

THE IMPACT OF THE READ 180 PROGRAM ON RESPONSE TO INTERVENTION
SERVICES

by

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Liberty University

A Dissertation Presented in Partial Fulfillment of
the Requirements for the Degree
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ABSTRACT

The purpose of this study was to investigate the impact of the Read 180 program as a Response to Intervention reading strategy tool for middle school students. This study explored the effect of the RtI-designed technology-based reading program on seventh and eighth-grade students labeled as at-risk for reading failure. Data was analyzed using the standardized analysis of covariance (ANCOVA). Participants in this study were given pseudonyms to protect their identity and scores. In addition, pseudonyms for the county and school where research was conducted were provided. The results of the study indicated that the Read 180 program at the focus school of this study did impact the reading achievement of Read 180 participants.

Keywords: {No Child Left Behind, Lexile, Response to Intervention, Georgia Criterion Reference Competency Test, Adequate Yearly Progress, At-risk Students, Struggling Reader.}

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CHAPTER ONE: INTRODUCTION

Background

In 2001, when then President George W. Bush introduced the No Child Left Behind Act, it restructured the way education was implemented throughout America. The urgency for reform stemmed from continual literacy declines amongst students. A steady drumbeat of base evidence in scientific journals and the popular media continues to declare that significant numbers of American children are not developing the skills they need to be successful in school and the work place (Morrison, Bachman, & Connor, 2005). To protect all learners, educational lawmakers restructured the Individuals with Disabilities Act of 2004 to reflect the needs and demands of the No Child Left Behind Act. Together, reformers of both the No Child Left Behind Act and the Individuals with Disabilities Act originated the Response to Intervention model as a way to target and implement research-based instruction for struggling readers and students.

In order to meet the challenges of the No Child Left Behind Act, schools not only have adopted the Response to Intervention (RtI) model, but they also have integrated technology literacy programs with the RtI model to help capture literacy success. In today's society, there are many technology tools and advancements that can enhance student literacy. These tools have been shown to be essential components of schools' data-driven educational strategies and reading intervention efforts; it is often difficult to collect, manage, and analyze data meaningfully without the use of such technology tools (McIntire, 2002; McLeod, 2005b; Pierce, 2005; Waymon, 2005). With the RtI model being driven by best practices and scientifically- based research, schools have embraced the technological research-based reading program known

as “Read 180.” This program serves as an intervention tool for the RtI model for many schools nationwide. In the eleven years since Read 180 was first implemented in the classroom, it has been subject to continuous research and evaluation. Thirty-seven studies have proven that Read 180 has a positive impact on children’s achievement across multiple grade levels and student types (Scholastic, 2011). Despite successful studies, researchers, such as Davidson and Miller (2002), support the need to investigate further the effectiveness of the Read 180 program on sub- groups and implementation, while other researchers, such as Hasselbring and Goins, report differently.

Hasselbring and Goins (2004) reported on the effectiveness of technology for improving reading among at-risk students and students with special needs, in part because of the ever- improving capacity of instructional technology tools to individualize, customize, adapt, monitor, and engage. With dismal literacy rates amongst students and accountability measures burdening schools, is the integration of technology with the RtI model going to provide the results needed to save student literacy and education? According to the 2007 Nation’s Report Card, from the National Center for Education Statistics, just one-third of public-school fourth graders -- and fewer than one-third of eighth graders -- read at or above grade level (Lee, Grigg, & Donahue, 2007). Twenty years after the “A Nation at Risk” report, George W. Bush implemented the 2001, No Child Left Behind Act to attempt to rectify what the “A Nation at Risk” report predicted years earlier. A 2000 reading assessment for fourth grade students yielded that only 8% of the nation’s youth were reading at advanced levels, while 63% were reading only at a basic level (Donahue, 2001).

The No Child Left Behind Act sought to hold educators accountable for student achievement through a series of regulated, high-stakes testing that reviewed and graded

educators and school systems on reading and math performances. A 2002 report from the President's Commission on Special Education estimated that 80 percent of students who receive an SLD diagnosis--two out of five special education students--are assigned to the program "simply because they haven't learned how to read (Snell, 2002). This trend is especially troubling when one considers a child's dismal chances of learning to read through special education. The longer students remain in special education, the lower their reading ability when compared to that of other poor readers (Snell, 2002). As the rate for special education services increases, it is important that the Read 180 program serves as an accurate intervention model. In order to assure the success of students and the program, there is a need for continuous studies to be conducted on the impact and implementation of the Read 180 program on various student populations (Davidson & Miller, 2002).

The accountability measures created from the No Child Left Behind Act influenced change for the Individuals with Disabilities Education Act that was modified in 2004. The implementation of the No Child Left Behind Act caused educators to spotlight major student groups, such as the special education population. This is a larger student group that exhibits reading difficulties, thus receiving a greater impact from reforms due to the group's increased reading difficulties (Fuchs & Fuchs, 1998; Vaughn & Fuchs, 2007). The No Child Left Behind Act includes special education in all aspects of its accountability system in order to make schools accountable to the needs of struggling students and students with disabilities (Yell, Katsiyannas, & Shiner, 2006, p. 34). To better align with the No Child Left Behind Act, changes regarding the identification and services for special education were reviewed. Target areas such as data reporting, assessments, instructional delivery, and the implementation of individual educational plans (IEP) have been a direct focus (LeFave, 2010). According to

Kozel (2005), the accountability provisions of the No Child Left Behind Act have had a huge impact on schools. One such impact includes complex data-collection procedures that measure school systems' response to intervention in students qualifying for special education services. Another affect includes putting pressure on schools to eliminate aspects of the curricula that do not address literacy and math, so that services can be reduced to low performing students, and otherwise marginalize special education. The No Child Left Behind Act includes special education in all aspects of its accountability system in order to make schools accountable to the needs of struggling learners and students with disabilities (Yell, Katsiyannas, & Shiner, 2006).

To improve on identifying and serving students in regular and special education, the RtI program was proposed in the revised Individuals with Disabilities Education Act of 2004. The new goal for educators under the Individuals with Disabilities Education Act was to create early and intensive interventions in the regular education classroom based on student characteristics. The No Child Left Behind Act and the Individuals with Disabilities Education Act mandate that educators implement research-based and best practices reading instruction within the classrooms to promote literacy. The No Child Left Behind Act of 2001 (NCLB) requires states to test students in specified subjects and grades; to establish minimum performance standards for students, schools and school districts; and to provide assistance for and impose sanctions on schools and districts that do not meet performance goals as a condition of receiving federal aid (Goertz, 2005). Such policies and changes have been enforced due to state and school districts being held accountable for reading achievement, thus requiring all instructional techniques and avenues to be explored before students are recommended for special education services and continue to decline on their reading performances and levels.

According to Jacob and Hartshorne (2003), the purpose of No Child Left Behind is to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind. The law stipulates school faculty, both instructional facilitators and educational leadership, be held accountable for the success of students' academic achievement (Jacob & Hartshorne, 2003). The goal of the No Child Left Behind Act is to have 100% of all students passing high stakes tests in subject areas such as reading (U.S. Department of Education, 2001). Despite educator reform efforts, this goal does not appear to be realistic.

Teachers and administrators stated that the No Child Left Behind Act set impossibly high standards, narrowed curriculums, forced teachers to teach to tests, and over identified sufficient schools as being "in need of improvement"(Webly, 2012). The No Child Left Behind Act triggered many school systems to water down standards to ensure that its rigid benchmarks were being met (Webly, 2012). With much garnered criticism and review, the No Child Left Behind Act was critiqued and waived in 2011 by the Obama administration, in hopes of pursuing efficient educational achievement (U.S. Department of Education, 2011).

To ensure that student needs were being met without demanding unattainable and unrealistic goals, a No Child Left Behind Act waiver was introduced to support state and local education reform goals. In 2011, President Obama declared that states could request flexibility from specific No Child Left Behind Act mandates that are stifling reform, only if states are transitioning students, teachers, and school systems to a system aligned with college- and career- ready standards for all students developing differentiated accountability systems, and undertaking reforms to support effective classroom and school leadership (U.S. Department of Education, 2011). The waiver for the No Child Left Behind Act does not eliminate the reform policy or its expectations. Instead, it allows states to find other

progressive means to meet the criteria set forth by policy.

Despite a new reform to the No Child Left Behind Act, it can be noted that both previous and current educational reform policies have a continued focus on addressing the student achievement gap that exists. With the new No Child Left Behind Act waiver being implemented, more than 40 states have committed to adopting the Common Core State Standards to meet the waiver guidelines (Gibbs, 2011). Despite changes, the Response to Intervention model remains at the forefront for ensuring student success under the Common Core State Standards. Educators and administrators abroad are continuing to embed the Response to Intervention model that was created under the No Child Left Behind Act to the newly reformed Common Core Standards (Gibbs, 2011). Under the Common Core State Standards, school systems are expected to conduct assessments to determine the specific type of literacy intervention needed, develop tiers of literacy instruction and intervention designed to maximize student outcomes, set literacy intervention goals and monitor progress, make data-based decisions to enhance student literacy outcomes, and compare and contrast specific literacy intervention programs (Gibbs, 2011).

Problem Statement

Despite the growing popularity of the Read 180 program at a national level, the problem remains that there is a lack of documentation demonstrating Read 180 class achievement and student reading achievement on the reading section of the Georgia Criterion Reference Competency Test (CRCT) at Templeton Middle School. This study attempts to investigate how the Read 180 program impacts the identified reading gap amongst participants. In addition to a lack of data regarding how Read 180 participants' reading is impacted, Templeton Middle School does not have adequate data regarding how Read 180

participants reading achievement compares to students not enrolled within the program.

Templeton Middle School has a modified implementation of the Read 180 program that is not offered to all students enrolled in Read 180 programs nationwide.

This modified implementation of the program becomes a major concern, as possible benefits of the program may or may not be received by participants based upon gender. There is no data based upon a gender sub-group to identify how male and female reading skills correlate and/or compare in regards to reading achievement performances on high stakes tests. It is important to identify how effective the Read 180 program is on improving reading ability based upon gender sub-groups, as more research is linking a predominate gender group to high school dropout rates due to inadequate reading skills.

As previous and current accountability reform laws continue to challenge primary and secondary schools to increase student reading abilities, school administrators and educators are trying to meet the slated criteria and accountabilities established by the No Child Left Behind Act and the Response to Intervention plan set forth by the 2004 Individuals with Disabilities Education Act. In the state of Georgia, the CRCT is administered to students to track and monitor student achievement, thus holding schools accountable. One of the target skills assessed by the CRCT high-stakes test is reading.

For counties such as Washington County, there has been tremendous pressure to achieve Adequate Yearly Progress (AYP) within this content area. As middle schools continue to attempt to meet AYP standards, school officials also refer to eighth-grade reading scores as predictors or indicators for potential high school dropouts. Eighth-grade reading scores can serve as potential indicators for students, who will drop out of school before twelfth grade (Lewin, 2004). To help ensure AYP status and follow RtI mandates, Washington

County implemented the well-known technology-based program known as Read 180 at the middle school level. According to Davidson and Miller (2002), there is a need for continued research on specific populations of Read 180 students, as well as on variations of program implementation.

