher must assess if they are effective. *READ180*® has formal assessment for the *rBook* and students are monitored on the computer. But that is not enough. Individualized assessment, with input from the student, will allow the teacher to make adjustments, as needed. Based upon these

findings, teachers need to be aware of and receive professional development in alternate assessment methods that can accurately assess student learning in the *READ 180*® program.

Evaluation of student progress. The teachers employed a wide variety of assessments to document the reading advances made by the students. Some assessments were part of the *READ 180*® program, while others were additions to the program, such as general education class tests and quizzes, special projects, student interview, and IEP goal/objective mastery. These may have been included based on the specific needs of the students to demonstrate mastery level of the skill. Assessment should to be tailored to the child, especially for a student who is receiving special education services. The *READ 180*® program has comprehension assessments for each story in the *rBook* and students are continually monitored during the Software rotation. Other than these, there are no formal day to day assessments built into the program. The students have different reading and learning needs. Based on the survey results, the evaluation methods used by the teachers were wide ranged, so all students would be able to demonstrate their progress in a variety of activities. By using these alternative methods, the teachers went beyond the expectations of the *READ 180*® program. The inclusion of general education tests also allows the teachers, as well as the students, to document the student's reading growth on grade level material.

The students in the *READ 180*® program improved an average of 181 Lexiles (R=100-225). Based upon a special education teacher's response to the survey, 100 Lexiles is the average yearly growth rate for a student with disabilities. A gain of at least 100 Lexiles is considered to be the average. Teachers gave the following reasons for why

a student might not obtain at least a 100 point Lexile growth: attending the program for less than five days a week; not completing the full *READ 180*® rotation cycle of activities; program implementation was less than 90 minutes a day; and lack of reading follow through in the general education classroom. Student related issues such as absenteeism, as well as the lack of reading or phonemic awareness skills, motivation, independent and self-regulation skills, and reading skill follow through at home, were also reasons given. With such a diverse list of reasons for low levels of student reading growth, teachers need to focus on individual students to locate the specific barrier to reading achievement. Also, to achieve high levels of reading growth, students need to follow the program guidelines in a class that implements the *READ 180*® program with fidelity (Scholastic, Inc., 2005). Anything that disrupts adherence to the program guidelines may lead to lower reading achievement.

The *READ 180*® instructional session which the teachers felt was the most beneficial to students was divided between the Small Group Direct Instruction, *READ 180*® software, and the Modeled and Independent Reading segments. Based on these results, the instructional sessions with the smallest number of students appears to be the most beneficial for the students. This reinforces the findings of Rashotte et al. (2001) who found that grouping of three to five students provided the most effective instruction setting for students with reading difficulties.

General and special education teacher planning time. Although collaboration is an essential element for co-teaching to be effective (Scruggs, Mastropieri, & McDuffie, 2007), the *READ 180*® and special education teachers reported no time was scheduled during the week for them to plan and coordinate lessons together. The role of the special

education teacher in the *READ 180*® class is essential to assist students in developing reading skills. Without coordinated planning times, the teachers lose the ability to map out lessons and key objectives for the students. The teachers may have to use valuable class time to discuss lesson objectives and teaching tasks for the day. These are minutes that could have been spent assisting the students with learning how to read.

Teacher suggestions for changes or additions to *READ 180*®. The teachers were asked what they would change or add if they could redesign the *READ 180*® program. They suggested adding more software, audio books, and reading materials to the program. These are the core materials for the *READ 180*® program. One teacher requested assistance in the classroom, so that pupil to teacher ratio could be lower. Two of the teachers did have a special education paraprofessional assisting in their classroom, and based upon the personal experience of this researcher, an additional adult or assistant in the room can readily assist the students with unknown words, computer issues, or just read with the students while the teacher delivers the small group reading lesson.

One teacher expressed the need to include self-esteem/posters/ideas, with the time to focus on these issues in the class. Cleveland (2011) discussed the need to help boys who struggle with reading to gain a sense of choice and control. By developing ways for boys to feel confident as they master reading skills, they will lose the feeling of hopelessness which they may possess while learning. Girls in the *READ 180*® program could also benefit from enriching activities which celebrate their reading skill development. By building up the students' confidence, the students may be more willing to take a risk in the classroom by selecting challenging reading materials and activities.

Computer hardware issues were a concern for several teachers. The highlight of the program for students is the computer assisted instruction. School network systems and up-to-date computers are mandatory to run this powerful program. If the computers are continually breaking down or the network shuts down, valuable instructional time is lost.

Implications for Practice, Policy, and Research

Recommendations for future practice can be surmised from this study. The *READ 180*® reading program is used throughout school systems to increase the reading levels of below grade level readers. Documentation is needed to ensure the program is effective with all students. It is especially important to ascertain the appropriateness of *READ 180*® usage with students who have special education needs. Teachers need to be clear about the student's specific special education goals and objectives and determine if *READ 180*® is the appropriate reading program to use.

By using the student *SRI* and *TerraNova Third Edition*™ results, as well as other assessment data, the teachers can determine the reading growth of the students. As documented from the survey respondents, the criteria for student entry selection into the *READ 180*® program vary from school to school. This may be based on the number of available block 90 minute *READ 180*® program slots at the school. If *READ 180*® is considered to the be primary intervention reading program in the schools, then all students who qualify should be able to enroll in the program, thus making equal access for all.

Up-to-date training for *READ 180*® teachers, especially for new *READ 180*® teachers, special education teachers, and paraprofessionals who assist them, is a yearly

necessity. Professional development with all staff is needed to understand the underlying principles of the *READ 180*® program, research based reading interventions, and carryover of reading strategy follow through in the general education classroom. In the Small Group and initial Large Group sessions, the teachers need to stress explicit skill development in comprehension and inferential understanding, while teaching the students specific strategies to use when reading.

Problems with equipment, specifically with the computers, were mentioned by survey respondents. A key component of the *READ 180*® program is the individualized *READ 180*® software rotation. During this rotation, students are able to watch a video to develop background knowledge of the targeted story, follow along with an audio reader to learn the correct pronunciation of the words, and gain immediate feedback on vocabulary, comprehension, and spelling activities. This rotation is vital to developing the student's reading skills, especially for fluency and vocabulary development. Schools need to make sure that the computers and Internet band width are up-to-date, with the capacity to support the *READ 180*® program. A day without computer connections is a day without reading connections.

Teacher and student ratios were notated as a concern in some of the survey responses. The *READ 180*® program recommends 15 to 18 students in the class, which is typically a much lower ratio than most general education classrooms. When the Small Group rotations begin, the ratio drops to 5 or 6 students to one teacher in the Small Group Direct Instruction; however, the rest of the class must work independently. In the *READ 180*® classes with students with special education needs, a paraprofessional or special education teacher can work with the students with special education needs, as well as the

other students in the class. It is vital that other personnel be involved the *READ 180*® class to encourage reading skills and lower the teacher/pupil ratio. These assistants can include parents, administrators, general education teachers, literacy coaches, reading specialists, high school students, and community volunteers.

Some recommendations for future research needs are evident from this study. The data collected for the study were compiled from a small group of students, teachers, and schools. Future studies should include more *READ 180*®, special education, and general education classroom teachers to gather information about the effectiveness of the *READ 180*® program. An increase in the number of students in the study is needed to determine if the yearly *SRI* gains for students in the *READ 180*® program is statistically significant, compared to the school-wide reading curriculum. The fidelity of the *READ 180*® program should be addressed. Students made the highest reading gains in classrooms that followed the program's guidelines and schedules (Scholastic Research and Evaluation Department, 2007a). The study of the effect of the teacher modifications and additions to the standard *READ 180*® program which lead to student reading growth is warranted.

Limitations of the Study

Due to the limited sample size, especially with the *READ 180*® survey, results should be interpreted with caution. Generalizations and implications can only be made in regards to the participating teachers, students, and schools and should not be generalized to other settings. A larger sample size, including more teachers who had worked with the *READ 180*® program in the past, may have yielded different results in the survey. Because of the nature of the research study, teacher fidelity for following the *READ 180*® program model was not specifically assessed. Correlating teacher fidelity to the

student *SRI* scores may have yielded reliability information regarding the consistency of the *READ 180*® program implementation. Also, student opinions were not obtained in this study. Student opinions of the program may be beneficial for understanding student motivation and perceived reading skill development. Student input on what works and what does not work in the classroom is always valuable.

The concern for implementation fidelity can be a factor for a program like *READ 180*®. Students who attended a *READ 180*® program which adhered to the on-model *READ 180*® guidelines demonstrated the highest yearly reading growth (Scholastic Research and Evaluation Department, 2007a). For the students in this study, there is no way of validating how rigorously their teachers followed the recommended guidelines. Based on the *READ 180*® teacher respondents from the survey, modifications were made to all of the sessions, with the exception of the Computer Software rotation, which rarely had modifications made to it. There is a possibility that student *SRI* scores may have increased if they were enrolled in an on-model classroom which strictly followed the *READ 180*® implementation guidelines.

Also, it cannot be accounted if any of the teachers were using *READ 180*® techniques and materials in the general education class. Depending on the year, some former *READ 180*® teachers might work in the general classroom as classroom teachers, reading specialists, or special education teachers. These teachers may be using the *READ 180*® instructional materials and activities to supplement the general education literacy curriculum. The specific reading techniques and activities used in *READ 180*® may carry-over to the general education instruction. Thus, some of the students in this study

may have experienced the added benefits of *READ 180*® without participating in the program.

The students in this study were divided between those enrolled in *READ 180*® and those who were not. *TerraNova Third Edition*™ and *SRI* scores were obtained based on this delineation. Students who received special education services were not distinguished. An analysis of the *SRI* gains for these students may have been beneficial to determine if they made statistically significant gains in their reading scores, compared to their nondisabled peers. Also, based on information gathered from the survey, one student attended *READ 180*® during third grade. Due to the nature of the study, there was no way to identify this student in order to analyze the scores separately.

The design of this study employed data analysis and the use of a survey. No attempt was initiated to observe the students' general education classrooms for reading strategies and reading program usage. Students who attend the *READ 180*® program need continual reading skill reinforcement throughout the day in their school environment. Ninety minutes of reading instruction in the *READ 180*® classroom is not enough. The general education classroom instruction may or may not have influenced the reading gains of the students throughout the year.

Summary

One purpose of this study was to examine the reading achievement levels of fourth grade students who were participated in the *READ 180*® program compared to fourth grade students who were reading below grade level, but who were not participating in the *READ 180*® program in the selected school system. Results of the analysis of posttest *SRI* scores showed no significant statistical differences at the .05 level between

the posttest *SRI* scores of students who participated in the *READ 180*® program compared to students who qualified for *READ 180*® but who did not participate in the program. Although there is some evidence that the *READ 180*® program was statistically significant at the .10 level and beneficial to the students, given the limited sample size of the study with 80 students, the results are not conclusive. A further analysis was conducted to determine if there was a significant difference in the posttest *SRI* scores, based upon the qualifying *TerraNova Third Edition*™ Reading and/or Language scores for students who attended the *READ 180*® program. The results showed no significance of interaction between reading program status and *READ 180*® *TerraNova Third Edition*™ qualification criteria.