It is evident that the implementation level of Read 180 matters in achieving reading gains (Admon, 2005).

Purpose Statement

The purpose of this study is to examine the effectiveness of the Read 180 intervention program in promoting student reading achievement for middle school seventh and eighth-grade participants attending the focus school of this study. As more students continue to demonstrate reading difficulties in the general population, school districts are being driven to implement effective research-based strategies and interventions to target students at-risk for failure. With the 2004 reauthorization of the federal Individuals with Disabilities Education Act (IDEA), states and school districts were given more options for how to evaluate public school students for learning deficits (Mellard, 2004). One of the key reading interventions being used, or combined with the RtI process, is the Read180 program.

This study is designed to investigate how the Read 180 program impacts students' reading achievement. The research in this study is needed to help document the impact that the Read 180 program has on participating students at the focus school of the study, as well as identify possible reading gaps based upon gender. There remains to be minimal documentation regarding how Read 180 participants' reading achievement is impacted when compared to the school's non-Read 180 participants. In addition to a lack of achievement data, there is no measureable or comparable data to identify how participant gender influenced

reading achievement. As student reading abilities and high school dropout rates remain to be a critical educational issue at a national and local level, it is important to obtain data that the middle school and county can use to identify how Read 180 is impacting student reading abilities and students at risk for dropping out of school.

Significance of the Study

As the Response to Intervention model continues to be injected into the education culture, school administrators and educators feel the pressures to find creative and effective instructional interventions to help struggling and at-risk students improve reading achievement. This overwhelming demand of accountability for student achievement has forced the school personnel to comprehend the vital importance of early identification of potential students, who may experience less desired reading mastery (Cottle-Willard, 2006). Accountability has necessitated the educational community to screen more closely individual academic achievement (Cottle- Willard, 2006). The success of an educational program lies in individual student reading achievement (Cottle-Willard, 2006).

School systems are implementing differentiated instruction, research-based strategies, after school programs, and technology-based programs to help support students. To attack the reading gap, schools are implementing screening programs, progress monitoring, and tiered services to help meet student needs (Johnson, Mellard, & Fuchs, 2006). Through the RtI process, educators are identifying students at-risk of reading or math failures at early stages, so that they can be identified as low achievers and receive early interventions. Children come to the classrooms from so many different ability levels and backgrounds, which is why it's important to recognize and know what to do to help a struggling reader (Meier & Freck, 2005).

To overcome growing reading deficits, the Read 180 program has been selected by

various elementary and secondary schools to serve as a major intervention requirement of the RtI program. The inventors of the Read 180 program have highlighted their program as a design that embodies the elements of the Response to Intervention model. The program addresses individual learning styles through adaptive software, interesting literature, and direct instruction with reading skills (Nave, 2007).

This study allows for an opportunity to investigate further exactly how the Read 180 program impacts students' achievement beyond just identifying increases and decreases between previous and current performance scores on standardized tests. The current research aims to investigate how Read 180 impacts reading achievement based upon student gender. According to the United States Department of Education (year), boys have consistently scored worse than girls in reading for thirty years—all ages, in every year. Two-thirds of special education students in high school are boys, and boys are 50 percent more likely than girls to be held back in the eighth grade (Family Education Network, 2006). With such critical data regarding gender literacy disparity, it is vital that more research is conducted to study if the Read 180 program also improves the reading gap based upon gender.

The middle school of study and other area middle schools will be able to analyze the results of this study to help incorporate data-driven decisions regarding how to implement the Read 180 program and their current RtI needs. The findings from this study will also serve as a catalyst for potential expansion of the Read 180 program to be utilized at the elementary and high school levels, if the data supports a positive correlation between Read 180 reading achievement and CRCT reading subtest scores. If research data indicates a negative correlation between CRCT reading subtest scores and student reading achievement within the program, then the Read 180 program model at the middle school will be restructured based

upon the number of students and their class scheduling. There will be an increase in progressive data tracking, which will be used to consult with special education and regular education language arts teachers, so that more reinforcement can be received in the area of reading.

Exploring the effectiveness of the Read 180 design is essential to the educational setting, because more school districts are purchasing this program and utilizing it as a cornerstone for its RtI model. The Read 180 program has been an educational fixture within the primary school of focus since 2008, when it was purchased and utilized for the special education department. The program model proves to be the most lucrative and beneficial of the interventions implemented by the focus school. Other programs, such as Voyager Passport and Wilson Reading, are available to the middle school; however, the financial and academic energy put into the Read 180 program suggests to the school administrators that this program is a positive intervention guide that could be adjusted and more beneficial based upon its implementation. With such a lengthy investment being linked to the Read 180 program, the primary school of focus administrators support the program and identify its scheduling as more of a limitation than the actual implementation of the program itself.

The rationale for assessments lies in research on reading development that indicates the importance of basic skills for future success and classroom evidence that early diagnosis and remediation of reading difficulties can enhance reading achievement (Paris & Hoffman, 2004). Tests are designed to enable us to compare the performance of students in a relatively efficient way (Koretz, 2008). By having solid and comparable data, educators can better study or review content areas that are identified as weaknesses for students. Assessments function as a communication tool within the classroom. This communication can be for a

variety of reasons, such as feedback for resource or program effectiveness, teacher lessons, or student comprehension (McAlpine, 2002).

Research Questions

This study is designed to answer the following research questions:

RQ1: Does participation in the Read 180 program have an impact on students' Georgia Criterion Reference Competency Test reading scores when compared to students not participating in the program?

RQ2: Does female gender impact Read 180 participants' reading achievement on the Georgia Criterion Reference Competency Test in reading when compared to female participants not enrolled in the Read 180 program?

RQ3: Does male gender impact Read 180 participants' reading achievement on the Georgia Criterion Reference Competency Test in reading when compared to male participants not enrolled in the Read 180 program?

Hypotheses

The following are the research hypotheses:

H₁: There will be no significant difference (as shown by the Georgia Criterion Referenced Reading Competency Test) on Read 180 participants' reading achievement when compared to non-Read 180 participants' reading achievement on the Georgia Criterion Reference Competency Test.

H₂: There will be no significant difference between reading achievement (as shown by the Georgia Criterion Referenced Reading Competency Test) of female Read 180 participants and female non-Read 180 participants.

H₃: There will be no significant difference between reading achievement (as shown by

the Georgia Criterion Referenced Reading Competency Test) of male Read 180 participants and male non-Read 180 participants.

Identification of Variables

Experimental Group. The group in a research study that receives the experimental treatment (Ary, Jacobs, Razavieth, & Sorenson, 2006). Students who were enrolled in the Read 180 program served as the experiment group due to the services they received from the Read 180 program.

Control Group. The group in a study that does not receive the experimental treatment; it is compared with the experimental group to determine the effects of the treatment (Ary et al., 2006). Students not enrolled within the Read 180 program did not receive any treatment from the program, and therefore are identified as the control group of this research study.

Dependent Variable. A variable that is a consequence of or dependent on the independent variable (Ary et al., 2006). The dependent variable within this study is the Read 180 participants' reading achievement scores because they are being observed, and the outcome of participants' achievement is dependent on reading achievement scores of students who were not enrolled within the Read 180 program.

Independent Variable. The independent variable is assumed to have a direct effect on the dependent variable (Ary et al., 2006). The Read 180 program is the independent variable within this study, because the study attempts to explore if the program changes or impacts the reading achievement of students enrolled within the program.

Extraneous Variable. An uncontrolled variable that may affect the dependent variable of the study; its effect may be mistakenly attributed to the independent variable of

study.

Read 180 participants' gender, grade, and prior reading ability on 2010 Georgia Criterion Reference Competency Test are uncontrollable factors that could impact both the experimental and control groups reading achievement outcomes, thus creating data that does not accurately reflect achievement data based upon students' Read 180 program enrollment.

Definitions

Phonemic awareness. Noticing, thinking about, and working with the individual sounds in spoken words. Readers must recognize that words are made up of speech sounds or phonemes (Keller, 2004).

Phonics. Instruction teaching the relationships between letters (graphemes) of written language and the individual sounds (phonemes) of language, so that they can be used in reading and writing processes (Keller, 2004).

No Child Left Behind (NCLB). An Act of the U.S. Congress spearheaded by former President George W. Bush, in 2002, to close the achievement gap so that no child is left behind academically. The four key components of this act are: "Stronger accountability for positive results, expanded flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work" (Cooter, 2004).

Lexile. A common metric used to measure reading ability and text difficulty. The Lexile Framework® is a research-proven method developed by MetaMetrics for evaluating reading levels. The system has been aligned to various national norm-referenced tests, including the *CRCT* used by Georgia middle schools. Scholastic Reading Inventory reports student outcomes using the Lexile format. Average grade-level gain is defined as 50 Lexiles (Scholastic, 2005b).

Scholastic Reading Inventory. Reading assessment program which provides immediate, actionable data on students' reading levels and growth over time. It provides educators with differentiated instruction, creates meaningful interventions, forecasts growth toward grade-level state tests, and demonstrates accountability.

Response to Intervention. A program that uses assessments to target students who are at risk of failure and who receive intense one-on-one instruction designed to accelerate their growth; intervention can be any special experience designed to enhance the academic functioning of a student (Royer, 2005).

AYP. Adequate Yearly Progress is a measure of year-to-year student achievement on statewide assessments (Georgia Department of Education, 2009).

CRCT. The Criterion Reference Criterion Test is designed to measure how well students acquire the skills and knowledge described in the Georgia Performance Standards (GPS). The assessments yield information on academic achievement at the student, class, school, system, and state levels. This information is used to diagnose individual student strengths and weaknesses as related to the instruction of the GPS, and to gauge the quality of education throughout Georgia (Georgia Department of Education, 2009).

At-Risk Student. Historically, "at-risk" labeling meant any student who did not match the dominant white student cultural profile, for which the school setting was designed. This included non-white students, single-parent students, and students with conflicting appearances, languages, cultures, and so forth. Research has shown this definition to many students falsely and to fail to identify even more students, at all. These students are usually low academic achievers, who exhibit low self-esteem. Disproportionate numbers of these students are males and minorities (Hixson, 1990).

Struggling Reader. A student or adolescent who appears to be at-risk, underachieving, unmotivated, and unsuccessful in school literacy activities, including English Language Learners and those diagnosed with reading disabilities (Alvermann, 2001).

Common Core State Standards. These standards define the knowledge and skills students should have within their K-12 education careers, so that they will graduate high school and be able to succeed in entry-level, credit-bearing academic college courses, as well as in workforce training programs. The standards are aligned with college and work expectations; are clear, understandable and consistent; include rigorous content and application of knowledge through high-order skills; build upon strengths and lessons of current state standards; and are informed by other top-performing countries, so that all students are prepared to succeed in our global economy.

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

In 1983, the “A Nation at Risk” report was created to spark change in a fledgling American educational system. Creators of the “A Nation at Risk” report revealed that America was at risk of losing its unchallenged preeminence in commerce, industry, science, and technology innovation to its foreign competitors (Denning, 1983). How could the world’s most powerful and influential country be at risk? The enemy that threatened America, and continues today, is illiteracy.

At that time, it was reported that twenty-three million adult Americans were functionally illiterate, based upon simple everyday tests (Denning, 1983). Once a country prided on providing the tools for people to achieve the American dream, America’s promise to educate and nurture the individual mind and spirit seemed lost. The “higher order” intellectual skills, which should be developed by seventeen years of age, were underdeveloped. Close to forty percent of seventeen-year-olds could not draw inferences, while only 1/5 of the population could comprise a persuasive essay (Denning, 1983).

It was evident that, in 1983, America was under attack. The attack was entitled “mis-education.” A continuous decline in aptitude achievement scores spiked the needs for colleges/universities and military programs to extend remedial reading and mathematics courses to American students. The growth of remedial reading and math courses triggered concerns regarding future generations being disbursed into society scientifically, technologically, and academically illiterate. This report urged for change in how education is instilled within students. The basis for the change stemmed from content, expectation, time, teaching, and leadership constructs that help define the educational system. Creators of the “A

Nation at Risk” report thought corrective measures should be taken to strengthen and reinvigorate high school graduation requirements, while the middle school years should be redesigned to prepare students for high school English courses. Instead of lowering student expectations, grades should reflect academic achievement and not effort. More than half of the nation’s elementary, middle, and high school students are reading below the proficiency level. In a recent report by the Annie E. Casey Foundation, one out of three students scored "below basic" on the 2009 National Assessment of Education Progress (NAEP) Reading Test (Casey, 2010). On the 2009 NAEP Reading Test, about 26 percent of eighth graders and 27 percent of twelfth graders scored below the "basic" level, and only 32 percent of eighth graders and 38 percent of twelfth graders are performing at or above grade level (Casey, 2010).

The inability to read and write proficiently correlates to behavior problems, truancy, and, all too often, dropping out of school (Slackman & Trabucchi, 2006). Students are required to meet statewide standards for promotion from grades 3, 5, 8, and high school graduation (North Carolina State Board of Education, 2011). The standards, also called gateways, will ensure that students are working at grade level in reading, writing, and mathematics before being promoted to the next grade (North Carolina State Board of Education, 2011). By testing students at critical grade levels, such as third, fifth, and eighth, educators increase the chances of targeting students with reading deficits. Longitudinal data, information collected and accumulated over time, permit(s) educators to follow the progress of individual students as they progress from grade to grade (Jerald, 2006). By testing students at specific grade levels, educators can monitor the reading, academic, and motivational success of students. Testing students as a means of progressive monitoring is an intervention to preventing low readers from dropping out of school.

Educators can also utilize homework and other assignments that are meaningful and challenging, and that require effective study and work skills that reflect classroom instruction. Educators should be trained in their content area, and they must demonstrate an aptitude for teaching, while continuously participating in professional development courses. Professional development must go beyond observation forms. Professional development should be ongoing and provide professional learning communities where teachers interact with their colleagues and ensure ongoing support from coaches and administrative staff (Joyce & Showers, 2002). By providing meaningful and in-depth professional development opportunities, the chance of really affecting teaching and learning increases dramatically to nearly 90% (Joyce & Showers, 2002).

While revealing to the nation the educational problems that existed, and by providing the tools and answers to correct the on-growing illiteracy battle within the country, where does the nation stand and what innovations have arisen to meet the needs of the students twenty-five years later? The demand to educate students using effective, innovative, and engaging instructional methods remains to be a timeless issue as these questions and instructional methods continue to evolve, but yet remain a concern.

Teachers need to be able to create an engaging learning environment, implement research-based instructional strategies, augment student motivation to learn, and offer opportunities to use literacy across the curriculum (Meltzer, Smith, & Clark, 2001). The responsibility for ensuring that teachers meet high-performance expectations rests on many shoulders: while teacher preparation programs must give teachers an adequate foundation, ongoing professional development must deepen teachers' skills and keep them current (Malhoit, 2005). Education is a state responsibility; consequently, state and local governments

provide more than 90% of the funding for K-12 public education (Education Commission of the United States, 2011). Testing in the United States has increased dramatically in the past twenty-five years and is now a cornerstone of education practice (Paris & Hoffman, 2004). The creators of the No Child Left Behind Act mandate annual testing of reading in grades three through eight and increased assessment for students in grades K through three with priorities of increased accountability and achievement (Paris & Hoffman, 2004). This goal has revamped education throughout the years as more emphasis has been placed on the increasing failures of middle school and high school students' academic performances and scores at the local and national levels. The No Child Left Behind Act created "enormous changes," such as increases in the percentages of students expected to be proficient in reading and math, the implementation of more rigorous tests, and increased expectations for students with disabilities (Haug, 2010).

The 1983 "A Nation at Risk" report indicated that twenty-three million American adults were functionally illiterate, while thirteen percent of seventeen-year-olds were to be considered functionally illiterate as well (Denning, 1983). The 1983 report indicated that the scientific and technological illiteracy would serve as an indicator of dismal employment prospects in the age of information, developing with the use of computers. The results of the study also indicated inadequacies in expectations, time, content, and teaching. This alarming report produced many reform efforts by lawmakers to improve the academic institution for American education.

In attempts to solve the educational issues recognized in the 1983 "A Nation at Risk" report, educational lawmakers reviewed previous laws and implemented new reforms over the years, potentially to eliminate the ongoing educational crisis. In 1987, following the 1983 "A Nation at Risk" report, the Southern Regional Educational Board created the "High Schools

that Work” program. This program was a research-proven strategy-based implementation that focused on transforming public high schools into places where all students can learn (Southern Regional Educational Board, 2012). There were ten key practices designed to make the program effective and help correct the problems stated in the “A Nation at Risk Report.” High expectations, program study, academic studies, career/technical studies, work-based learning, collaboration, engagement, guidance, excess assistance, and cultural empowerment were all elements embedded into the program (Southern Regional Educational Board, 2012). The “High School that Works” initiative has used assessment scores, transcript data, and survey information to keep track of the progress being made by the schools in the consortium (Kauffman, Bradby, & Teitelbaum, 2000).

In 1990, the Individuals with Disabilities Education Act was introduced to replace the Education of the Handicapped Act. The 1990 Individuals with Disabilities Education Act focused on educating student sub-groups with disabilities within the general educational setting. To incorporate this reform successfully, supplementary aids and individualized educational plans were created and implemented, with close monitoring, by both the general and special education teachers (Driscoll & Nagel, 2008). The 1983 “A Nation at Risk” report focused on the sub-par education of American students. However, the reform efforts following the 1983 report spawned acts that targeted not only sub-groups, but also collective educational populations. One of the first educational gestures made by various educational systems was the implementation of standards-based education systems. Early adopters of this approach in the late 1980s and early 1990s often produced content standards that were not very clear, specific, or academically rigorous (Spelling, 2008). With a new focus being shifted toward curriculum, content standards began to take the shape that we see today—clearer, grade-level

specific, and more academically challenging (Spelling, 2008). Creating tests and adopting textbooks that aligned with the content standards also became a priority for providing improved content.

The Education Reform Act was introduced in 1993 to help equalize funding for all school districts, thus leveling the educational field between lower and higher income school districts. The primary goals or focus of this reform act were to create a set of curriculum frameworks that challenged educators and to introduce student learning that complemented aligned assignments. The state's role changed to incorporate consistent curriculum frameworks and holding schools accountable for student performance. Because the Massachusetts Education Reform Act was designed to be a systemic reform of education, all of the various state activities and policies needed to fit together into a coherent whole, based on state educational standards (Driscoll, Berger, & Hambleton, 2005). The Education Reform Act of 1993 was established to help create effective guidelines for educators to utilize school budgets effectively, while providing a more rigorous curriculum framework and accountability guides. It laid out the concept of a minimum budget necessary for each district to adequately educate all students (Driscoll, Berger, & Hambleton, 2005).

Since the implementation of the Education Reform Act of 1993, education reform has been successful in raising the achievement of students in previously low-spending districts (Ansel, Downes, & Zabel, 2009). The Education Act of 1993 has forced states to double their investment in local aid to schools, while also holding local entities accountable by creating standards and assessments to measure the progress of students (Ansel et al., 2009). These standards have become national models of rigor and quality. The legislation instructed the Board of Education to develop curriculum frameworks and other standards to support local

districts' implementation of standards through alignment of curriculum and instruction.

Further, MERA mandated the creation of a set of accountability measures that made it possible to track student progress towards those standards and that gave educators the data to guide and measure their own improvement efforts (Ansel et al., 2009).

Frameworks have been developed in arts, English language arts, foreign languages, health, mathematics, history/social science, and science/technology/engineering (Driscoll, Berger, & Hambleton, 2005). With the demanding components of a new curriculum framework guide, educators were also required to create assessments for student learning based on the frameworks. The new curriculum also specified a competency determination as a requirement for graduation (Driscoll et al., 2005). Policy makers have been able to learn from past experience in order to better structure school finance or accountability reforms, due to the accountability efforts of the Education Reform Act of 1993 (Carnoy & Loeb, 2003; Braun, 2004). States have modified their financial systems and academic accountability systems to cater to their student population, but the Education Reform Act of 1993 has been a baseline for state agencies to build an educational foundation (Downes, 2004).

In 1994, President Bill Clinton introduced the Improving America's School Act. This act serves as an amendment to the 1965 Elementary and Secondary Act. Funds appropriated under subsection (d) of the Act can be used to support nationally significant programs and projects to improve the quality of education, assist all students in meeting challenging state-content standards and challenging state student-performance standards; and contribute to the achievement of the National Education Goals (Brown, 2005). Under this Act, educational funds can be used to help develop or supply teachers with assessments to help support ongoing student assessment, provide professional development training, and enhance community and

parental involvement.

The Improving America's School Act of 1994 was a precursor established by former President Clinton's administration to help project its second phase of reforming the 1965 Elementary and Secondary Education Act of 1965. This Act mandated that states receiving Title I funding impose content standards and performance requirements for poor and underachieving students in reading, language arts, and math (Office of the General Commission, 2004). The Improving America's School Act of 1994 allowed for states to create required annual yearly progress (AYP) mandates that were not then controlled by federal standards. In addition, states had to disaggregate tests based upon several categories, including race, language, and disability (Office of the General Commission, 2004). These mandates were later heightened and restructured to become major components of the "No Child Left Behind Act."

The Goals 2000: Educate America Act, Pub. L. 103-227, became law on March 31, 1994. Title I of the Act defined a set of eight National Education Goals, and the rest of the law was intended to provide a framework for meeting those goals by year 2000 (Brown, 2005). The eight main objectives under the Goals 2000 Act include school readiness, school competition, student achievement, teacher education, adult literacy, safe schools, and parental participation (Brown, 2005). The guidelines for the Goals 2000 Act emphasized several key components that reflected the eight objectives that were being implemented to help reform education (Brown, 2005). Within the Act, children will have access to high-quality and developmentally appropriate preschool programs that help prepare children for school, the Nation must dramatically reduce its school dropout rate, and 75 percent of the students who do drop out will successfully complete a high school degree or its equivalent; and the gap in high

school graduation rates between American students from minority backgrounds and their non-minority counterparts will be eliminated (Brown, 2005).