In addition, an online web-based survey program was used to gather specific information about the *READ 180*® reading program from teachers who taught *READ 180*® and special education teachers who assisted with *READ 180*® implementation in order to determine how these teachers were implementing the program. Results from the survey indicated general education and special education teachers supplemented the standard *READ 180*® program including, Whole Group, Small Group, and Independent Reading Group rotations, with reading interventions, activities, and modifications based upon the needs of the students. Supplementary activities included the use of Internet resources, reading materials, Smartboard activities, and alternate methods for evaluating student progress. The use of other commercially available materials and activities for written language instruction were included to expand the *READ 180*® curriculum. Teachers expressed concern with the potential for computer hardware breakage and the need for more audio and book resources. Modifications and interventions were rarely

made to the standard *READ 180*® Software instructional sessions, with the exception of keyboarding devices and headsets. Yet, in spite of these concerns and the need to supplement the standard *READ 180*® program, one of the survey respondents requested to "make it available to more students as a means to help struggling readers."

Some recommendations are evident from the results of the study. Future research studies should include more *READ 180*® special and general education classroom teachers to gather information about the effectiveness of the *READ 180*® program. A larger sample size may have yielded different results. Areas of concern include student criteria for program entry, up-to-date training for teachers, teacher/pupil ratio, and potential problems with the computers. The lack of a formalized writing program was of great concern to the teachers. Limited generalizations can be made due to the small sample size in this study. Teacher fidelity for following the *READ 180*® program model was not specifically assessed in the study. Correlating teacher fidelity to the student *SRI* scores may have yielded reliability information regarding the consistency of the *READ 180*® program implementation.

In the end, school leaders must institute effective, research based reading/language arts programs to develop high achieving literacy skills for all students. Students who are struggling readers in fourth grade will have a very difficult time as they transition to the higher grades, where the text becomes more demanding, with higher level vocabulary words, inferential reading passages, and core subject driven material. The *READ 180*® program was developed in line with the essential reading building blocks to achieve student reading success. However, the results of this study are inconclusive. There is evidence the *READ 180*® program is effective for some students,

as well as evidence the program may not be as effective as once thought for other students. Additional studies, which involve a larger sample size, and assessing the fidelity of *READ 180*® implementation, will advance the knowledge of the statistical effectiveness of the *READ 180*® program.

Appendices

Appendix A. Research Studies Methodological Critique Matrix-*READ 180*® Studies

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Scholastic Research and Evaluation Depart-ment, 2003	Rationale: To provide an overview of how *READ180*® meets the needs of struggling readers. Purpose: To demonstrate the effectiveness of the *READ 180*® program with elementary and middle school students in Iredell-Statesville Schools, NC.	None provided.	*READ 180*® program	Standardized English comprehension test scores. North Carolina standardized math end-of-grade test scores for academic background. Student gender and ethnicity.	ES and MS students in Iredell-Statesville Schools, NC. 475 fourth through eighth graders. 441 students had both 2002 & 2003 reading test scores. 370 students experienced *READ 180*® for an entire year. 105 students experienced *READ 180*® for one semester only. 142 students had a learning disability.	Standardized English comprehension tests were taken before *READ 180*® implementatio n (2002) and then compared to the scores after exposure to the *READ 180*® program (2003).	Matched-pairs t-test analysis (pre- and post-*READ 180*®) of 2002 and 2003 test scores. ANOVA analyses to examine the effect of time in the program (one or two semesters) and interactions between the background student variables and time in program. Matched-pairs t-tests found statistically significant relationships for all levels, prior year reading ability and ethnic background.	*READ 180*® students gained an average of half an achievement level -North Carolina standards, Levels I-IV. For students receiving only one semester of *READ 180*®, time in program had no significant effect on student performance. Reading improvement was evident across gender, grade level, learning disability, and ELL status. 63% of fifth grade *READ 180*® students gained at least one achievement level in reading. 50.6% of the *READ 180*® students gained at least one reading achievement level.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Scholastic Research and Evaluation Depart-ment, 2007a	Rationale: Not provided. Purpose: To evaluate the effectiveness of the *READ 180*® program in nine DoDEA schools.	Matching pretest and posttest Terra Nova Reading results.	*READ 180*® program	*Terra Nova* Reading Test .	128 fourth through ninth graders from nine DoDEA schools in the U.S. and Germany. .	During the 1999-2000 school year, matching pretest and posttest *Terra Nova* Reading results were compared.	Pretest reading mean of 38.47 NCEs. Posttest mean of 47.3 NCEs. Gain of 3.48 NCEs. Pre & Post-test means significantly different .001 level. On-model students reading pretest mean of 39.9 NCEs. Posttest mean of 47.3 NCEs. Gain of 7.45 NCEs. Off-model students reading pretest mean of 37.7 NCEs. Posttest mean of 39.1 NCEs. Gain of 1.37 NCEs. ANOVA results of the on-model versus off-model comparisons statistically significant at .024 level. On-model students' scores showed greater gains.	*READ 180*® had a positive effect on reading and language arts scores during the 1999-2000 school year. Students in on-model classrooms showed statistically significant reading growth compared to students in off-model classrooms. Attitudes toward reading and self-esteem improved. At the beginning of the study, 88% of the students had negative response toward reading or themselves. At the end of the year, 8% had a negative response toward reading or themselves. 95% of the students made statements indicating that their reading had improved.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Scholastic Research and Evaluation Depart-ment, 2007b	Rationale: None provided. Purpose: None provided.	None provided.	*READ 180*® program	*Scholastic Reading Inventory (SRI)*	Third grade students in Region 8, NY Public Schools during the 2004-2005 school year.	No information was provided.	*SRI* mean pretest score before *READ 180*® was 132 Lexiles. SRI mean post-test score after *READ 180*® was 323 Lexiles. Gain of 191 Lexiles. The number of students designated as Beginning Readers (BR) on the *SRI* decreased from 31% to 9% after *READ 180*®.	Third grade students enrolled in the *READ 180*® program gained an average of 191 Lexile points on their 2005 *SRI* assessment. Fewer third grade students scored in the Beginning Reader level on the *SRI* after participating in *READ 180*®.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Thomas, 2003	Rationale: None provided Purpose: None Provided	None provided.	*READ 180*® program	*SRI* STAR-Standardized Test for Assessment in Reading	Fourth through eighth grade students enrolled in *READ 180*® from 1999-2003 from the Kirkwood, MO school district. Number of students in the *READ 180*® program varied from 177 in 1999-2002 to 369 in 2002-2003. Students in special education taking *READ 180*® ranged from 16% in 1999-2000 to 41% in 2002-2003.	No information was provided.	No information was provided.	90% of the students in the *READ 180*® program increased reading levels from pretest to posttest scores during the four years of the study. Students with a Language Impairment disability showed significantly less progress than students with other forms of special education disabilities. African American students in *READ 180*® showed steady progress in reading. In spelling, 87% of the students were making progress, but the students' scores were below their expected levels. Higher increases in student reading levels were noted for the 4th and 5th graders, compared to students in middle school.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Visher & Hartry, 2007	Rationale: Studies are lacking that use rigorous methodology to isolate the impact of academic interventions in the after-school setting on the learning outcomes. Purpose: To evaluate the impact of *READ 180*® for after-school programs.	None provided.	Adapted version of *READ 180*® for 60 minutes with three rotations: 1) small group direct instruction 2) inde-pendent and modeled reading 3) *READ 180*® software or computer. Program was used four days a week for a year.	Attendance in and attitudes toward the after-school program. Self-efficacy, behavior, and attitudes toward reading. Reading skills in phonemic decoding, oral fluency, word recognition, comprehension, and vocabulary.	Ethnically diverse, low income population from Brockton, MA public schools. 300 fourth, fifth, sixth graders All students read below proficiency according to Massachusetts state assessment.	Students completed the reading assessment and baseline survey. They were randomly assigned using a 50/50 split to treatment or control group. Students grouped into 20 classes of about 15 students, typically from the same grade. Assigned teacher was accredited and taught in the same school during the day. Teachers were not randomly assigned.	Results of GRADE-no statistically significant difference in vocabulary and comprehension scores of *READ 180*® and control group students.	*READ 180*® students were more motivated and eager to attend the program and attended more frequently. *READ 180*® students stated that they were good at remembering words. Students read more books in the after-school program. Oral Reading Fluency, measured by DIBELS, increased, but varied by grade and school. As measured by TOWRE, *READ 180*® students made more than an average year's progress in word recognition, compared to the control group. Students read words more quickly and accurately. Largest impact was on 4th graders and students who began the year with a low interest in reading.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
White, Williams, & Haslem, 2005	Rationale: Not provided. Purpose: To ascertain the effectiveness of the *READ 180*® program in changing student performance.	None provided.	*READ 180*® program	End of year Reading and Language Arts (ELA) tests. Students enrolled in *READ 180*® compared to students not enrolled in *READ 180*®. Comparisons made with the areas of student characteristics (grade), eligibility for Free or Reduced Priced Lunch program, eligibility for special education services, and the attendance rate.	652 students in grades fourth through eighth in the Community School District 23 in Region 5, NYC. 31% were fourth graders 29% were fifth graders *READ 180*® students more likely to be female. *READ 180*® students less likely to be eligible for special education services. 65% of *READ 180*® students scored in Proficiency Level 2 on the ELA exam.	No information was provided.	*READ 180*® students averaged a gain of 17.2 scale-score points, with a median of 19 scale-score points, on the ELA exam between 2001-2002. Nonparticipants in the same grade and school averaged a 14.3 point gain, with a median of 13 scale-score points. Statistically significant difference at $p<.01$, Chi Square. *READ 180*® students who scored at the Proficiency Level 2 on the ELA exam in 2001, gained an average of 16.5 scale-score points between 2001 and 2002, compared to nonparticipants with a gain of 13.1 scale-score points.	*READ 180*® students averaged larger scale score point increases than nonparticipating *READ 180*® students in the same school on the ELA exam. The largest gains were for students who scored in the Proficiency Level 2 on the 2001 ELA exam. *READ 180*® students in Proficiency Level 3 and 4 were more likely to perform above grade level. *READ 180*® students in the fifth grade made noticeable gains.

Statistically significant difference at p<.01, ANOVA.

For *READ 180*® students and nonparticipants who scored in the Proficiency Level 1, 3, or 4 on the 2001 ELA exam, there was no significant difference in the scale-score points.

READ 180® students achieved larger gains in percentage of items answered correctly on 3 of the 2001 ELA subtests than nonparticipants. Statistically significant difference at p<.05, ANOVA. *READ 180*® 5th graders made larger gains on the ELA exam between 2001-2002 than did the same school 5th graders who did not participate in *READ 180*®. Statistically significant difference at p<.05, ANOVA.

Appendix B

System 2009 English Language Arts Standards for Fourth Grade

During the fourth-grade year, students continue to build their vocabularies, adding letters at the beginnings and ends of root words to create new words, such as nation/national/nationality. They learn variations on word meanings---synonyms, antonyms, idioms, and words with more than one meaning. They recognize key features of textbooks and begin to use a thesaurus to find related words and ideas. They read a variety of grade-level-appropriate classic and contemporary literature and expand their interest in nonfiction books, biographies, historical fiction, science fiction, and mythology. They write multiple-paragraph narrative, descriptive, and persuasive compositions that begin to use quotations or dialogue to capture their readers' attention. They use the conventions of Standard English in their written communications. They deliver oral summaries of articles and books that they have read.

By the end of Grade Four, students are expected to be reading "At the Standard" (See the System ELA Addendum 1: Reading Performance Levels). The quality and complexity of materials read should reflect the grade-level-appropriate levels.

Strand:	**4E1:**	**Reading**
Standard:	**4E1 a:**	**Word Recognition, Fluency, and Vocabulary Development** *Students understand the basic features of words. They see letter patterns and know how to translate them into spoken language by using phonics (an understanding of the different letters that make different sounds), syllables, word parts (such as un-, re-, -est, -ful), and context (the meaning of the text around a word). They apply this knowledge to achieve fluent (smooth and clear) oral and silent reading.*
Component:		***Decoding and Word Recognition***
	4E1a. 1:	Read aloud grade-level-appropriate literary and informational texts with fluency and accuracy and with appropriate timing, changes in voice, and expression.
Component:		***Vocabulary and Concept Development***
	4E1a. 2:	Understand and explain frequently used synonyms (*words with the same meanings*), antonyms (*words with opposite meanings*), and homographs (*words that are spelled the same but have different meanings*).
	4E1a. 3:	Use knowledge of root words (*such as nation, national, nationality*) to determine the meaning of unknown words within a passage.

4E1a. 4: Use common roots and word parts derived from Greek and Latin to analyze the meaning of complex words.

Example:

Thermometer

root word: (meter = measure), word parts: (therm = heat)

4E1a. 5: Use a thesaurus to find related words and ideas.

4E1a. 6: Distinguish and interpret words with multiple meanings (*such as quarters*) by using context clues (*the meaning of the text around a word*).

4E1a. 7: Use context to determine the meaning of unknown words.

Standard: 4E1b: Comprehension and Analysis of Nonfiction and Informational Text

Students read and understand grade-level-appropriate material. At Grade 4, in addition to regular classroom reading, students read a variety of nonfiction such as biographies, books in many different subject areas, magazines and periodicals, reference and technical materials, and online information.

Component: ***Structural Features of Informational and Technical Materials***

4E1b. 1: Use the organization of informational text to strengthen comprehension.

Example: Read informational texts that are organized by comparing and contrasting ideas, by discussing causes for and effects of events, or by sequential order and use this organization to understand what is read. Use graphic organizers, such as webs, flow charts, concept maps, or Venn diagrams to show the organization of the text.

4E1b. 2: Identify informational texts written in narrative form (*sometimes with undeveloped characters and minimal dialogue*) using sequence or chronology.

Example: Read informational texts, such as a science experiment or a short historical account, and identify the type of organization used to understand what is read.

Component: ***Analysis of Grade-Level-Appropriate Nonfiction and Informational Text***

4E1b. Use appropriate strategies when reading for different purposes.

3: *Example: Read and take notes on an informational text that will be used for a report. Skim a text to locate specific information. Use graphic organizers to show the relationship of ideas in the text.*

4E1b. 4: Draw conclusions or make and confirm predictions about text by using prior knowledge and ideas presented in the text itself, including illustrations, titles, topic sentences, important words, foreshadowing (*clues that indicate what might happen next*,) and direct quotations.

Example: After reading an informational text, such as Camouflage: A Closer Look by Joyce Powzyk, use information gained from the text to predict what an animal might do to camouflage itself in different landscapes.

4E1b. 5: Evaluate new information and hypotheses (*statements of theories or assumptions*) by testing them against known information and ideas.

Example: Compare what is already known and thought about ocean life to new information encountered in reading, such as in the book Amazing Sea Creatures by Andrew Brown.

4E1b. 6: Recognize main ideas and supporting details presented in expository texts.

4E1b. 7: Compare and contrast information on the same topic after reading several passages or articles.

Example: Read several information texts about guide dogs, such as A Guide Dog Puppy Grows Up by Carolyn Arnold, Buddy: The First Seeing Eye Dog by Eva Moore, and Follow My Leader by James B. Garfield, then compare and contrast the information presented in each.

4E1b. 8: Distinguish between cause and effect and between fact and opinion in informational text.

Example: In reading an article about how snowshoe rabbits change color, distinguish facts (e.g., "Snowshoe rabbits change color from brown to white in the winter") from opinions (e.g., "Snowshoe rabbits are very pretty animals because they can change colors.")

4E1b. 9: Follow multiple-step instructions in a grade-level-appropriate basic technical manual.

Example: Follow directions to learn how to use computer commands or play a video game.

Standard: **4E1c:** **Comprehension and Analysis of Literary Text**

Students read and respond to a wide variety of significant works of children's literature. At Grade 4, students read a wide variety of fiction, such as classic and contemporary literature, historical fiction, fantasy, science fiction, folklore, mythology, poetry, songs, plays, and other genres.

Component: ***Structural Features of Literature***

4E1c. 1: Describe the differences of various imaginative forms of literature, including fantasies, fables, myths, legends, and other tales.

Example: After reading some of the Greek or Norse myths found in such books as, Book of Greek Myths or Book of Norse Myths, both by Ingri and Edgar D'Aulaire, discuss how myths were sometimes used to explain physical phenomena like movement of the sun across the sky or the sound of thunder.

Component: ***Analysis of Grade-Level-Appropriate Literary Text***

4E1c. 2: Identify the main events of the plot, including their causes and the effects of each event on future actions, and the major theme from the story action.

Example: Discuss the causes and effects of the main event of the plot in each story in books such as Rudyard Kipling's collection of animal tales, The Jungle Book.

4E1c. 3: Use knowledge of the situation, setting, and a character's traits, motivations, and feelings to determine the causes for that character's actions.

Example: After reading a story , such as The Sign of the Beaver by Elizabeth George Speare, tell how the Native American character's actions are influenced by his being in a setting in which he is very familiar and feels comfortable, as opposed to another character, Matt.

4E1c. 4: Compare and contrast tales from different cultures by tracing the adventures of one character type. Tell why there are similar tales in different cultures.

Example: Read a book of trickster tales from other countries, such as Barefoot Book of Trickster Tales retold by Richard Walker. Describe the similarities in these tales in which a main character, often an animal, outwits other animals, humans, or forces in nature. Then, tell how these tales are different from each other.

4E1c. 5: Define figurative language such as, similes, metaphors, hyperbole, or personification, and identify its use in literary works.

a. Simile: a comparison that uses like or as
b. Metaphor: an implied comparison
c. Hyperbole: an exaggeration for effect
d. Personification: a description that represents a thing as a person

Examples:

1. *Identify a simile, such as "Twinkle, twinkle little star... like a diamond in the sky".*
2. *Identify a metaphor, such as "You were the wind beneath my wings".*
3. *Identify an example of hyperbole, such as "Cleaner than clean, whiter than white".*
4. *Identify an example of personification, such as "The North Wind told the girl that he would blow so hard it would be impossible to walk up the steep hill".*

4E1c. 6: Determine the theme.

Example: Identify the theme in a classic novel, such as <u>Hans Brinker</u> or <u>The Silver Skates</u> by Mary Mapes Dodge.

4E1c. 7: Identify the narrator in a selection and tell whether the narrator or speaker is involved in the story.

Strand: 4E2: Writing

Standard: 4E2a: Processes and Features

Students write clear sentences and paragraphs that develop a central idea. Students progress through the stages of the writing process, including prewriting, drafting, revising, and editing multiple drafts.

Component: ***Organization and Focus***

4E2a. 1: Discuss ideas for writing. Find ideas for writing in conversations with others and in books, magazines, newspapers, school textbooks, or on the Internet. Keep a list or notebook of ideas.

4E2a. 2: Select a focus, an organizational structure, and a point of view based upon purpose, audience, length, and format requirements for a piece of writing.

4E2a. 3: Write informational pieces with multiple paragraphs that provide an introductory paragraph; establish and support a

central idea with a topic sentence at or near the beginning of the first paragraph; include supporting paragraphs with simple facts, details, and explanations; present important ideas or events in sequence or in chronological order; provide details and transitions to link paragraphs; conclude with a paragraph that summarizes the points; and use correct indention at the beginning of paragraphs.

4E2a. 4: Use logical organizational structures for providing information in writing, such as chronological order, cause and effect, similarity and difference, and posing and answering a question.

Component: ***Research Process and Technology***

4E2a. 5: Quote or paraphrase information sources, citing them appropriately.

4E2a. 6: Locate information in reference texts by using organizational features, such as prefaces and appendixes.

4E2a. 7: Use multiple reference materials and online information (*the Internet*) as aids to writing.

4E2a. 8: Understand the organization of almanacs, newspapers, and periodicals and how to use those print materials.

4E2a. 9: Use a computer to draft, revise, and publish writing, demonstrating basic keyboarding skills and familiarity with common computer terminology.

Component: ***Evaluation and Revision***

4E2a. 10: Review, evaluate, and revise grade-level-appropriate writing for meaning and clarity.

4E2a. 11: Proofread one's own writing, as well as that of others, using an editing checklist or list of rules, with specific examples of corrections of frequent errors.

4E2a. 12: Revise writing by combining and moving sentences and paragraphs to improve the focus and progression of ideas.

Standard: 4E2b: Applications (Different Types of Writing and Their Characteristics)

Students at Grade 4 are introduced to writing informational reports and responses to literature. Students continue to write compositions that describe and explain familiar objects, events, and experiences. Student writing demonstrates a command of

Standard English and the drafting, research, and organizational strategies outlined in Standard 4E2a: Writing Processes and Features. Writing demonstrates an awareness of the audience (intended reader) and purpose for writing.

Component: ***Writing Application***

4E2b. 1: Write narratives that include ideas, observations or memories of an event or experience, provide a context to allow the reader to imagine the world of the event or experience and use concrete sensory details.

Example: Prepare a narrative on how and why immigrants come to the United States. To make the story more realistic, use information from an older person who may remember first hand the experience of coming to America.

4E2b. 2: Write responses to literature that demonstrate an understanding of a literary work and support statements with evidence from a text.

Example: Write a description of a favorite character in a book. Include examples from the book to show why this character is such a favorite.

4E2b. 3: Use varied grade-level-appropriate word choices to make writing interesting.

Example: Write stories using descriptive words in place of common words; for instance, use <u>enormous</u>, <u>gigantic</u>, or <u>giant</u> for the word <u>big</u>.

4E2b. 4: Write for different purposes (*information, persuasion, description*) and to a specific audience or person.

Example: Write a persuasive report for your class about your hobby or interest. Use charts or pictures, when appropriate, to help motivate your audience to take up your hobby or interest.

Component: ***Research Application***

4E2b. 5: Write or deliver research reports that have been developed using a systematic research process (*including; define the topic, gather information, determine credibility, report findings*); and that:

a. include information from a variety of sources (*such as books, technology, multimedia*) and document sources (*such as titles and authors*) ; and
b. demonstrate that gathered information has been summarized, organized into multiple categories (*such as solid, liquid, and gas or reduce, reuse, and recycle*) or includes information gained through observation.

Example: After talking to local officials and conducting library or Internet research, write a report about the history of the different people and immigrant groups who settled in Indiana. Include information about where these groups came from, where they first lived in the state, and what work they did.

Standard: 4E2c: English Language Conventions
Students write using Standard English conventions appropriate to the 4th grade level.

Component: *Handwriting*

4E2c. 1: Write smoothly and legibly in cursive, forming letters and words that can be read by others.