In addition, other objective components stipulate that the academic performance of all students at the elementary and secondary level will increase significantly in every quartile, and the distribution of minority students in each quartile will more closely reflect the student population as a whole (Brown, 2005). The Goals 2000 Act also focused on teacher professional development classes being offered to help make science and mathematics education superior academic achievements for students (Brown, 2005). Lastly, making schools safe and drug free was concluded within the Act (Brown, 2005).

However, in 2001, former President George W. Bush implemented the “No Child Left Behind Act,” which proved to be a major reform component of American education. The No Child Left Behind Act proposed for educators to be held more accountable for student performances, as well as the implementation of best practices instructional strategies to enhance and improve student achievement in all subject areas, but with a special emphasis on reading. The new accountability effort spawned by the No Child Left Behind Act had a ripple effect on the educational system and caused the reform of the Individuals with Disabilities Education Act (IDEA) of 1997. In efforts to reflect the mandates of the “No Child Left Behind Act,” reformers of the Individuals with Disabilities Education Act of 2004 focused on improving the reading discrepancies by designing a reading program or model that would allow educators to identify struggling readers and students with learning disabilities as an effort to narrow the achievement gaps in American education.

In 2004, the Individuals with Disabilities Education Act reformers introduced the RtI program to the educational world. To help improve the standards of the American educational

system, educational reformers and lawmakers required all school districts to implement an RtI model. The RtI program focuses on identification and quality instruction as a way to deflate the increasing rise of illiterate students. In an effort to improve quality instruction and enhance educator accountability for students, the creators of the RtI program aim to connect educators with instructional strategies and programs that have been proven to be the best research-based instructional strategies in regards to increasing reading achievement.

One of the most widely used Response to Intervention instructional programs being implemented at the middle school level is the Read 180 program model. Many school districts in states such as Massachusetts, Texas, Florida, Georgia, and Oregon are implementing the Read 180 program as their primary instructional tool to bridge the reading gap for students participating in the Response to Intervention program (Shawgo, 2005). Studies conducted in the Los Angeles Unified School District of English Language Learner students revealed that students using the Read 180 program gained more than three Normal Curve Equivalents in comparison to students not using the Read 180 program. These latter mentioned students' scores decreased by approximately seven Normal Curve Equivalent scores (Shawgo, 2005). The Normal Curve Equivalent is a way of measuring where a student falls along a normal reading curve (Shawgo, 2005). Use of the Read 180 program continues as reports and studies surface of growing school- wide success. The Council of Great Schools, which includes schools from Boston, Dallas, Houston, and Columbus, indicated that student reading scores significantly increased on the Stanford-9 by 22.94 scale points, in comparison with non-users scoring 17.24 scale points (Shawgo, 2005).

Research suggests that the Read 180 program has been successful in helping at-risk students improve their reading skills (Scholastic, 2004). Data from the Massachusetts

Comprehensive Assessment System English Language Arts (MCAS ELA) and Northwest Evaluation Measures of Academic Progress (NWEAMAP) were collected from Read 180 students during the 2008-2009 school year (Scholastic, 2011). Reports revealed that Read 180 students demonstrated measurable gains on the MCAS ELA from 2008-2009. Students from this study experienced an overall fifty percent increase on their Performance Level by more than one category (Scholastic, 2011). In 2009-2010, the Osceola School District reported that more than 55percent of all Read 180 participants surpassed the Developmental Scale Score on the Florida Comprehensive Assessment Test (Scholastic, 2009). The Developmental Scale Scores are used to determine and interpret student learning gains across grade levels, subject areas, and school years (FLDOE, 2011). A similar study out of California revealed that the Colton Joint Unified School District 9th grade Read 180 participants made significant reading improvements during the 2008-2009 school year (Scholastic, 2009). The students' reading gains were measured by the California Standards Test of English Language Arts Reading Test (CSTELA). Data indicated that average CSTELA scale scores changed from 254 to 280, a significant difference of 26 scale points (Scholastic, 2009).

These findings, along with the mandates from the No Child Left Behind Act, fuel the question regarding the effectiveness of the Read 180 program in relation to the RtI model. The Read 180 program and the RtI model are highlighted as effective instructional tools that are bridging the reading achievement gap for middle school students. In previous years it had been reported that 25% of the students arriving in ninth grade were unable to read well enough to take high school courses, let alone rigorous courses to prepare them for college (Lewin, 2004, p.11). The National Assessment of Educational Progress (NAEP) has measured reading achievement of children ages eight, twelve, and eighteen for the past thirty years (Moats,

2001). It was reported that approximately 42% of fourth graders scored below the basic level in overall reading skills on the NAEP (Moats, 2001). With such reports surfacing within the educational community

regarding students' low-level reading achievements, educational lawmakers and reformers saw the need not only to establish accountability measures in more school systems, but also to create productive academic goals for school systems to implement.

With the Read 180 program being a celebrated instructional tool for the RtI model in regards to bridging the reading achievement gap, it is imperative that further research is conducted in regards to the outcome of student reading achievements on state accountability assessments enforced by the No Child Left Behind Act. If the Read 180 program is proving to be an effective instructional tool for the RtI model, then middle school students who are participating in the program should be able to meet state accountability requirements for reading at the middle-school level.

Conceptual or Theoretical Framework

This study is designed to explore a concept of reading intervention derived from educational reformers and lawmakers. The root of this intervention model focuses on using scientifically proven research instruction combined with technology to improve the reading comprehension ability of students identified as at-risk for academic and accountability assessment failure in reading. Despite ongoing research that investigates the impact of the Read 180 program on student reading achievement, this study is designed to investigate possible correlations between student performances in the Read 180 program and the CRCT reading test. Criterion Reference Competency Test scores in reading were compared to determine if there are positive or negative correlations between the Read 180 program and

student achievement. The National Assessment of Educational Progress report shows that 34 percent of fourth-grade students perform below basic levels in reading (National Assessment of Educational Progress, National Center for Educational Statistics, & Institute of Education Sciences, 2007). Such

research statistics fueled a mandated reading intervention concept as an increase of students at the elementary level proceed to middle school with late-emerging reading difficulties and disabilities that are not identifiable by early screening assessments (Compton, Fuchs, Fuchs, Elleman, & Gilbert, 2008).

Educational reformers have incorporated the RtI concept as a way to help at-risk students. At-risk students are students who are not experiencing success in school and are potential dropouts; these students are typically low academic achievers who stem from low socioeconomic status families, low incomes, and minority status (Donnelly, 1987). RtI specifically targets early reading problems (McMaster, Fuchs, Fuchs, & Compton, 2005; O'Connor, 2000; Vaughn, Linan-Thompson, & Hickman, 2003; Vellutino et al., 1996).

The RtI program is a reflection of the Reading First program, also implemented by RtI policy makers (Fuchs & Fuchs, 2006). This combination has led to schools being mandated to use scientific knowledge to guide the selection of core curricula and to use valid screening measures and progress monitoring to identify and help struggling readers (Fuchs & Fuchs, 2006). As this is a major component of RtI, it is imperative that schools inject their reading curriculum with the use of technology as a way to meet the standards of RtI.

Computers can present a variety of phonemic awareness practice activities and provide feedback to students and reports to teachers about student progress (NEIRTEC, 2004).

Educational researchers and practitioners alike assert that technologies for learning are likely to be found useful based on the ways in which they are used as tools for learning (Holum & Gahala, 2001). A study conducted in the Netherlands noted that primary school children who received phonemic awareness instruction through a software application significantly outperformed classmates who received no instruction, and performed on par with or slightly below a group of classmates who worked directly with the teacher during this time (NEIRTEC, 2004). Data concluded that students receiving instruction from both the teacher and the computer improved significantly more than those students who worked only with the teacher, indicating that the computer could be effective as a supplement to the teacher (NEIRTEC, 2004). In a research study conducted by the Rockman Group, data supported the positive effect on the reading and writing skills of students utilizing technology in the classroom (Rockmon, 2000). The capabilities have a more positive impact on at-risk students (NEIRTEC, 2004). Research conducted by Nicolson, Fawcett, and Nicolson (2000) revealed that distinct groups of students who otherwise would not have responded to teacher reading intervention, but are using software, made significant reading gains. The potential success offered by fusing technology with reading instruction has spawned a massive integration of the technology-based intervention program, known as Read 180, with the mandated RtI model to increase reading achievement amongst at- risk students.

The cognitive theory is based upon the idea that learning comes about as a result of processes related to experiences, perceptions, memory, and overtly verbal thinking (Pajares, 2002). The cognitive theory remains to be a forerunner in educational development due to the five recognizable themes associated with the cognitive theory (Graves, 2004). According to Graves (2004), the five cognitive themes include: schema theory, interactive reading model,

constructivism, reader response, and sociocultural. Even though the cognitive development theory remains decentralized, Jean Piaget continues to be the most influential theorist surrounding the cognitive theory. His research towards the cognitive theory has been able to help other theorists and researchers, such as Graves (2004), to explore and implement the cognitive theory in other theoretical avenues such as the constructivist theory.

The constructivist theory is a belief that learners create their own understanding based upon interactions and the context of the interaction (Draper, 2002). This theory has been the foundation for the Read 180 program and the research surrounding it. Constructivism recognizes that experience and environment impacts how learners learn and that language is a critical component of education (Laroche, Bednarz, & Garrison, 1998). With varied concepts and ideas placed upon the constructivist theory, there remain differing aspects, including the role of human social interaction versus that of the individual learner, in the construction of knowledge (Philips, 1965).

Read 180 creator Ted Hasselbring and researchers with the Cognition and Technology Group designed the Read 180 model based upon the concepts of situated cognition theory. The situated cognition theory involves learning by doing and addressing real problems. Researchers such as Brown, Collins, and Dugard (1998) established that cognitive apprenticeship supports learning in a domain by enabling students to acquire, develop, and use cognitive tools in authentic domain activity. Situated cognition has been supported by anthropology and sociocultural studies completed to help expand the theory. According to Whitson and Kirscher (1998), anthropological and sociocultural traditions that inform situated cognition theorizing are predisposed to take this same commonsense notion of situation as fundamental to inquiry.

Hasselbring and his Vanderbilt research group explored the relationship between situated cognition theory and their implementation of anchored instruction. Anchored instruction allows students to solve problems by applying skills in class with connections to students' prior knowledge (Moore, Reith, & Ebeling, 2003). Of the two concepts, the Vanderbilt Group found that situated cognition was a useful framework that emphasizes the importance of focusing on everyday cognition, authentic tasks, and the value of in-text apprenticeship training (Moore et al., 2003). The foundation for the situated cognition theory is based upon the concept that information transforms to knowledge in context-authentic learning. The implementation and utilization of curriculum-based videos and technologies within the Read 180 program helps to establish background knowledge for building mental models to enhance comprehension skills is rooted within the situated cognition theory (Scholastic, 2004).