Component: *Sentence Structure*

4E2c. 2: Use simple sentences and compound sentences in writing.
Examples:
1. *Simple: Dr. Vincent Stone is my dentist.*
2. *Compound: His assistant cleans my teeth, and Dr. Stone checks for cavities.*

4E2c. 3: Create interesting sentences by using words that describe, explain, or provide additional details and connections, such as verbs, adjectives, adverbs, appositives, participial phrases, prepositional phrases, and conjunctions.
Examples:
1. *Verbs: We <u>strolled</u> by the river.*
2. *Adjectives: <u>brown</u> eyes, <u>younger</u> sisters*
3. *Adverbs: We walked <u>slowly.</u>*
4. *Appositives: noun phrases that function as adjectives, such as We played the Cougars, <u>the team from Newport.</u>*
5. *Participial phrases: verb phrases that function as adjectives, such as The man <u>walking down the street</u> saw the delivery truck.*
6. *Prepositional phrases: in the field, across the room, over the fence.*
7. *Conjunctions: and, or, but.*

Component: *Grammar*

4E2c. 4: Identify and use in writing regular (*such as live/lived, shout/shouted*) and irregular verbs (*such as swim/swam, ride/rode, hit/hit*), adverbs (*such as constantly, quickly*), and prepositions (*such as through, beyond, between*).

Component: *Punctuation*

4E2c. 5: Use parentheses to explain something that is not considered of primary importance to the sentence, commas in direct quotations (*such as He said, "I'd be happy to go."*), apostrophes to show possession (*such as Jim's shoes, the dog's food*), and apostrophes in contractions (*such as can't, didn't, won't*).

4E2c. 6: Use underlining, quotation marks, or italics to identify titles of documents.

Examples:

1. *When writing by hand or computer, use quotation marks to identify the titles of articles, short stories, poems, or chapters of books.*
2. *When writing on a computer italicize the following when writing by hand underline them: the titles of books, names of newspapers and magazines, works of art and musical compositions*.

Component: ***Capitalization***

4E2c. 7: Capitalize names of magazines, newspapers, works of art, musical compositions, organizations, and the first word in quotations, when appropriate.

Component: ***Spelling***

4E2c. 8: Spell correctly root (*base words, such as unnecessary, cowardly*), inflections (*words like care/careful/caring*), words with more than one acceptable spelling (*such as advisor/adviser*), suffixes (*such as -ly, -ness*) and prefixes,(*such as mis-, un-*), and syllables (*word parts each containing a vowel sound, such as sur*prise or e*col*o*gy*).

Strand: 4E3: Listening and Speaking

Standard: 4E3a: Skills and Strategies

Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation (raising and lowering voice).

Component: ***Comprehension***

4E3a. 1: Ask thoughtful questions and respond orally to relevant questions with appropriate elaboration.

4E3a. 2: Summarize major ideas and supporting evidence presented in spoken presentations.

	4E3a. 3:	Identify how language usage (*such as sayings and expressions*) reflects regions and cultures.
	4E3a. 4:	Give and follow five step oral directions.
	4E3a. 5:	Connect and relate knowledge of other experiences and ideas to those of a speaker.
Component:		***Organization and Delivery of Oral Communication***
	4E3a. 6:	Present effective introductions and conclusions that guide and inform the listener's understanding of important ideas and details.
	4E3a. 7:	Use logical structures for conveying information, including cause and effect, similarity and difference, and posing and answering a question.
	4E3a. 8:	Emphasize points in ways that help the listener or viewer follow important ideas and concepts.
	4E3a. 9:	Use details, examples, anecdotes (*stories of a specific event*), or experiences to explain or clarify information.
	4E3a. 10:	Engage the audience with appropriate words, facial expressions, and gestures.
Component:		***Analysis and Evaluation of Oral and Media Communication***
	4E3a. 11:	Evaluate the role of the media in focusing people's attention on events and in forming their opinions on issues.
	4E3a. 12:	Distinguish between the speaker's opinions and verifiable facts.
Standard:	**4E3b:**	**Applications** *Students deliver brief oral presentations about familiar experiences or interests that are organized around a coherent thesis statement (a statement of topic). Students use the same Standard English conventions for oral speech that they use in their writing.*
Component:		***Speaking Applications***
	4E3b. 1:	Make narrative presentations that relate ideas, observations, or memories about an event or experience, provide a context that allows the listener to imagine the circumstances of the event or the experience, and provide insight into why the selected event

or experience should be of interest to the audience.

4E3b.3: Make descriptive presentations that use concrete sensory details to set forth and support unified impressions of people, places, things, or experiences.

4E3b.4: Make informational presentations that focus on one main topic, include facts and details that help listeners focus, and incorporate more than one source of information (*including speakers, books, newspaper, television broadcasts, radio reports, or Web sites*).

4E3b.5: Deliver oral summaries of articles and books that contain the main ideas of the event or article and the most significant details.

Appendix C. Research Studies Methodological Critique Matrix

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Leong, 1995	Problem: Poor readers require more time to access words, which can be facilitated by the context. Purpose: To examine if reading comprehen-sion in less skilled readers was enhanced by providing the readers with on-line text materials interfaced at the same time with synthetic speech for listening to the same language materials (auding).	Experi-mental and control group design. Random assign-ment of students to exper-imental condition.	Four conditions: 1) On-line reading and DECtalk auding of unsimplif-ied passages with no explanation of difficult words; 2) On-line reading and DECtalk auding of unsimplif-ied passages plus explanation of difficult words in both modes; 3) On-line reading and DECtalk auding of	Reading comprehension via verbal answers for inference questions and verbal summaries of the reading passages.	Study 1 sample: 64 fourth graders, 68 fifth graders, 60 sixth graders, totaling 192 subjects from two representative schools in a mid-Western Canadian city. Mean scaled general ability scores on the Matrix E subtest of the *British Ability Scales (BAS):* Grade 4 (M=99.41) Grade 5 (M=108.81) Grade 6 (M=108.60). There was a significant	Before beginning the study, subjects administered assessments in word reading or reading related tasks. Students divided into 2 groups- above average (AA) and below average (BA). Prose passages were four passages averaging 160 words in 13 sentences, estimated reading level at mid or upper sixth grade. Simplified versions averaged 180 words in 14 sentences at	Analyses of covariance with general ability, metacognition, and working memory as covariates. Highly significant differences found in grades, reading levels, modes of responses to the inference question and summary answers. No significant differences with experimental conditions. Study 2: Highly significant differences found in grades, reading levels, modes of responses to the inference question and summary answers.	Both studies had similar results. Differences in results were found between older and younger students and between the different reading levels (AA vs. BA). The main differences were between grades 4 and 5 and grades 4 and 6. Computer mediated reading, with or without DECtalk, may not be superior to off-line reading for prose or language comprehension. In order for computers to be used effectively, conditions need to be specified for computer usage, types of students, reading materials, reading processes and other variables.

unsimplif-ied passages plus explanation of difficult words in both modes plus individual children's short verbal answers to on-line and DECtalk-generated reading awareness questions (meta-cognitive activities) pertaining to each passage prior to reading and auding; 4) On-line reading and DECtalk auding of simplified passages with no explanation of words.	difference in general ability in grade four versus grades five and six. Study 2 sample: 12 teacher nominated "poor" sixth grade readers with phonological deficits and comprehension problems. Control group: 12 sixth grade students with mean vocabulary score at 7.1 grade level, 12 fourth grade students with mean vocabulary score at 4.04.	lower sixth grade reading level. Students randomly assigned to one of the experimental conditions. Students read passages, auded language passages, verbally answered inference questions, and summarized readings. Study 2- Students administered the same procedures as above.	

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Menzies, Mahdavi & Lewis, 2008	Problem: Translating validated instruction strategies into actual use in school has had limited success. Purpose: Document the systematic application of best practices from literature in a school setting by school personnel. Provide reliable early identification of students who should be assessed for possible LD.	Not an experi-mental study. Empiri-cal study Students not randomly assigned to groups.	On-going assessment to monitor student progress and skill acquisition. High intensity instruction using groups with low student-teacher ratio. Explicit instruction-36 target words and 3 related words per meaning with students lacking phonemic awareness or alphabet knowledge.	Skill acquisition and progress. TERA and DRA-Reading scores-beginning of year vs. end of year.	42 1st grade students from a small urban elementary school (K-6) in Southern California. Mean age of the children at the beginning of the study was 6 years, 3 months. 78% qualified for free lunch or reduced price lunch. 26% ELL. 28% of the parents did not complete high school. Less than 10% of the parents had education beyond HS. High transient rate at school.	DIBELS and DRA data used to make small instructional groups. 45 minutes of explicit instruction in phonemic awareness, decoding, fluency, and guided reading. Teachers collaborated formally on a regular basis. Literacy coach provided on-going training in reading and writing bimonthly. DIBELS administered weekly to track individual progress. DRA given every 12 wks.	Risk Status X Time analyses of variance (ANOVAs) with repeated measures on one factor were used to determine: (a)Significant improvement over time due to reading interventions; (b) Improvement rates differed across status (risk and proficient). Descriptive analysis used to determine: (a) the number of students at the end of the year that reached grade level profic-iency in reading; (b) evaluate progress of non-proficient students. 2 X 2 (Risk Status X Time) - not significant, $p >$ .05. Risk status for omnibus main effect-not significant, $p >$ .05. Effect for time-significant, $p <$ 001.	90% of students reached grade level proficiency at end of year. 61.9 % of students had above grade level results in reading. TERA-R scores higher in spring than in fall for all students. Treatment resisters did not meet grade level standards, but still made gains in reading. Intensive reading intervention lead to reading gains for all students.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Nelson & Stage, 2007	Problem: Students are not taught multiple meaning of words. Purpose: Assess the effects of contextually-based multiple meaning vocabulary instruction on vocabulary knowledge and reading comprehend-sion.	Pre/Post experi-mental and non-specific treatment group design	Contextual-ly-based multiple meaning vocabulary instruction embedded in standard language instruction.	GMRT (4th Edition) Levels 3- Third grade, Level 5-Fifth grade-Vocabulary Test and Comprehension scale. Pretest was Form S and Posttest was Form T.	134 3rd graders from 8 classes & 149 5th graders from 8 classes in a small Midwestern public school system. 32% qualified for free or reduced lunch. Grade 3 Characteristics 69% European 25% American Hispanic 5% Other Ethnicity 25% ESL 10% Special Education- 57% Male- 43% Female- Grade 5 Characteristics 83% European American 26% Hispanic 7% Other	Students were classified into two groups-low or average/high, based on initial overall vocabulary & comprehension achievement from pre-test on Gates-MacGinitie Reading Tests (4th Ed.). Classrooms randomly assigned to experimental condition received contextually-based multiple meaning vocabulary instruction on Level I (3rd grade) and Level II words (5th grade), to supplement standard	Pre-treatment: Condition X Level X Grade Multivariate Analysis of Variance (ANOVA) applied to pre-treatment GMRT Vocabulary and Comprehension scores-no statistically significant effects between student groups for vocabulary knowledge and reading comprehension. Experimental and non-specific treatment conditions on vocabulary and reading comprehension were analyzed in Condition X Level X Grade X Change ANOVAs. Vocabulary Knowledge: Statistically significant main effect for Change at	Statistically significant gains in vocabulary knowledge for 3rd & 5th graders with initial low vocabulary and reading comprehension scores after treatment condition. 3rd & 5th graders with initial average or high vocabulary and reading comprehension scores did not show statistical or educational gains in vocabulary after treatment condition. Statistically significant gains in reading comprehension skills for 5th graders with low initial vocabulary and 3rd graders with low and average/high initial vocabulary and reading comprehension scores after being exposed to treatment condition.

Ethnicity 26% ESL 9% Special Education 62% Male 38% Female	language arts curriculum-Scott Foresman Basal Reading (Scott Foresman, 2001). Classroom teachers selected the words to teach over a 4 month time span. For classrooms assigned to non-experimental treatment condition, teachers taught the standard language arts curriculum. Teachers received two hour training session before implementing the experimental program.	$F(1,285)=34.07$, $p<.001$. Students showed improvement from pre- to post-test treatment. Reading Comprehension: Statistically significant main effect for Change at $F(1,285)=34.07$, $p<.001$. Students in experimental condition showed moderate to large improvement, compared to students in non-specific treatment.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Pearman, 2008	Problem: Limited research comparing reading interactive electronic texts on CD-ROMs and traditional print texts. Need to determine the different presentation modes on a reader's comprehen-sion. Purpose: Investigate whether young students with varying degrees of reading proficiency would score higher on an oral retelling	Repeated measures design	Electronic texts from Discis Books, produced by Discis Knowledge Research, Inc. The same story titles by the same authors as the print texts were used.	Comprehension scores based on oral retelling, using Morrow's (1986) 10-Point Scale.	54 2nd grade students from a large rural school district in the southern USA. 29 males, 25 females. Ethnicity: 32-White, 1-Black, 21-Hispanic, 0-Other All had been exposed to computers a minimum of once a week since Kindergarten. Student grouping reading levels: High-19, Medium-15, Low-20	Students assessed to place into reading level groups. Via random order, students read a trad-itional book and CD-ROM book at their developmental reading level. Randomized presentation of traditional books and CD-ROM story-books. 2-5 days, average 3 days, separ-ated sessions. Sessions lasted 15-30 minutes. Students audio-taped during story retelling of both text formats. Traditional	Mean retelling scores were significantly higher for students after reading electronic texts-dependent samples *t*-test at .05 level of significance yielded $t(53) = 2.98$, $p < .004$. For students with medium and high proficiency levels, no significant difference between oral retelling in the two text formats-dependent samples *t*-test at .05 level of significance yielded: high- $t(18) = 1.59$, $p < .129$; medium- $t(14) = 1.16$, $p < .266$. For students with low proficiency levels, a significant difference was found between oral retelling of the two text formats-dependent samples *t*-test at .05 level of significance yielded:	Electronic text formats may be more engaging than traditional texts. CD-ROM storybooks can add context to aid in understanding the setting of the story. Computer text can aid with word or phrase pronunciation when needed by reader. The reader does not have to wait for an adult to offer assistance. CD-ROM storybooks may aid with reading comprehension for struggling students with developing reading skills and strategies.

when provided with text at their reading level presented via CD-ROM storybook format rather than a traditional print format.		text: Students told to read story, out loud or silently, depending on preference and then retell it. No prompts given to assist students with retelling content. Electronic text: Students showed how to use computer & mouse to activate special enhancements and to turn the page. Students told to read story, out loud or silently, depending on preference, then retell it. No prompts given to assist students with retelling content. Data collected over 20 days.	*t* (19) = 2.31, p< .032. Retelling scores for electronic text: *M*= 5.88, *SD*= 2.55; traditional text- *M*= 4.85, *SD*= 2.27. Dependent samples *t*-test at .05 level of significance showed no significant difference between first and second oral retellings: *t* (53) = .42, *p*< .674. Access or no access to a computer had no significant impact on oral retellings for the electronic text: *F* (1, 52) = .89, *p*= .35.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Rashotte, MacPhee, & Torgesen, 2001	Problem: Implementation of a program to improve reading that is effective and economically feasible with large numbers of deficient readers. Purpose: Determine the effectiveness of a phonologically based reading program, *Spell Read*, delivered to poor readers in small groups (3-5) from multiple grades over an eight week period.	Multiple-baseline research	*Spell Read* phonologically based reading program delivered in small groups of 3-5 students	Pretest and posttest assessed areas: phonological awareness, decoding, reading accuracy, comprehension, spelling	116 1st -6th grade students, from Canadian ES, with deficient reading skills. Families were socially and economically disadvantaged and had low levels of adult literacy. Student reading levels below national standards and below average for the district. 30 students identified as LD. Classroom instruction size- 15 students. Treatment instruction size- 3-5 students in same grade level.	*Woodcock Diagnostic Reading Battery* administered to all students. Students matched on skills and randomly divided into Group 1 or Group 2. Group 1- *Spell Read* program for first 8 weeks (35 hrs.) Group 2- No-treatment controls. Post Test 1 at end of 8 weeks for both groups. Group 2- *Spell Read* program for 7 weeks (31 hours.) Group 1- No treatment controls. Post Test 2 at	Univariate analyses of covariance (ANCOVA). Pretest scores were used as covariates. Between subject factors- grade and group. Group 1 showed significant differences on Post-test 1 in all areas except Word Efficiency. *Spell Read* program had a significant impact in all grade areas. Effect sizes ranged from moderate to very strong across all grades, except for fluency measures. No significant group-by-deficiency interactions for any outcome measures.	*Spell Read* is a powerful program for deficient readers. Small group instruction is effective for students with reading difficulties.

			the end of 7 weeks for both groups. Reading instruction in Grades 1-3 was 90 minutes a day. Reading instruction in Grades 4-6 was 60 minutes a day. Additional 15 minutes for silent reading or reading with a buddy.	

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Sorrell, Bell, & Mc-Callum, 2007	Problem: Limited research on the effectiveness of computer reading software instructional efficacy. Purpose: Examine the effectiveness of computer-assisted reading using the Kurzweil 3000 versus independent reading for improved reading skills in elementary school readers. Determine the extent to which rate and compre-hension are influenced by	Counterb alanced randomiz ed treatment design	Kurzweil 3000, Version 5	Comprehension quiz scores from Accelerated Reader. Reading rate scores based on passages from Qualitative Reading Inventory, Third Edition (QRI-3). Reading rate measured as words read correct per minute (wpm).	12 second through fifth grade elementary school students (aged 8-12 years) from a rural county in eastern Tennessee. 4 students had learning disabilities in reading and receiving special education services. 51% of the families below poverty level. Setting was the school's technology lab.	Subjects randomly assigned to computer reading or traditional (waiting control). Subjects matched closely with a peer on reading and grade level. Subjects participated 45 minutes per day for 4 to 5 days for 4 weeks. Pair groups read the same material- Kurzweil 3000 or independently. Assistance provided to subjects for word pronunciation and meaning.	Repeated-measures multivariate analysis of variance used. Multivariate *F* revealed no significant difference between methods of presentation, $F(2,9) = 1.10$, $p=.37$. Univariate analyses of variance revealed no significant differences on comprehension, $F(1,10) = 2.41$, $p = .15$; reading rate $F(1,10) = .08$, $p = .79$, based on presentation style.	Similar reading rate and reading comprehension means across reading presentation. Six students with baseline average reading rate below 78 wpm increased scores by @ 4 wpm after computer condition, decreased scores by 2 wpm after traditional condition. Six students with baseline average reading rate above 78 wpm decreased scores by 1 wpm after computer condition, increased scores by 6 wpm after traditional condition. Comprehension decreased for fast readers while reading via computer. Slower readers had similar results for both conditions.

varying computerized oral reading rate.				After 4 weeks, pairs switched reading modes. 38 stories read for each condition. Students on the computer read two stories each day, one at 15% below and one at 30% their baseline rate by the QRI-3. Order of conditions alternated. Non-computer students read two stories a day. Reading rate measured before study began, at end of first condition, and end of study using QRI-3. Comprehension assessed on AR after each reading.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Sung, Chang, & Huang, 2008	Problem: Design proper multiple strategies with computer technology to facilitate text comprehension abilities. Few studies demonstrating whether strategy instruction in a computer environment produces different instructional effects on children with different abilities. Purpose: Design a reading instruction system with multiple	Quasi-experimental design	CASTLE-Computerized multistrategy reading assistance system.	Reading comprehension scores of narratives, expositions, and reading strategies. Reading strategies included: self-questioning, error detection, inference blank-filling, summarization, prior knowledge integration. Narrative Text Comprehension Test (NTCT). Expository Text Comprehension Test (ETCT).	130 sixth-grade students from 4 elementary school classes in Taiwan equally split between experimental and control groups. Age ranged from 12-13 years old. Students from middle class families.	Each class randomly assigned to experimental or control group. Based on reading screener, students divided into high ability and low ability groups. Experimental group given instructions on CASTLE for strategy training and then applied it to an article. CASTLE used voice and text feedback for student's strategy use. Students answered questions about each article.	Two way multivariate analysis of covariance (MANCOVA) to study how students with different abilities in different groups differ in the dependent variables. Covariate- student's language arts score from previous year. Students in experimental group scored higher in NTCT than the control group. Univariate test- students with higher reading ability performed better in NTCT than the lower ability group. The two groups showed no difference in inference and summarization efficiency subtests. No significant interaction between group and ability in all the dependent	Experimental group performed better than control group in applying majority of strategies for text comprehension. Strategy instruction is feasible to use with a computer design. When reading strategies improved, comprehension improved. Multiple strategy instruction can benefit students with lower reading levels.

	strategies based on the components in the text comprehension process. Compare the benefits for children with disabilities using computer-assisted reading		Control group learned the strategies by self-study, using the same materials and paper-based work from CASTLE. Control had no model demonstrations and no feedback. Posttest given at end of experiment.	variables with expository text.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Torgesen, Waters, Cohen, Torgesen, 1988	Problem: A high number of students with LD have difficulty acquiring ability to read individual words rapidly and accurately, interfering with acquisition of high level reading comprehen-sion skills. Purpose: Evaluate the effectiveness of 3 variations of a computer program designed to increase the word reading fluency of students with LD in the	Multi-element baseline design with four treatment condition s- (1) auditory-visual (2) auditory-only (3) visual-only (4) no treatment	"WORDS" computer program software with two types of practice for identifying words in practice sets. Practice sets had 10 words each within three phases/acti vities. Three program variations: visual-only, visual-auditory, and auditory only.	Accuracy and speed of reading individual words at pre- and posttest.	17 LD students in first, second, and third grades. Characteristics Full scale IQ above 70; Possess significant discrepancy (one SD difference) between level of general intelligence and reading level; Unable to correctly read more than 20% of the words taught in the study. Average full-scale IQ: 94.2 Average reading grade level score: 1.8 Average age: 92.4 months	Students received orientation and told purpose of the study. Students pretested on the computer for reading words to ascertain response time and total of correctly read words. Students experienced each of the four conditions (auditory-visual, auditory-only, visual-only, no treatment) twice over the course of eight weeks. Students spent 15 minutes a day over five days working on the	Pretest: 17% of 80 targeted words read correctly. Posttest: 70% of 80 targeted words read correctly. Data analyzed in 2 (pre- vs. post-) x 4 (treatment conditions) repeated-measures ANOVA. Using Newman Keuls procedure: all 3 treatment conditions demonstrated significant improvement in accuracy and speed of responding. No-treatment condition performance remained the same.	All three instructional conditions, auditory-visual, auditory-only, and visual-only, were equally effective for teaching the students to accurately read individual words.

	early elementary school grades.	computer. Post-test administered on last day of practice.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Vadasy & Sanders, 2008	Problem: When using grade leveled text, almost half of fourth grade students are not fluent readers. Purpose: To determine the effectiveness of the use of *Quick Reads* as a supplement in remedial reading fluency for fourth and fifth graders with low skills.	Quasi-experi-mental with random student assign-ment to condi-tions	*Quick Reads* fluency program instruction.	Pre- and Post-testing: Word reading accuracy, word reading efficiency, word comprehension, vocabulary, fluency rate, passage comprehension.	54 students in 27 dyads 65 control students Elementary school in a large, northwestern city 4th and 5th grade students with below grade level reading skills. Dyads were cross-classroom, cross-grade pairs. Control pairs generally had different teachers.	Students randomly assigned to dyads, then dyads assigned to treatment or control group. 30 minutes tutoring sessions in dyads with *Quick Reads*, 4 days/week, for 20 weeks. Seven steps in the tutoring session. Tutors initially trained four hours, then three hours midyear. Tutors coached and observed throughout intervention. Students pretested and posttested.	Pretest data-one-way analyses of variance (SPSS 13.0). HKM 6.0 used for hierarchical analysis. Treatment group posttest averaged 30th %tile in word comprehension, passage comprehension. Control group posttest averaged 25th %tile in word comprehension, 10th %tile passage comprehension.	Significant positive treatment effects-passage comprehension, vocabulary, word comprehension. No significant treatment effect for fluency rate, word-level reading.