The situated constructivist theory that has been grounded within the Read 180 instructional concept imposes the more traditional framework that has been used to guide reading instruction. According to Willis (1995), the pull-out concept is based upon reading specialists providing direct instruction and repetition to ten to fifteen students. This practice reflects concepts and ideas based upon the behaviorist theory. According to Skinner, the behaviorist theory involves classroom management, rote memorization, drill, and practice (Woolfolk, 2010). Under the reading pull-out model, comprehension is viewed as a skill that can be divided or targeted into sub-skills such sequencing, predicting outcomes, decoding, conclusions, cause and effect, and main idea (Dole, Duffy, Roehler, & Pearson, 1991). While the reading pull-out method centers around the behaviorist theory, the research foundation for the Read 180 instructional method draws on visual representation, information, and mental

building (Kamil, Intrator, & Kim, 2000).

Literacy Issues and Concerns within the Educational System

Since the release of the “A Nation at Risk” report, the American educational system has been scrutinized in regards to its failed attempts to increase the literacy rate amongst its students. In 2002 it was reported by the National Assessment for Educators (NAEP) that two out of three American eighth graders were not proficient in reading (Alliance for Excellent Education, 2003). When students fail to meet the proficiency level in reading, it translates that these students struggle with providing details and examples to support themes and could not explain the purpose or meaning of a practical passage (Ayers, 2004).

When students are identified as being in the lower portion of the reading achievement scale, these students have a higher probability of dropping out of high school, with minimal reading skills. Much emphasis has been placed on the high school dropout rate, but as more reports continue to surface among the educational community, concerns regarding reading achievement have started to grow at the college level. Of students entering college, 53% had to take remedial classes before entering freshman level courses (Ayers, 2004).

Illiteracy at the college level is an increasing concern. As students graduate from high school and proceed to two-year colleges and four-year institutions, it is expected that their secondary educational years provided them with grade-level reading skills and instructions that could continue to post-secondary learning. America’s high schools are not preparing many of their students for the demands of both college and the modern workforce. Weak curricula, vague standards, and lack of alignment between high school content and the expectations of colleges and employers result in the need for remediation (Alliance for Excellent Education, 2006). It is becoming evident that more college freshmen are being forced to enroll in remedial

reading and writing courses. Analyses of students' preparation for college-level work show the weakness of core skills, such as basic study habits and the ability to understand and manage complicated material. The lack of preparation is also apparent in multiple subject areas; of college freshmen taking remedial courses, 35 percent were enrolled in math, 23 percent in writing, and twenty percent in reading (NCES, 2004b). In 2000, more than forty of entering freshmen at two-year colleges, and about a quarter of entering freshmen at four-year institutions, enrolled in at least one remedial course, as reported by the National Center for Education Statistics (Hammer, 2003). This concern has prompted education reformers to develop and enforce such laws as the No Child Left Behind Act to help strengthen primary and secondary educational schools in hopes that graduates will be prepared for post-secondary education.

The "A Nation at Risk" Report and the No Child Left Behind Act were educational reforms that were centered on saving American education and students by strengthening primary and secondary school systems. As more students matriculate through secondary schools, there remains a concern for the literacy rate amongst students. Unfortunately, the number of people who are either completely or functionally illiterate continues to grow (Rohr, 2007). According to the National Center for Educational Statistics (2003), approximately 30 million American adults had below basic prose literacy, 27 million had below basic document literacy, and 46 million had below basic quantitative literacy (Rohr, 2007). In 2006, it was reported that only seventy percent of students entering high school would graduate (Greene & Winters, 2006). This is one of the lowest graduation rates amongst industrialized countries. Of the number of students graduating and continuing to pursue a post-secondary education, only 35% are academically prepared for post-secondary education, thus resulting in remedial

courses (Greene & Winters, 2006). According to ACT statistics, only half of the high school juniors and seniors taking the ACT college entrance exam were prepared for college-level reading assignments in such subject areas as English, history, and math (ACT, 2006).

Students who have become a part of the criminal justice system have been linked to having negative school experiences and below average academic achievement (Archwamety & Katsiyannis, 2000; Foley, 2001; Kollhoff, 2002; Leone, Meisel, & Drakeford, 2002). These negative experiences and mediocre academic abilities amongst juveniles confined to imprisonment have been linked to high-rates of illiteracy (Baltodano, Harris, & Rutherford, 2005; Coulter, 2004; Drakeford, 2002; Malmgren & Leon, 2000). A national survey based upon juvenile correctional facilities report that, on average, 34% of youth in correctional facilities have been diagnosed with a learning disability stemming from reading development issues (Quinn, Rutherford, Leone, Osher, & Poirier, 2005). Because these youth experienced academic difficulties in reading, these youth are at-risk for academic delays, which could result in increased inappropriate behaviors that will increase their chances of incarceration. With increasing incarceration, these youth are endangered of prolonged illiteracy (Harris et al., 2006). Illiteracy concerns amongst the primary and secondary schools extend in various pathways that could have devastating and lasting implications on America and its youth.

Middle School Challenges and Issues

Middle school challenges and issues. At the middle school level, there is not an issue with identifying struggling readers within the classroom. According to Broaddus and Ivey (2000), the posing problem was not being able to create productive solutions to help these students achieve reading proficiency. As these struggling readers continued, research proved that these students began to resist and ultimately reject any forms of reading or academic

instruction as they progressed throughout the academic school year. Based upon continual research by Broaddus and Ivey (2000), struggling readers need to be exposed to reading intervention programs that have a responsive literacy environment with individual assessment and instruction, comprehension skills instruction, and extended time with relevant texts.

As more students continue to be identified as struggling readers, research shows that these readers have gaps in targeted areas such as guided reading, comprehension, and vocabulary (Snow, Burns, & Griffin, 1999). The reading achievement results for middle school students reveal a very slow increase for adolescent reading. There is now a continuous push to teach literacy across the content areas, but a vast majority of middle and high school educators believe and support literacy education at the elementary level (Kamil, 2003). As students matriculate, educators are concerned with students' decrease in motivation for reading, as reading difficulty increases more at the middle and high school levels.

According to Guthrie (2000), motivation in reading can be defined as the cluster of personal goals, values, and beliefs with regard to the topics, processes, and outcomes of reading that an individual possesses. This correlates with a student's desire for engaging in more outside classroom reading, which often pertains to engaging topics of interests such as sports, video games, and popular culture. It is evident that struggling readers respond to particular contexts and relationships that help construct students' literacy identities (Gee, 2001). In a study conducted by Smith and Wilhelm (2002), the types of literacy with which young males were engaged in their lives were not supported in the classroom environment, thus limiting the connection and motivation for students to read.

Struggling adolescent readers view reading as functional and approach reading as a skill and chore. Poor middle school readers do not possess the strategies necessary to

comprehend text. Without these strategies, these students develop reading boundaries and give up easily on reading tasks (Spear-Swerling, 2004). This negative approach towards reading drastically deflates students' motivational levels for reading. If middle school students are not motivated to read, research indicates that they will not benefit from reading instruction (Kamil, 2003, p.8).

To engage the middle school reader better and enhance the literacy rate, the “look and say method,” which relies on memorizing and recognizing words on-sight, must be revamped or eliminated (Unknown, 2007). Based upon primary and elementary educational studies, cognitivists have identified connections between the early inability of young children to isolate and identify distinct sounds, or “phonemes,” in spoken English and their failure to develop automaticity in word recognition to secondary illiteracy and a host of social and life problems in the upper grades (Adams, 1990; Juel, 1988). With such impeding issues, more researchers are aware of the secondary student's struggle in school to be the result of their continuous inability to keep up with the curriculum past the primary grades (Adams, 1990; Juel, 1988; Scarborough, 2001; Stanovich, 1986).

The National Assessment of Educational Progress continues to report that the percentage of American children who are able to read well has not improved at all in the last twenty-five years (Unknown, 2007). These numbers continue to be fueled by the needed improvements in reading education at the lower elementary levels, and this need bleeds over into the secondary education levels.

It is critical for children to receive instruction in phonological and alphabetic skills and to learn to apply that knowledge to decoding words (Moats, 2002). It is imperative that a strong reading foundation is built at the lower elementary level, because once these students fall behind

in reading, the chances for them to progress in their upper grade years decline. As struggling readers progress and mature with age, they develop a stronger dislike for reading, which then classifies reading as labored and unsatisfying, so they limit their reading experiences. These limitations impact vocabulary exposure, sentence structure, text organization, and concepts of academic “book” language (Ackerman & Dyckman, 1996).

As the momentum for increasing the literacy rate amongst middle school students increases, research exposes the tremendous reading gaps amongst minority students within the American educational system (Ornstein, 2010). Achievement gaps on international tests between American students and their industrialized counterparts have worsened over the last 40 years (Ornstein, 2010). Achievement gaps between Asian and white students, compared to Hispanic and African American students, remain alarmingly high; and by 2015, the latter group of students will represent the majority enrollments (Ornstein, 2010). In 2009, The National Center for Education Statistics showed that African American and Hispanic students trailed their white peers by an average of more than twenty test-score points on the NAEP reading assessments at fourth and eighth grades, a difference of about two grade levels. These gaps persisted, even though the score differentiad

codified in the Education for All Handicapped Children Act of 1975 (renamed IDEA), students of color, as well as those from immigrant or economically disadvantaged households, were overrepresented in classrooms for students considered cognitively impaired (Dunn, 1968). Despite the ongoing reforms and mandates being implemented by both federal and state educational agencies, overrepresentation of minorities in the special education setting remains. The disproportionate representation of ethnically and linguistically diverse students in high incidence special education programs (mental retardation, learning disabilities, and emotional disturbance) has been a concern for over three decades (Artiles, Trent, & Palmer, 2004). With such high minority populations being placed into the special education setting, the chances for academic success lessens as the years consumed in the special education system increase. According to Blanchett (2006), students labeled as (CLD), particularly African Americans, make fewer academic gains and are less likely to exit special education than their White peers.

The purpose of the Response to Intervention program is not only to provide early interventions for students who are at risk for school failure, but also to develop a more valid procedure for identifying students with reading disabilities (Gersten & Dimino, 2006). This is a critical component for this research study because the Read 180 program was developed to help meet the federal and state mandates issued in regards to the Response to Intervention process. One of the major components of the RtI model is to improve student academic success by decreasing the number of students identified for special education services. The RtI model can provide teachers with a consistent, straightforward framework for assessing students and making data-based instructional decisions (Gersten & Dimino, 2006). By having progressive instructional monitoring, more students can begin receiving extensive help in reading and other subject areas, with programs such as Read 180. By providing the Read 180

program as an intervention to help increase student reading and academic abilities, the number of minorities being misplaced in special education can decline. The Read 180 program offers the opportunity for educators to provide more rigorous strategies, assessments, and tools to assist minorities with reading difficulties before they are targeted as special need students. By providing additional information on student word identification fluency and/or oral reading from programs such as Read 180, educators can successfully identify students who continue to fall behind the expected rate of progress (Gersten & Dimino, 2006).

School reform continues to be a major priority, but one of its major components reveals on the reading achievement gap. When reviewing the reading “achievement gap,” it comes down to a matter of race and class. Across the United States, a gap in reading achievement persists between minority and disadvantaged students and their white counterparts (Curran, 2009). Instead of minority students showing prominent gains in the area of reading since 1988, data reveals a constant gap and minimal growth (Goldrich, 2009).