Study	Rationale/ Purpose	Design	IV	DV and DV Measures	Participants	Method/ Procedure	Analyses	Results
Vaughn, Linan-Thompson, Kouzekanani, Bryant, Dickson, & Blozis, 2003	Problem: Students who need supplemental reading support exceed school resources. Purpose: Compare group sizes of students during reading instruction to determine effectiveness. Exam the intervention effects	A two-between and one-within factor repeated-measures design. Two-between factors were grouping with three levels (1:1, 1:3, 1:10) and English with 2 levels (MES and ELL). Within factor was time with 3 levels (pretest,	Fluent reading of familiar/easy text Phonological awareness Instructional-level reading Word study Teacher/group size varied- 1:1, 1:3, and 1:10.	Reading fluency Phoneme segmentation Passage Comprehension Word attack skills	90 students from 10 Title I Elementary School in two neighboring school districts in an urban area of the Southwest. 77 students remained for the entire period of the study. 70% of students qualified for free or reduced lunch. One group was 50 students who were MES (Monolingual English Speakers). One group was 40 students who were ELL (English Language Learners.)	Students received the same 30 minute intervention, 5 times/week during 58 sessions over 13-week period. Students were assigned to one grouping size- 1:1, 1:3, 1:10. Students were administered the DIBELS assessment, identified as high, medium, low on phoneme segmentation, then placed into groups. Students were administered pre-test/post-test: *Texas Primary Reading*	Repeated measures analysis of covariance: 3 (grouping 1:1, 1:3, 1:10) by 2 (English: MES, ELL) by 2 (time: posttest, follow-up). Pretest was covariate. SPSS software used. Analyses conducted at .05 significance level. Passage Comprehension: F (2, 70) = 3.52, p = .035. *MSE* = 31.85 Statistically significant – 1:1 and 1:3 performed better than 1:10 group. 1:1 and 1:3- no significant difference. Phoneme Segmentation:	Significant gains made after intervention and maintained over time. High effect sizes for comprehension, phoneme segmentation, and fluency. 1:1 and 1:3 group sizes for supplemental reading are highly effective group sizes.

posttest, & follow-up.) All participants were measured at all three points.		*Inventory, Woodcock Reading Master Test-Revised, Test of Oral Fluency, DIBELS,* and *Woodcock-Munoz Language Survey*. Pretest Data before intervention started. Posttest data collected at the end of 58 sessions. Follow-up data after 4 weeks of school following posttest. Intervention- 5 essential elements for reading: Fluency, phonological awareness, vocab building, comprehension strategies, word analysis.	*F* (2, 70) = 4.13, *p* = .020. *MSE* = 125.97 Statistically significant- 1:1 outperformed 1:10 group. 1:1 and 1:3- no significant difference. Reading Fluency: *F* (2, 70) = 3.40, *p* = .039. *MSE* = 224.82 Statistically significant- 1:1 group outperformed 1:10 group. 1:1 and 1:3, 1:3 and 1:10- no significant difference. Word Attack: No statistically significant findings. Reading screenings: Posttest scores- 1:1 group, 39% passed 1:3 group, 46% passed 1:10 group, 2% passed

Appendix D

READ 180® Questionnaire for *READ 180* Teachers and Special Education Teachers

This survey was conducted using Qualtrics on-line survey program. Consequently, the set-up of the questions and the formatting are different than what is presented.

Completion of the survey is voluntary. The survey takes 20-30 minutes to answer the questions. By clicking on the link to the survey, you indicate that:
1) You are at least 18 years of age;
2) The research has been explained to you:
3) Your questions have been fully answered; and
4) You freely and voluntarily choose to participate in this research project.

Do you agree to participate in this survey?

___ Yes ___ No

Select the answer which best describes your situation. Thank you for your assistance with this survey.

____ I am a general education teacher teaching *READ 180*®.

____ I am a special education teacher teaching *READ 180*®.

____ I am a special education teacher consulting with the *READ 180*® teacher.

(Continue with the survey, please.)

____ I currently **DO NOT** teach *READ 180*® or consult with the *READ 180*® teacher.

(Answer only questions number 1-6. Thank you for your time.)

General/Professional Background Information (Questions for all teachers.)

Select the answer which best describes your situation.

1. Current District complex assignment location:

_____ B _____ K

_____ R _____ S

2. Current teaching assignment:

___ General Education Teacher ___Language Arts/Reading Specialist (LARS)

___ Literacy Coach ___ Teacher, Learning Impaired, Mild/Moderate

___Other (Please specify.)_____

3. Total number of years teaching in your current school location:

____ (Drop down menu choice 1-40+)

4. Number of years teaching in **System**:

____ (Drop down menu choice 1-40+)

5. Total number of years teaching **(System plus other teaching locations**):

____ (Drop down menu choice 1-40+)

6. Highest professional degree obtained:

___ Bachelors ___Masters ____ Masters plus 30 ____ Doctorate

Reading/Language Arts Background (Questions for *READ 180*® & Spec Ed teachers.)

1. Total number of years teaching *READ 180*®:

____ (Drop down menu choice 0-12)

2. Total number of years teaching reading/language arts:

____ (Drop down menu choice 1-40+)

3. Average number of *READ 180*® training classes/in-services you attend each year:

____ (Drop down menu choice 0-10)

4. Total number of graduate level reading/language arts classes you have attended:

____ (Drop down menu choice 0-15+)

5. Average number of *Scholastic Red* classes you have taken each year.

____ (Drop down menu choice 0-15+)

***READ 180*® Student Selection (Questions for *READ 180*® teachers.)**

Select the answer which describes your situation. Check all that apply.

1. Select the *TerraNova 3rd Edition*™ criteria used when students are considered for the *READ 180*® program

a. ___ *TerraNova 3rd Edition*™ score for Total Reading- 25th %tile or under

___ *TerraNova 3rd Edition*™ score for Total Reading- 35th %tile or under

b. ___ *TerraNova 3rd Edition*™ score for Total Language- 25th %tile or under

___ *TerraNova 3rd Edition*™ score for Total Language- 35th %tile or under

c. ___ *TerraNova 3rd Edition*™ score for **Total** Reading and Total Language- 25th %tile or under

___ *TerraNova 3rd Edition*™ *s*core for **Total** Reading and Total Language- 35th %tile or under

d. ___ Other *TerraNova 3rd Edition*™ percentile levels (Please specify.)

_____

e. ___ None of the above.

2. Select the Report Card criteria used when students are considered for the *READ 180*® program

___ Report Card Grade- Reading/Language Arts

___ Report Card Grade- Math

___ Report Card Grade- Science

___ Report Card Grade- Social Studies

___ Other (Please specify.) _____

3. Select the *SRI* criteria used when students are considered for the *READ 180*® program

___ Scholastic Reading Inventory (*SRI*)- 100-199 Lexiles below grade level

___ Scholastic Reading Inventory (*SRI*)- 200-299 Lexiles below grade level

___ Scholastic Reading Inventory (*SRI*)- 300-399 Lexiles below grade level

___ Other (Please specify.) _____

4. Select the Recommendation criteria used when students are considered for the *READ 180*® program

___Parent recommendation

___Teacher recommendation

___Student recommendation

___ Other recommendation (Please specify.) _____

5. List any other additional criteria which are used to select students for the *READ 180*® program.

_____

_____

6. Choose the reason(s) why a student who is qualified to be enrolled in *READ 180*® is NOT selected to participate in the program.

___ Parent refusal

___ Student behavior issues

___ Student lacks self-regulation skills/independent working skills

___ Student's reading level is too low

___ Student will move before the end of the school year

___ *READ 180*® class is full. No space is available for new students.

___ Other (Please specify.) _____

***READ 180*® Program Implementation**

Select the answer which describes your situation. Check all that apply.

1. How consistently do you adhere to the *READ 180*® implementation specifications?

   ___ Rarely ___ Sometimes ___ Often

2. Number of daily *READ 180*® sessions students attend each week (typical 5 day week)

   ____ (Drop down menu choice 1-5)

3. Days of the week for the *READ 180*® class sessions (typical 5 day week)

___Mon-Fri ___Mon, Wed, Fri ___ Tues/Thurs

___Mon, Tues, Wed, Thurs ___Tues, Wed, Thurs, Fri

___ Other (Please specify.) _____

4. Number of minutes in daily *READ 180*® class session/instructional time

___ (Drop down menu choice 1-120 minutes)

5. Maximum cutoff number of students in each *READ 180*® session

____ (Drop down menu choice 1-20)

6. Order of *READ 180*® rotations during a typical *READ 180*® session

   Check the one that best describes your situation.

___ Whole Group, Small Group Rotations (Small Group Direct Instruction, *READ 180*® software, Modeled and Independent Reading), Whole Group Wrap-up

___ Small Group Rotations (Small Group Direct Instruction, *READ 180*® software, Modeled and Independent Reading), Whole Group, Whole Group Wrap-up

___ Other combination (Please specify) _____

7. Number of *READ 180*® sessions you teach each day

____ (Drop down menu choice 1-4)

8. Select the choice which best describes student class grouping in your *READ 180*® class session One

___ Students come from the same grade level

___ Students are from mixed grades

9. Select the choice which best describes student class grouping in your *READ 180*® class session Two

___ Students come from the same grade level

___ Students are from mixed grades

___ I only teach one session

10. Select the choice which best describes student class grouping in your *READ 180*® class session Three

___ Students come from the same grade level

___ Students are from mixed grades

___ I do not teach three *READ 180*® sessions.

12. Select the choice which best describes student class grouping in your *READ 180*® class session Four

___ Students come from the same grade level

___ Students are from mixed grades

___ I do not teach four *READ 180*® sessions.

13. Grade level of students attending *READ 180*®

___ Third Grade ___Fourth Grade ___Fifth Grade

14. Number of current students who previously participated in *READ 180*® during **third** grade.

____ (Drop down menu choice 1-40)

15. Instructional subject the student misses in the general education class to attend the *READ 180*® class. Check all that apply.

___ Reading/Language Arts ___Mathematics

___Science ___Social Studies

___Health ___ Special (Art, Music, PE, Host Nation)

___ Other (please specify.)_____

***READ 180*® Program Additional Reading Interventions**

Additional materials and activities are those materials and activities that are not included in the specified *READ 180*® program. These may include, but are not limited to specific literature genre, book reports, acting/role playing, or using movies for comparison/contrast activities with the book.

Select the answer which best describes your situation. Check all that apply.

1. Additional Reading Interventions are added to the standard *READ 180® program* during the instructional sessions

   ___Rarely ___Sometimes ___Often

2. Additional Reading Interventions are added to the standard Whole Group instructional sessions

   ___Rarely ___Sometimes ___Often

3. Additional Reading Interventions are added to the standard Small Group instructional sessions

   ___Rarely ___Sometimes ___Often

4. Additional Reading Interventions are added to the standard *READ 180*® Software instructional sessions

   ___Rarely ___Sometimes ___Often

5. Additional Reading Interventions are added to the standard Modeled & Independent Reading instructional sessions

   ___Rarely ___Sometimes ___Often

6. Additional materials and activities are those materials and activities that are not included in the specified *READ 180*® program. These may include, but are not limited to, specific literature genre, book reports, acting/role playing, or using movies for comparison/contrast activities with the book.

If specific additional reading intervention activities are used in the *READ 180*® program, please select the activities.

___ Literature books which coincide with the *READ 180*® literature theme

___ Book reports

___ Acting/role playing

___ Movies

___ Smartboard activities

___ Use of another commercially available reading/language arts program

___ Use of internet resources such as Brain Pop, Enchanted Learning

___ None

___ Other (Please specify.)_____

7. If specific additional special event activities are used in the *READ 180*® program, please select the activities.

___ Virtual field trips using the Internet

___ Field trips

___ Guest authors

___ Guest speakers

___ None

___ Other (Please specify.)_____

8. Explain why you included the additional reading interventions in the *READ 180*® program. Check all that apply.

___ *READ 180*® program activity was not sufficient for students to understand the content topic.

___ Activity was chosen to expand the student's understanding

___ Student needed clarification of a learning concept

___ Favorite teaching activity

___ Students enjoy the activity

___ No additional *READ 180*® reading interventions were included in the program.

___ No additional reading interventions were used.

___ Other (Please specify.)_____

9. Additional personnel who assist in the classroom during the *READ 180*® sessions

___ Administrator

___ General Education Teacher

___Teacher, Learning Impaired, Mild/Moderate

___Instructional Assistant/ Special Education Paraprofessional

___Literacy Coach

___LARS (Language Arts/Reading Specialist) Teacher

___High School Student Volunteer

___Parent Volunteer

___ Community Volunteer

___ None of the above

___ Other (Please specify.)_____

10. Assistive Technology devices used in during the *READ 180*® sessions

___ Keyboard devices

___ Headsets (other than during the Computer instruction session)

___ Voice activated typing programs (such as *Dragon Speak)*

___ Kurzweil technology

___ Magnification devices

___ Closed caption

___ Communication devices

___ Screen covers

___ None of the above

___Other (Please specify)_____

11. If you could redesign the *READ 180*® program, what would you change or add?

_____

_____

***READ 180*® Program Modifications**

Select the answer which best describes your situation.

Modifying the curriculum "may be accomplished through providing supplemental materials such as lower-level reading material, and using various media and manipulatives to assist in the attainment of individual objectives." (System, 2005, p. 6-12).

How consistently do you adhere to the implementation specifications of the *READ 180*® program?

1. Modifications are made to the standard *READ 180® program* during the instructional sessions

   ___Rarely ___Sometimes ___Often

2. Modifications are made to the standard Whole Group instructional sessions

   ___Rarely ___Sometimes ___Often

3. Modifications are made to the standard Small Group instructional sessions

   ___Rarely ___Sometimes ___Often

4. Modifications are made to the standard *READ 180*® Software instructional sessions

   ___Rarely ___Sometimes ___Often

5. Modifications are made to the standard Modeled & Independent reading instructional sessions

   ___Rarely ___Sometimes ___Often

Evaluation of Student Progress in the *READ 180*® Program

Select the answer which best describes your situation. Check all that apply.

1. How is student progress evaluated?

   ___Scholastic Reading Inventory (*SRI*)

   ___*rBook* Tests

   ___*rSkills* Tests

   ___ Student recorded readings on the *READ 180*® program

   ___ Scores from *READ 180*® student segment zones, words zones, spelling zones.

   ___ *Reading Counts* Quizzes

   ___ None of the above

2. How is student progress evaluated?

   ___Teacher constructed assessments

   ___ Curriculum-Based Measurement-CBM

   ___ Oral Reading Fluency Drills

   ___ Running Records

   ___ Commercially available criterion referenced assessments

   ___ None of the above

3. How is student progress evaluated?

   ___ Rubrics

   ___ General education class tests and quizzes

   ___ Student self-assessment/questionnaire

   ___ Special Projects

   ___ Effort/Improvement

   ___ Student interview

   ___ None of the above.

   ___ Other (Please specify.)_____

4. Which *READ 180*® instructional session is the most beneficial to students? Check one.

   ___Whole group Instruction

   ___ Small Group Direct Instruction

   ___ *READ 180*® Software

   ___ Modeled and Independent Reading

   ___ Additional Reading Interventions

5. What is the average number of *SRI* Lexile points students improves in one year in the *READ 180*® program?

   ____ (Drop down menu choice 1-400)

6. If students do not increase their *SRI* Lexile points by at least 100 points during the year in *READ 180*®, what factors could explain this lack of advancement?

___ Program implementation was for less than 90 minutes a day

___ Student attended the program less than 5 days each week

___ Student did not complete the full cycle of program implementation each day Whole Group, Small Group Rotations (Small Group Direct Instruction, *READ 180*® software, Modeled and Independent Reading), & Whole Group Wrap-up

___ None of the above.

7. If students do not increase their *SRI* Lexile points by at least 100 points during the year in *READ 180*®, what factors could explain this lack of advancement?

___ Student's absenteeism

___ Student's lack of motivation

___ Student's initial reading level was too low for the program

___ Student's lack of phonemic awareness/phonics skills

___ Student's lack of reading skill follow through at home

___ Student's lack of reading skill follow through in the general education classroom

___ Student lacked independent and self-regulation skills to remain focused on the independent tasks

___ None of the above.

___ Other (Please specify.)_____

Questions for special education teachers.

***READ 180*® Student Selection for students with disabilities**

Select the answer which best describes your situation for students with disabilities. Check all that apply.

1. Percentage of students with disabilities in the *READ 180*® class session (Session One)

___ 0-25% of the students

___ 26-50% of the students

___ 51-75% of the students

___76%-100% of the students

2. Percentage of students with disabilities in the *READ 180*® class session (Session Two)

___ 0-25% of the students

___ 26-50% of the students

___ 51-75% of the students

___76%-100% of the students

___ I do not teach two sessions of *READ 180*®

3. Percentage of students with disabilities in the *READ 180*® class session (Session Three)

___ 0-25% of the students

___ 26-50% of the students

___ 51-75% of the students

___76%-100% of the students

___ I do not teach three sessions of *READ 180*®

4. Percentage of students with disabilities in the *READ 180*® class session (Session Four)

___ 0-25% of the students

___ 26-50% of the students

___ 51-75% of the students

___76%-100% of the students

___ I do not teach four sessions of *READ 180*®

5. Number of daily *READ 180*® sessions students with disabilities attend each week (typical 5 day week)

____ (Drop down menu choice 1-5)

6. Number of minutes in daily *READ 180*® class session/instructional time

___ (Drop down menu choice 1-120 minutes)

7. Number of current students with disabilities who previously participated in *READ 180*® during **third** grade.

____ (Drop down menu choice 1-40)

8. Instructional subject the students with disabilities miss in the general education class to attend the *READ 180*®class. Check all that apply.

___ Reading/Language Arts ___Mathematics

___Science ___Social Studies

___Health ___ Special (Art, Music, PE, Host Nation)

___ Other (please specify.)_____

***READ 180*® Program Reading Interventions**

Additional materials and activities are those materials and activities that are not included in the specified *READ 180*® program. These may include, but are not limited to specific literature genre, book reports, acting/role playing, or using movies for comparison/contrast activities with the book.

Select the answer which best describes your situation. Check all that apply.

1. Additional Reading Interventions are added to the standard *READ 180® program* during the instructional sessions

   ___Rarely ___Sometimes ___Often

2. Additional Reading Interventions are added to the standard Whole Group instructional sessions

   ___Rarely ___Sometimes ___Often

3. Additional Reading Interventions are added to the standard Small Group instructional sessions

   ___Rarely ___Sometimes ___Often

4. Additional Reading Interventions are added to the standard *READ 180*® Software instructional sessions

   ___Rarely ___Sometimes ___Often

5. Additional Reading Interventions are added to the standard Modeled & Independent Reading instructional sessions

   ___Rarely ___Sometimes ___Often

6. Additional materials and activities are those materials and activities that are not included in the specified *READ 180*® program. These may include, but are not limited to specific literature genre, book reports, acting/role playing, or using movies for comparison/contrast activities with the book.

If specific additional reading intervention activities are used in the *READ 180*® program, please select the activities.

___ Literature books which coincide with the *READ 180*® literature theme

___ Book reports

___ Acting/role playing

___ Movies

___ Smartboard activities

___ Use of another commercially available reading/language arts program

___ Use of internet resources such as Brain Pop, Enchanted Learning

___ None

___ Other (Please specify.)_____

7. If specific additional special event activities are used in the *READ 180*® program, please select the activities.

___ Virtual field trips using the Internet

___ Field trips

___ Guest authors

___ Guest speakers

___ None

___ Other (Please specify.)_____

***READ 180*® Program Modifications**

Select the answer which best describes your situation for students with disabilities. Modifying the curriculum "may be accomplished through providing supplemental materials such as lower-level reading material, and using various media, and manipulatives to assist in the attainment of individual objectives." (System, 2005, p. 6-12).

How consistently do you adhere to the implementation specifications of the *READ 180*® program?

1. Modifications are made to the standard *READ 180*® program during the instructional sessions

   ___Rarely ___Sometimes ___Often

2. Modifications are made to the standard Whole Group instructional sessions

   ___Rarely ___Sometimes ___Often

3. Modifications are made to the standard Small Group instructional sessions

   ___Rarely ___Sometimes ___Often

4. Modifications are made to the standard *READ 180*® Software instructional sessions

   ___Rarely ___Sometimes ___Often

5. Modifications are made to the standard Modeled & Independent Reading instructional sessions

   ___Rarely ___Sometimes ___Often

6. Is time scheduled during the week for the general education and the special education teacher to plan together for the *READ 180*® class?

___ Yes ___ No

7. Role of the special education teacher in the *READ 180*® class

___ Adapts the curriculum for student's weak processing skills in visual, auditory, or processing speed areas

___ Modifies the curriculum

___ Designs assessments

___ None of the above.

8. Teaching role of the special education teacher in the *READ 180*® class

___ Lead and Support role (Special education teacher takes a supporting role.)

___ Duet teaching (Both general education and special education teacher contribute equally to the lesson objectives.)

___ Speak and Add (One teacher leads while the other clarifies.)

___ Speak and Chart (One teacher leads and the other charts the lesson information.)

___ Skill Grouping (Students are divided into groups based on ability levels.)

___ Station Teaching (Centers are set up for targeted skill activities which are supervised by the special and/or general education teacher.)

___ Parallel Teaching (Each teacher teaches a different part of the lesson.)

___ Shadow Teaching (Teacher reinforces and follows-up with the lesson with guided practice and additional assistance.)

___ None of the above.

9. Teaching role of the special education teacher in the *READ 180*® class

___ Provides learning strategies (rubrics, graphic organizers, mnemonics, etc.)

___ Includes thinking skills in the lesson for higher order thinking skills

___ Peer-mediated instruction (Teacher helps students to work together to understand difficult skills.)

___ Communication skills (Teacher facilitates listening, speaking, reading, and writing skills integration in the lesson.)