As minority and disadvantaged students matriculate from middle to high school and reach their senior year, these students are about four years behind their counterparts in reading ability (Curran, 2009). It has been shown that seventeen-year-old African American and Latino students have reading and English skills similar to those of a thirteen-year-old white student (NAEP, 2009). The dismal literacy rate for minority and disadvantaged students fuels the nation’s high school dropout rate, as these ex-students enter the world barely able to read and write (Berlak, 2010).

Understanding the Response to Intervention (RtI) Process

In 2001, Frank Gresham introduced the RtI model at a learning disabilities summit. The primary concept for the RtI model is that early intervening and interventions can help

prevent or limit academic struggles for students with learning difficulties. In addition to prevention, the RtI model can be used as a way to distinguish which students can be classified as having a learning disability, versus those who are experiencing underachievement due to other factors, such as inadequate instruction (Vaughn & Fuchs, 2003). A considerable amount of evidence suggests that approaches involving early intervention, ongoing progress monitoring, and effective classroom instruction consistent with Response to Intervention (RTI) are associated with improved outcomes for the majority of students in early reading (Burns, Griffiths, Parson, Tilly, & VanDerHeyden, 2007). The RtI model is predominately used as a decision-making tool for school districts to meet the academic needs of students, especially of those who struggle with reading (Vaughn, Wanzek, Woodruff, & Linan-Thompson, 2007). Many students continue to need explicit and systematic instruction in increasing complex skills after third grade in order to move to higher levels of reading proficiency and acquire many additional skills in order to maintain reading proficiency as they progress from early to late elementary school and beyond (Torgesen, Houston, Rissman, & Kosanovich, 2007). A qualitative study conducted by Malavasic (2008) revealed that extensive reading and writing opportunities are provided across the curriculum to help enhance reading achievement at the elementary level.

The RtI model requires a vast amount of interventions and assessments before students can receive a comprehensive evaluation for special education. This format allows for various components, such as teacher accountability, instruction, and assessment to be explored in regards to how a student's education is being impacted. Compiling data on all key components impacting instruction allows for educators to make academic decisions regarding a student's academic strengths and weaknesses. Even though the RtI model is a program to help fight

over identification of potential special education candidates and target learning difficulties at an early stage, qualitative research conducted by Fuchs and Fuchs in 2006 yielded concerns. According to Fuchs and Fuchs (2006), the arbitrary definition of specific learning disability allows for teacher subjectivity, which could have a major impact on how instructional and program decisions are made for each student. To correct this flaw, it is imperative that educators use data to inform decision-making in each tier of service, and when determining student qualifications (National Joint Committee on Learning Disabilities, 2005). The RtI format is a multi-tiered model school support system that uses research-based academic interventions; most research recommends a three-level tier model (Fuchs & Fuchs, 2007). The three tiers are based upon progressing instruction intensity. Each level or tier requires extensive progress monitoring and at least two to three screenings per year. The RtI model should allow for a problem-solving approach that provides educators with a step-by-step process to identify problems or concerns, develop a plan, and evaluate the efficacy of interventions (Fuchs et al., 2003).

A qualitative grounded theory research conducted by Rinaldi and Stuart (2009) indicated that the success of implementing an RtI program within a whole school framework depends on several logistical factors. The benefits from the RtI program expand from being able to identify potential special needs students quickly, eliminating misidentification of special needs students, and helping struggling readers by targeting needed skills development (Rinaldi & Stuart, 2009). To secure the success of the program, it is recommended that three-tier levels are represented.

Universal screener. The universal screener serves as an identification procedure to alert educators of students whose reading scores are below average. Typically school

administrators and educators designate an indicator score. This procedure allows for educators to identify the twenty to twenty-five percent of students who potentially comprise the at-risk and reading disability population.

Tier 1: General education and group interventions. This is the first stage of the program and allows for general education instruction, group interventions, and the universal screening process. It is at this level that general education teachers use research-based strategies to satisfy quality instruction for all students. Students who appear unable to master reading concepts, as well as other key skills, are identified for the universal screening process. This identification process method allows educators to comprise the lowest 20-25% of students, which would be categorized as the at-risk population for reading disabilities and issues. These students receive targeted instruction for a period of time. It is recommended that the interventions for Tier 1 instruction do not exceed eight weeks (NCLD, 2006). If there has been no adequate gain after the allotted time period, then students are advanced to the Tier 2 level.

Tier 2: Targeted interventions. The Tier 2 level focuses directly on targeted interventions. There is a range of supports, strategies, and tools designed specifically to help educators reinforce needed reading skills in students. In addition to receiving more individualized targeted instruction, students identified as Tier 2 begin in-depth reading-focused programs that allow for more individualized one-on-one instruction, technology based programs, and small group instruction that helps reiterate the needed skills for the general curriculum. The Tier 2 level exposes students to more differentiated instructional methods and modification (Coleman, 2006). Students are exposed to pre-teaching strategies, visual cues, and frequent review opportunities. In addition, these students are being provided access to

reading programs with the five critical areas of beginning reading (Harn et al., 2007; Vaughn et al., 2007). The main focus at the Tier 2 level is to attempt to reinforce and support the needed skills that are being taught within the core reading program or subject areas. To meet this aspect of the Response to Intervention model, middle school educators and administrators typically incorporate the Read 180 computer based program to help struggling readers.

Tier 3: Intense interventions and comprehensive evaluation. As students are continually monitored, if they are showing no progression at the Tier 2 level, then these students are recommended for advanced testing and evaluation that could lead to special education services. The Tier 3 level allows students to receive intensive, individualized support that caters to each student's deficit area. This delivery method of instruction is provided by special education teachers and reading specialists.

Integrating Response to Intervention with the Middle School Curriculum

The purpose of this literature review is to provide a foundation for understanding how the RtI program is structured and how popular instructional tools, such as the Read 180 program, are implemented as key components for acclaimed success in improving reading ability and skills at the middle grades level. The RtI program at the middle school level focuses on identifying struggling readers and at-risk students by reviewing previous years' high-stakes state reading assessments. This format differs from that of the elementary level. At the middle school grade level, academic deficits are well established (Fuchs, Fuchs, & Compton, 2010). This deviates from the elementary Response to Intervention framework assumption that screening is required to identify risk before academic deficits materialize. According to Vaughn (2010), it makes more sense to rely on existing assessment data to identify students with manifest academic difficulties.

Upon identifying at-risk middle school students, the academic deficits that have been continuous throughout the elementary level tend to become more severe at the middle school level. According to the Vaughn et al. (2010) study, validated small group tutoring at the elementary level can alter the course of academic development for children. However, this approach cannot easily apply at the middle-grades level. Advanced reading deficits at the middle-grades level make vast amounts of students resistant to extensive remedial services (Fuchs, Fuchs, & Compton, 2010). The resistance demonstrated from many at-risk middle school students could compromise the success of the Response to Intervention program.

There is limited research being conducted that explores the RtI model at the middle-grades level. Despite the lack of research, understanding and implementing an effective RtI program is important for young adolescent students. The need for more research is critical as key questions and issues regarding class size and scheduling remain key factors. At the elementary level a typical Response to Intervention grouping would range from two to five students; however, middle school instructional grouping would average between ten to fifteen students (Vaughn et al., 2010). The larger grouping size limits the educator's ability to provide more one-on-one instruction with students. Overcrowded classrooms stem from an overpopulated student body, which means the issue of scheduling students for Response to Intervention classes also becomes a problem. It is difficult for middle schools to promote flexible movement across tiers within a semester course schedule (Ehren, 2004).

Classroom instructional time has always been a major issue amongst educators, and now having to provide students with more instructional time and resources poses a bigger concern. Greater emphasis on high stakes testing has prompted greater scrutiny on what's being tested and how it relates to what students need to know to succeed in society (Stage, 2005).

The increased emphasis on standardized testing has led educators to structure their instructional time on testing content, instead of teaching students about subject content. According to Clement (1979), educators should be teaching students how to think, but instead, we are teaching them what to think. Although content is important, the process of how students learn the material is equally important (Norman, 1981).

Increasing student test scores has become a priority amongst educators. Teachers and administrators feel enormous pressure to ensure that test scores increase and that schools narrow and change the curriculum to match the test (The National Center for Fair and Open Testing, 2007). The implementation of reading intervention programs and models at the middle-school level is highlighted as helping promote reading and student achievement; but with continued emphasis being placed on testing content, student learning is compromised. Testing reduces the time available for ordinary instruction, affects what elementary schools teach, and encourages schools to neglect material that the tests do not include. Testing encourages use of instructional methods that resemble testing (Wright, 2002).

The Integration of Technology-Based Reading Intervention Programs

According to D'Angelo and Woosley (2007), technology has evolved and become a critical element to teaching and learning. The topic of technology is extremely critical to the classroom because of the significant amount of resources being poured into various technological avenues, such as research, implementation, support, and evaluation. As technology continues to impact education, any predictions concerning the future of education must acknowledge an analysis of technological trends (Molebash, 2000). Current developments with technology and social software are impacting how students access information and knowledge (Siemens, 2008).

Read 180 development. In 1985 Ted Hasselbring and other Vanderbilt University researchers began exploring the concept of developing a software program that could serve as a reading intervention tool for struggling readers (Crowover, 2010). The basis of the program was to be able to help students, from elementary to high school, improve reading skills. Dr. Hasselbring and other researchers from the Cognition and Technology Group at Vanderbilt University started exploring how technology could be used to help students improve and master their reading skills (Davidson & Miller, 2002).

During the critical development, Hasselbring and his team created a comprehensive program that involved a technology feature able to provide assessment-based, adaptive, individualized instruction (Davidson & Miller, 2002). To help struggling readers, Hasselbring's group identified four critical deficits that needed to be addressed: a) the lack of decoding skills, reading fluency, comprehension, vocabulary, and knowledge; b) inability to process and understand grade-level content; c) decreased motivation and self-esteem; and d) limited access to materials and school resources (Davidson & Miller, 2002). Hasselbring's group chose to focus on the reading deficits, in addition to reading skills identified by the National Panel, to create the Read 180 program concept.

The ideal goal of the program is to help close the reading achievement gap. The three primary components of the program include technology, literature, and direct instruction in reading (Davidson & Miller, 2002). The instructional model for the program is based on a ninety-minute class session. It is constructed into three segments during the ninety-minute session. Students participating in the Read 180 program receive twenty minutes of whole-group direct instruction. This element allows for the teacher to provide reading and writing instruction, in addition to reviewing vocabulary.

Upon completion of whole-group direct instruction, students are then prepared for a twenty-minute rotation period that consists of small groups participating in three various activities: small-group direct instruction with the use of resource workbooks, students working independently using Read 180 software to enhance reading skills, and, finally, students using Read 180 paperback and audio books to model and read independently. The final phase of the program concludes with a ten-minute summarizing discussion with the entire group. During the course of the program, teachers create reports and periodic updates divulging student progression.

The Scholastic Read 180 program, developed by Ted Hasselbring for struggling readers, is offered in three stages: Stage A (elementary school), Stage B (middle school), and Stage C (high school). To understand better how the Read 180 program operates as a beneficial tool for the Response to Intervention program at the middle school level, a closer review of the Stage B Read 180 program will be reviewed.