___ None of the above.

___ Other (Please specify.) _____

10. Does a special education paraprofessional assist in the *READ 180*® class?

___ Yes (proceed to question 11) ___ No (proceed to question 13)

11. Role of the special education paraprofessional in the *READ 180*® class

___ Adapts the curriculum for student's weak processing skills in visual, auditory, or processing speed areas

___ Modifies the curriculum

___ Designs assessments

___ Provides learning strategies (rubrics, graphic organizers, mnemonics, etc.)

___ Peer-mediated instruction (Paraprofessional helps students to work together to understand difficult skills.)

___ Communication skills (Paraprofessional facilitates listening, speaking, reading, and writing skills integration in the lesson.)

___ None of the above.

___ Other (Please specify.)_____

12. Teaching role of the special education paraprofessional in the *READ 180*® class

___ Lead and Support role (Paraprofessional takes a supporting role.)

___ Duet teaching (Both general education teacher and paraprofessional contribute equally to the lesson objectives.)

___ Speak and Add (General education teacher leads while the paraprofessional clarifies.)

___ Speak and Chart (General education teacher leads and the paraprofessional charts the lesson information.)

___ Skill Grouping (Students are divided into groups based on ability levels.)

___ Station Teaching (Centers are set up for targeted skill activities which are supervised by the special and/or general education teacher.)

___ Parallel Teaching (The general education teacher and the paraprofessional each teach a different part of the lesson.)

___ Shadow Teaching (The paraprofessional reinforces and follows-up with the lesson with guided practice and additional assistance.)

___ None of the above.

___ Other (Please specify.)_____

13. List specific additional activities used to modify or augment the *READ 180*® program for students with disabilities.

_____

_____

14. Explain why you modified the *READ 180*® program for students with disabilities.

_____

_____

15. If you could redesign the *READ 180*® program, what would you change or add?

_____

_____

Evaluation of Modifications Used in the *READ 180*® Program

Select the answer which best describes your situation for students with disabilities. Check all that apply.

1. How are the program modifications evaluated to determine if they are effective for the students with disabilities?

   ___ Teacher constructed assessments

   ___ Curriculum-Based Measurement-CBM

   ___ Oral Reading Fluency Drills

   ___ Running Records

   ___ Rubrics

   ___ Commercially available criterion referenced assessments

   ___ None of the above.

2. How are the program modifications evaluated to determine if they are effective for the students with disabilities?

   ___ General education class tests and quizzes

   ___ Student self-assessment/questionnaire

   ___ Special Projects

   ___ Effort/Improvement

   ___ Student interview

   ___ IEP goal/objective mastery

   ___ None of the above.

   ___ Other (Please specify.)_____

Evaluation of Student Progress in the *READ 180*® Program

Select the answer which best describes your situation for students with disabilities. Check all that apply.

1. How is the progress of a student with disabilities evaluated in the *READ 180*® class?

   ___*Scholastic Reading Inventory (SRI)*

   ___*rBook* Tests

   ___*rSkills* Tests

   ___ Student recorded readings on the *READ 180*® program

   ___ Scores from *READ 180*® student segment zones, words zones, spelling zones.

   ___ *Reading Counts* Quizzes

   ___ None of the above.

2. How is the progress of a student with disabilities evaluated in the *READ 180*® class?

   ___Teacher constructed assessments

   ___ Curriculum-Based Measurement-CBM

   ___ Oral Reading Fluency Drills

   ___ Running Records

   ___ Commercially available criterion referenced assessments

   ___ None of the above.

3. How is the progress of a student with disabilities evaluated in the *READ 180*® class?

   ___ Rubrics

   ___ General education class tests and quizzes

   ___ Student self-assessment/questionnaire

   ___ Special Projects

   ___ Effort/Improvement

   ___ Student interview

   ___ IEP goal/objective mastery

   ___ None of the above.

   ___ Other (Please specify.)_____

4. Which *READ 180*® instructional session is the <u>most</u> beneficial to students with disabilities?

   ___Whole group Instruction

   ___ Small Group Direct Instruction

   ___ *READ 180*® Software

   ___ Modeled and Independent Reading

   ___ Additional reading intervention activities

5. What is the average number of *SRI* Lexile points a student with disabilities improves in one year in the *READ 180*® program?

   ____ (Drop down menu choice 1-400)

6. If students with disabilities do not increase their *SRI* Lexile points by at least 100 points during the year in *READ 180*®, what factors could explain this lack of advancement?

___ Program implementation was for less than 90 minutes a day

___ Student attended the program less than 5 days each week

___ Student did not complete the full cycle of program implementation each day Whole Group, Small Group Rotations (Small Group Direct Instruction, *READ 180*® software, Modeled and Independent Reading), & Whole Group Wrap-up

___ None of the above.

7. If students with disabilities do not increase their *SRI* Lexile points by at least 100 points during the year in *READ 180*®, what factors could explain this lack of advancement?

___ Absenteeism

___ Lack of motivation

___ Student's initial reading level was too low for the program

___ Lack of phonemic awareness/phonics skills

___ Lack of reading skill follow through at home

___ Lack of reading skill follow through in the general education classroom

___ Student lacked independent and self-regulation skills to remain focused on the independent tasks

___ None of the above.

___ Other (Please specify.)_____

Appendix E

Pre-notification letter via email that the survey is coming in a week

Dear

My name is Anne Hubbard. I am a Doctoral student with the University of Maryland. I am pursuing a Doctorate degree in Special Education Leadership. I am conducting research on the benefits of the *READ 180*® program with DoDDS fourth grade students. Your name was selected because you either teach *READ 180*® or you are a special education teacher who consults with the *READ 180*® teacher.

In a week, you will receive another email from me asking you to please complete an on-line survey about the *READ 180*® program. The results of the survey will be confidential through the Qualtrics Survey Program. Completion of the survey is voluntary. I am writing in advance to let you know that the survey is coming. Your responses are important to learn about the *READ 180*® program.

Mrs. M. and the District Superintendent's Office are aware of this survey. They have approved the request for information through my survey.

Thank you for your time and willingness to consider answering this survey when it arrives. Please contact me if you have any questions at Anne.Hubbard@eu.system.edu.

Sincerely,

Anne Hubbard, M.S., M.Ed.

Appendix F

Second contact letter via email to voluntarily participate in the survey

Dear

My name is Anne Hubbard. I am a Doctoral student with the University of Maryland. I am pursuing a Doctorate degree in Special Education Leadership. I am conducting research on the benefits of the *READ 180*® program with the district fourth grade students. Your name was selected because you either teach *READ 180*® or you are a special education teacher who consults with the *READ 180*® teacher.

I am asking for your help to complete a survey dealing with reading and the *READ 180*® program. The purpose of the survey is to learn about the *READ 180*® program and its implementation with fourth graders in the district community. Because of your expertise, your responses to the survey questions are very important. Results from the survey will be used to help understand how *READ 180*® benefits the fourth grade students who are enrolled in the program.

Your responses to the survey questions are completely confidential. The survey is generated through the Qualtrics Survey Program. The responses are collected in the program. No personal identifying information will be correlated with your answers. The results of the survey will be discussed via percentages and summaries of data. Your name will not be matched to your answers.

Completion of the survey is voluntary. The survey takes 20-30 minutes to answer the questions. By clicking on the link to the survey, you indicate that:
1) You are at least 18 years of age;
2) The research has been explained to you:
3) Your questions have been fully answered; and
4) You freely and voluntarily choose to participate in this research project.

If you do NOT teach *READ 180*® or you are NOT a special education teacher who consults with the *READ 180*® teacher, please complete the first six questions of the survey. Thank you for your time.

The link to the survey is
_____.
Please click on this link or highlight the link to paste into your browser window to begin the survey. Please return the completed survey within two weeks,
by_____.

If you have any questions, please feel free to contact me at Anne.Hubbard@eu.system.edu. Thank you for your willingness to assist with this important research.

Sincerely,

Anne Hubbard, M.S., M.Ed.

Appendix G

Third contact letter via email- Thank you for completing the survey, please complete the survey if you have not done so.

Dear

I hope all is well. Ten days ago, I emailed a letter asking if you would participate in a survey dealing with reading and the *READ 180*® program. The purpose of the survey is to learn about the *READ 180*® program and its implementation with fourth graders in the district community. Results from the survey will be used to help understand how *READ 180*® benefits the fourth grade students who are enrolled in the program.

If you have completed the survey, this letter serves as a hearty *Thank You!* for taking the time to answer the survey questions through the Qualtrics Survey Program. Your responses to the survey questions are completely confidential. Your expertise in the area of *READ 180*® will enhance the total results of the survey.

If you have not completed the survey, this letter serves as a reminder to please volunteer to answer the survey questions. The survey is generated through the Qualtrics Survey Program. The responses are collected in the program. No personal identifying information will be correlated with your answers. The results of the survey will be discussed via percentages and summaries of data. Your name will not be matched to your answers.

The survey takes 20-30 minutes to answer the questions. By clicking on the link to the survey, you indicate that:
1) You are at least 18 years of age;
2) The research has been explained to you:
3) Your questions have been fully answered; and
4) You freely and voluntarily choose to participate in this research project.

If you do NOT teach *READ 180*® or you are NOT a special education teacher who consults with the *READ 180*® teacher, please complete the first six questions of the survey. Thank you for your time.

The link to the survey is
_____.
Please click on this link or highlight the link to paste into your browser window to begin the survey. Please return the completed survey within two weeks,
by_____.

If you have any questions, please feel free to contact me at Anne.Hubbard@eu.system.edu. Thank you for your willingness to assist with this important research.

Sincerely,

Anne Hubbard, M.S., M.Ed.

Appendix H

Fourth contact letter via email- complete the survey if they have not done so.

Dear

I hope you are having a good day. Two weeks ago, I emailed a letter asking you to participate in a survey focusing on reading and *READ 180*® in the district community. Your name was selected because you either teach *READ 180*® or you work as a special education teacher who consults with the *READ 180*® teacher. Because of your expertise in this area, your responses to the survey are extremely important. By sharing your experience, the survey results will show how *READ 180*® benefits the fourth grade students who are enrolled in the program.

If you have completed the survey, this letter serves as a hearty *Thank You!* for taking the time to answer the survey questions through the Qualtrics Survey Program. Your responses to the survey questions are completely confidential. I appreciate the time you took to answer the questions. Your commitment to enhancing the education of the district community students should be commended.

If you have not completed the survey, this letter serves as a reminder to please volunteer to answer the survey questions. The survey is generated through the Qualtrics Survey Program. The responses are collected in the program. No personal identifying information will be correlated with your answers. The results of the survey will be discussed via percentages and summaries of data. Your name will not be matched to your answers.

The survey takes 20-30 minutes to answer the questions. By clicking on the link to the survey, you indicate that:
1) You are at least 18 years of age;
2) The research has been explained to you:
3) Your questions have been fully answered; and
4) You freely and voluntarily choose to participate in this research project.

If you do NOT teach *READ 180*® or you are NOT a special education teacher who consults with the *READ 180*® teacher, please complete the first six questions of the survey. Thank you for your time.

The link to the survey is
_____.
Please click on this link or highlight the link to paste into your browser window to begin the survey. Please return the completed survey within one week,
by_____.

If you have any questions, please feel free to contact me at Anne.Hubbard@eu.system.edu. Thank you for your willingness to assist with this important research.

Sincerely,
Anne Hubbard, M.S., M.Ed.

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