Integrating technology and instruction. The explosion in technology-based educational solutions and their potential to meet the educational needs of all learners has been cited repeatedly over the past decade (Okolona & Buck, 2007). The trend toward technology-enhanced classrooms has escalated quickly during the past five years as students have become increasingly technologically savvy (Lavin, Korte, & Thomas, 2011). Classrooms across the United States have become “wired,” while textbook publishers are now offering a wide variety of computerized teaching supplements (Lavin, Korte, & Thomas, 2011). In academia, we have likely reached the point where the use of technology is expected, by both students and their parents (Christensen, 1999).

The benefits of existing technology for students with disabilities are widely recognized,

and the potential benefits are likely to become even more profound and pervasive in the near future (Hasselbring, Lott, & Zydney, 2006). The Response to Intervention plan has become the primary identification, instructional, and intervention model to assist students state and school-wide. Lowerison, Sclater, Schmid, and Abrami (2006) suggest that technology has the potential to transform the learning environment from passive to active and more subject to the control of the learner. With this spear-heading program reform, it is only logical that technology-based solutions comprise the Response to Intervention framework.

According to Fuchs and Compton (2010), the key premise of the RtI model is that effective practices will improve student literacy. A 2001 national study showed that 87% of faculty believe computer technology enhances student learning (Epper & Bates, 2001). This opens doors for technology emergence to help guide best practices, such as cooperative groups, peer-tutoring, and peer-assisted learning strategies (Gillies, 2007; Kamp et al., 2008; Fagella-Luby, Schumaker, Deshler, & Lenz, 2007). The RtI is designed or based upon so-called “big ideas,” or critical concepts and principles in curriculum instruction (Smith & Okolo, 2010). This is why more schools are seeking technology-based programs as the cornerstone of the RtI plan. These technology solutions offer reading instruction in a variety of models and concepts.

Technology solutions open the doors for educators to offer guided assistance or mediated instruction, link students’ prior knowledge to current and expected knowledge, and provide a judicious review of study. This means reviews of skills are sufficient, distributed over time, cumulative, integrated, and provide complexity to instruction and assessments (Stockard, 2009). With technology solutions centralized on reading, teachers can offer a specific set of instructional practices and curricular materials to students based upon Direct

Instruction. Direct Instruction is explicit, clearly structured, sequenced, and teacher-centered, while providing aggressive monitoring and assessments coupled with teacher-modeling.

Technology solutions centered on reading instruction have been linked to increased practice in basic skills, increased academic learning, feedback/review, and progress monitoring (Smith & Okolo, 2010). A recent report revealed that the average youth between the ages of eight and eighteen accesses technology for more than six hours per day (Rideout, Foehr, & Roberts, 2010). Integrating technology with the Response to Intervention model capitalizes on student motivation and savvy use of technology. This promotes independence, while also providing detailed and in-depth instruction that is assessed and guided by educators.

Read 180 middle school program. The Read 180 Stage B program involves the use of teacher and student resources designed for the four deficits previously discussed. As students work individually within the class, age and grade-level appropriate materials are utilized to meet individual needs and motivate student participation. The program provides a total of nine topic CD's, forty paperback and twelve audio books, and a review video. In addition, educators receive a package of curriculum instructional materials, assessments, reporting guides, and professional development (Scholastic, 2004). To secure the success of the program, educators are given an in-depth package that includes teacher guides, resource workbooks, technology manuals, report guides, reading strategies, phonics and word-study strategies, test-taking tips, writing and grammar strategies, SRI interactive placement, management suite, Reading Counts, and other supplemental materials (Scholastic, 2004).

In order for the program to fuse materials with differentiated instructions and guided practice, content is aligned with curriculum themes. Reading comprehension, word analysis, phonics, spelling, and writing are highlighted with direct and systematic instruction.

According to Policy Studies Associates Incorporated (2002), the Read 180 program connected content area reading with decodable text based on student comprehension level. Lastly, all lessons are able to link to curriculum standards such as sequencing, determining cause and effect, comparing and contrasting, identifying the main idea, and making inferences (Scholastic, 2005).

The Read 180 program developed phonemic awareness and decoding skills by using text on video and summary passages for each segment. Students must read and review various leveled passages that targeted sound-spelling patterns, high frequency words, and vocabulary to enhance fluency (National Reading Panel, 2000). During this process the controlled passage consistently repeated words and speed to allow for students to develop automaticity. Words identified or included with the passages provide multiple exemplars of targeted sound-spelling patterns, high frequency words and grade-appropriate content-area vocabulary words (Scholastic, 2006). To improve reading fluency, participants visually track text modeled by a fluent reader, practice oral reading, and self-record. The software provides scaffold practice to match levels of mastery. Hasselbring's team developed CD-ROMs and video discs so that students can continuously replay, as needed, and review various sections (Oliver, 1999).

Visualization is an area of critical importance to technology and educators (Weiner, 2011). People learn better from combining visuals with text and sound than through process alone (Mayer & Moreno, 2003). Technology can be utilized to create a motivating classroom environment where students are engaged in learning (Beeland, 2002). Classroom learning can be enhanced through the use of visual aids. Visual aids promote a student's ability to organize and process information (McKendrick & Bowden, 1999). Visual aids can also be utilized to challenge students to think on levels that require higher-order thinking skills (Smith &

Blankinship, 2000). Finally, technology provides opportunities for teachers to meet the needs of students with various learning styles through the use of multiple media (Bryant & Hunton, 2000).

Struggling readers benefited more and showed significant progress when they were actually able to view the text. To encourage continual success, the Read 180 program is designed to allow for repeated opportunities to practice and improve targeted skills and vocabulary. Definitions, context sentences, and pronunciation assistance is provided when a reader clicks on a highlighted word (Davidson & Miller, 2002).

Read 180 impact. In the realm of reading programs, Read 180 has been able to function as a highlight over other offered programs, such as Voyager Passport and the Wilson Reading System. The Read 180 program differs from other reading interventions because it provides a complete and balanced skill-development design (Martinez, 2009). The Read 180 program not only delivers individualized adjusted reading instruction, but it also provides ongoing assessments and comprehensive instruction. Such areas of focus include phonemic and phonological awareness, fluency, vocabulary, comprehension, spelling, and writing. The attraction to the Read 180 program is stimulated by the technology-based aspect of the program and its attempt to target all major reading skill components.

Unlike the Read 180 program, the Voyager Passport is a reading program that only targets priority skills and strategies. The limited skill focus of the Voyager Passport allows the program to serve as a reading supplement instead of a core reading structure (Martinez, 2009). The instructional design of the program involves curriculum guides, vocabulary cards, assessment guides, lesson books, fluency readers, and take-home readers. Each day's lesson of the Voyager Passport intervention is comprised of two modules: a 20-30-minute module

and a 10-minute module (Florida Center for Reading Research, 2004).

The Wilson Reading System was designed specifically to address the learning styles of students with language-based learning disabilities and those lacking basic reading and spelling skills (U.S. Department of Education, 2007). Students are engaged with the program through a variety of activities in the classroom. Classroom activities include audio lessons for identifying sounds, recognizing syllable and word cards, listening to others read, and reading aloud. Materials for the class include readers, workbooks, rules notebooks, word cards, syllable cards, and videos.

Since the development and implementation of the Read 180 program, there have been reports documenting the success of the technology-based program. The Penn Hills School District administration reported that the first-year implementation of the Read 180 program proved to be successful. Reports indicated that 500 students participated in the program; and, by the middle of the 2010-11 school year, 57 percent of students in the program experienced at least one year's worth of reading growth, as measured by the Scholastic Reading Inventory. In addition, 89 percent of participants experienced at least a year's growth, while 34 percent of that number experienced a two-years reading growth (Varine, 2011).

According to Davidson and Miller (2002), reports from students and educators reveal significant improvement in reading abilities and motivation. Read 180 was found to have potentially positive effects on comprehension and general literacy achievement for adolescent learners (U.S. Department of Education, 2009). In thirty-six separate reading studies, measurable gains in reading comprehension have been shown with English language learners, students with special needs, and at-risk students in elementary, middle, and high school (Hasselbring, 2007).

As the pressures from the No Child Left Behind Act continue to enthrall all school systems, more and more school districts are turning to the Read 180 program in hopes of achieving reading success. In 2003, Selbyville Middle School reported that 24 percent of their eighth-grade students receiving special education services met proficiency goals in reading on state assessments (Hasselbring, 2007). However, after implementing the Read 180 program the following year, 55 percent of the exact demographic met the state proficiency standard (Hasselbring, 2007).

With such success, the *Reading Research Quarterly* journal placed the Read 180 program in a select group of four adolescent literacy programs that showed more evidence of effectiveness than 128 other programs reviewed (Slavin et al., 2008). During the 2006-2007 school year, Seminole County, Florida, found that the gains of ninth-grade students enrolled in the Read 180 program exceeded the benchmark for expected yearly growth on the Florida Comprehensive Assessment Test (Lang, Torgeson, Vogel, et al, 2009). Lastly, a study conducted in the Clarke County School District of Nevada revealed that sixth, seventh, and eighth-grade students in the at-risk category prior to Read 180 had the greatest gains in the SRI scores after participation in the Read 180 program (Papalewis, 2003).

Research, classroom testing, and validation of the Read 180 model have taken place from 1985 to 1999 at numerous schools in Florida and Tennessee (Hasselbring, 2007). Previous and current results consistently prove that the Peabody system yields significant growth on multiple measures of student reading comprehension (Hasselbring, 2007). Independent research of the Read180 program is scarce, despite its implementation starting in 1999. The majority of research concerning Read180 has been sponsored and reported by Scholastic, the company that produces Read 180 (Shawgo, 2005).

With such ongoing research supporting the Read 180 program, there remain other reading intervention options to attempt to tackle the reading problem in American school systems. Other programs, such as Accelerated Reader and Reading Voyager, remain as reading options for educators, as well as in-school reading classes and after-school programs. Despite the various intervention avenues to be implemented, the potential reading academic gains that can be achieved through the Read 180 program provide a positive solution to the dynamics of the Response to Intervention program.

Bridging Read 180 and the Response to Intervention Program

As school leaders and educators continue to incorporate the Response to Intervention model into the classrooms, there is still much to know and understand in regards to the content of the Response to Intervention policy, research, and practice. The Response to Intervention program has been established as the school wide method of delivering early interventions to struggling students, through the systematic coordination of services across general and special education (Martinez, Nellis, & Prendergast, 2006). It has now become a primary focus for educators to measure and improve student literacy performances, based upon student assessments and needs, by incorporating best-practice strategies to improve and meet the needs of struggling readers (Hilton, 2007).

To better implement Response to Intervention practices that will enhance student literacy and comprehension, educational leaders are committing to adopt a Response to Intervention model that provides instructional support to all students based upon early intervention, research-based instruction, student monitoring, and assessments to inform decisions about teaching in the general education curriculum (Batsche et al., 2005). Educators at all academic levels, ranging from pre-school to high school, are attempting to develop

successful Response to Intervention models that will help struggling readers transition from elementary to secondary education. To achieve such a major feat, more school districts are implementing such technology programs, such as the Read 180 program, to help ensure that schools are receiving beneficial academic support that models the Response to Intervention plan.

The Response to Intervention model is a framework designed on providing increasingly intensive, high quality instruction, and interventions tailored to student reading needs. In addition, measurements of student data and progress are critical for making educational decisions (Scholastic, 2007).

If some students do not respond adequately to high-quality core instruction, coupled with adaptations and differentiation strategies in the general education classroom, a framework increasingly intense with interventions must be in place to help those students successfully master benchmark skills in a given curriculum (Johnson, Mellard, Fuchs, & McKnight, 2006). To better incorporate and meet the Response to Intervention criteria, school districts seek to incorporate the Read 180 program as its cornerstone of intervention for at-risk students. The Read 180 concept is comprised of increased instructional time, decreased class population, ability-level instruction, modifications, and creative feedback that reflect the designs and elements of the RtI model. As a multi-tiered model, the Read 180 format is aligned with the RtI tiered concept. The Read 180 program provides at-risk students with research-based reading practices that are effective with the use of technology and a combination of instructional, modeled, and independent reading components.

As educators continue to adopt the RtI model to help at-risk students, fusing the Read 180 program with the RtI concept has become a common practice amongst school systems.

Research-based and scientifically validated instruction and interventions provide the best opportunity for implementing strategies that will be effective (Reutebuch, 2008). Three advantages of an RtI approach are that children need not wait to fail (Vaughn & Fuchs, 2003) to be eligible for support, RtI avoids problems associated with process-deficit and discrepancy models, and RtI is instructionally grounded, enhancing the ecological validity of the diagnostic process and more clearly grounding it in subsequent instruction. The Read 180 program was specifically designed to model the fifteen core components associated with the RtI model (Scholastic, 2007). The combination of the Read 180 program and the RtI model provides professional development that is integrated into the teaching materials and a customizable in-service and professional development plan that prepares instructors to deliver the program effectively (Scholastic, 2007). The targeted reading concern must be specific, observable, and measurable, thus allowing for examples of recent work and assessment information identifying the areas of concern (Mangi, 2009). Specific criteria and designs, such as tiered instruction, universal screening, scientifically/research-based interventions, assessment monitoring, and data-based decision making, are just a few of the components that have been meshed with the Read 180 program to help provide an RtI-based intervention (Scholastic, 2007).

The concept of fusing the Read 180 program with RtI at the elementary and middle school level has become an overdue practice for many schools and districts. The use of technology makes ongoing data collection, data consumption, and data-based decision making a more plausible proposition, and it can keep these important aspects of RtI from monopolizing teacher time. Previous research found that the use of technology substantially facilitated collecting, managing, and analyzing educational data (McIntire, 2002; McLeod,

2005; Pierce, 2005; Wayman, 2005). In North Carolina, Iredell-Statesville Schools implemented the Read 180 program to help increase literacy levels amongst students performing at a level of one or two on a reading achievement scale (Scholastic, 2007). Pre and post-reading assessments for the Iredell- Statesville schools revealed that approximately 51percent of all students in grades four through eight showed a reading gain of at least one achievement level (Scholastic, 2007). In 2002, 652 New York City public school students were enrolled in the Read 180 program. The program was part of the district’s RtI process. After participation within the program, students averaged a gain of 17.4 scale-score points, with a median of 19 scale-score points, while nonparticipants in the same schools and grades only averaged a gain of 14.8 scale-score points, with a median of a 13 scale score (Scholastic, 2007).

The Read 180 and RtI combination success not only from the elementary level, but also to middle school reports of middle school achievement have been documented. The Fairfax County Public School System in Virginia implemented the Read 180 program to 548 seventh and eighth graders during the 2002-2003 school year. Nearly fifty percent of the participating students achieved reading gains greater than the equivalent of two grade levels (Scholastic, 2007). A similar study out of Brockton Public School District indicated that students who enrolled in the Read 180 program and were in the lowest reading quartile moved up to the 25th percentile or above after approximately five months of intervention (Scholastic, 2005). The East High School 2010-2011 case study also indicated growth for student reading achievement. In 2010-2011, the East High School case study revealed that autistic participants in the Read 180 program demonstrated proficiency and progress in reading (Scholastic, 2011). Results indicated that four out the five autistic participants achieved more than one grade level of

growth after Read 180 participation (Scholastic, 2011).

Exploring the impact of the Read 180 program is essential to the educational arena. The Alliance for Excellent Education reported that two out of three eighth-grade students are below proficiency in the content area of reading (Ayers, 2004), thus indicating the need for effective reading intervention programs. Reports continue to reveal Read 180 success, based upon increased student scale scores deriving from high-stakes tests. During a 2006 study, six-semi-urban Florida school districts were studied to determine the efficacy of the Read 180 program (Wahl, 2008). Non-Read 180 participant scores were compared to Read 180 participant scores. Participant scores were based upon the Florida Comprehensive Assessment Test (FCAT). The FCAT measures student performances in reading, mathematics, and writing, while achievement scores are based upon scale scores ranging from lowest to highest on a scale of 1-5 (Florida Department of Education, 2011). Participant achievement was based on previous and current scale scores. Success was based upon scale score achievement (Wahl, 2008). Scholastic studies show student success cutting across ethnicity, learning abilities, English proficiency and gender (Papalewis, 2003; Scholastic Research & Evaluation Department, 2003).

Since the launch of the Read 180 Program in 1999, the popularity of the program has accelerated across the country, due to various studies and reports detailing student reading achievement gains in participating school districts. In 2005-2006, the Read 180 evaluation reports indicated that students from Chicora, Goodwin, and St. James-Santee Elementary Schools experienced a sixty percent growth on the Measures of Academic Performance assessment (Goodloe, McGinley, Rose, & Kokkinis, 2006). According to reports, reading growth was defined as the increase in a student's Measures of Academic Performance score, based upon the national norms for students in the same grade level and with the same starting

score (CCSD, 2006). Findings from a 2008-2009 Read 180 study revealed that nine elementary and middle schools from the Lawrence Public School District demonstrated a fifty percent increase in their performance level, as measured by the Massachusetts Comprehensive Assessment System English Language Arts (Levin, Catlin, Elson, 2010). A varying report derived from the Traverse City Area Public Schools data indicated that 65% of the district's middle school students showed an increase in Lexile scores for the 2006-2007 Michigan Educational Assessment Program (White, 2007). In a similar achievement report, the Columbus City Schools District middle school report indicated that, from spring 2009 to Spring 2010, the percentage of students scoring in the proficient, accelerated, and advanced performance levels increased on their Ohio Achievement Assessment (Scholastic, 2010). Despite the achievement reported from varying districts, achievement was again measured based upon an increase or decrease, stemming from previous and current performance, Lexile, and standard assessment scores. Those research studies differ from this study in that this study focuses on exploring correlations between Read 180 performance and Lexile scores with those of standardized tests, such as the Georgia Criterion Reference Competency Test.

There has been and continues to be an issue regarding the achievement gaps and below-grade-level reading performance of many upper elementary, middle, and high school students (Biancarosa & Snow, 2004). According to the National Assessment of Education, students performed marginally better over the last two years on the nation's most reliable reading exams; however, scores are still low, and achievement gaps between students of differing race and incomes remain wide (Resmovits, 2011). It was reported that fourth-grade reading scores remained stagnant, thus staying the same since 2007, while eighth-grade reading scores only increased by one point since 2009 (Resmovits, 2011). This need continues to fuel the use of

the Read 180 Program. This ongoing concern with reading achievement has prompted various schools to deploy the Read 180 program. Such schools as Emery Secondary School in Emery Unified School District in California, Conrad Ball High School in Thomson School District in Colorado, and Glendale High School in Glendale Union High School District in Arizona have experienced significant improvement in reading proficiency with Read 180 (Dagget & Hasselbring, 2007).

In 2007, along with Scholastic Research, the Cypress-Fairbanks Independent School District of Texas piloted the Read 180 Program to a cohort of fifth graders to research the Read 180 Program. The effectiveness of the program was determined by analyzing the percentage of Read 180 students achieving proficiency on the Texas Assessment of Knowledge and Skills (TAKS) test during the 2008-2009 school year. The purpose of this study was to use student performance scores on state testing to determine the effectiveness and achievement of the Read 180 program (Scholastic, 2011).

During the 2003 school year, Admon conducted a study on the implementation of the Read 180 Program in Iredell-Statesville Schools. To determine the impact of the Read 180 program on student achievement, results from the 2002-2003 North Carolina End of Grade reading comprehension test were analyzed from the 441 fifth, seventh, and eighth grade Read 180 participants. Results were determined by focusing on student test gains, based upon their performance score. Read 180 achievement was based upon comparing students' previous and current performance scores.

Providing high-quality instruction for at-risk students begins with aligning instruction and programs such as Read 180 with the RtI model. An effective core curriculum is the foundation of successful RtI implementation (Burns, n.d.). So many schools and districts are

applying the Read 180 program to their RtI format because, just like RtI, the Read 180 design integrates assessments and interventions within a multi-level prevention system to maximize student achievement and to reduce behavior problems (Mellard & Khan, 2008). Recent meta-analyses found moderate-to-large effects for various technologies, including personal computers, game-like curricula, and interactive simulations (Blanchard & Stock, 1999; Vogel et al., 2006), which suggest that schools could use technology to improve core instruction. Instruction at the Read 180 level is ideal because its multi-tiered instruction proves to be flexible, as it permits students to move in and out of intensive tiers if and when their academic reading needs change (Johnson et al., 2006).

The Read 180 program allows for general and special education teachers to collaborate and share data with administration and RtI coordinators in regards to student progress. The assessments created from Read 180 are easily assessable and create a collaborative opportunity to make effective educational decisions.

Summary

After more than a decade of research in association with Vanderbilt University and schools across the nation, Read 180 is the most thoroughly researched reading intervention program in the world (Scholastic, 2011). The continuous reports of success capture the attention of many school districts and encourage them to insert this program into their curriculum and schedule as an instrumental tool in the Response to Intervention program. In 2006, school districts were allowed permission to use up to fifteen percent of special education funds for interventions and measurements to be incorporated within the RtI framework (Scholastic, 2007). This alignment guide addressed how the Scholastic READ 180 Enterprise Edition program supports and strengthens the implementation of the RtI program (Scholastic,

2007).

Even though the research being conducted on the Read 180 program continues to expand, there remains a need for this particular study. This study differs from the other various studies on the program because it examines a program that is being utilized as a quarterly intervention tool, potentially to improve the reading achievement of students based upon their reading performances on the Georgia Criterion Reference Competency Test in reading. In addition, this study focuses on the achievement gains of students based upon gender. Previous studies conducted on the Read 180 program have often focused on the improvement of student achievement based solely on special education services, minority categories, English-language learners, and non-gender comparisons.

The RtI program is a systematic practice of providing increasingly intensive, high-quality instruction and intervention detailed to student deficits and needs. In addition, in-depth measurements of student progression are conducted, and results are used to make important academic decisions. Even though the RtI model is not a specific program, curriculum, or model, it serves as a framework for providing instructional services and resources in response to the academic needs of students. With this framework, the Read 180 program has been widely fused with the RtI model because it supports and complements the implementation of the RtI model within school systems (Scholastic, 2007).

With accountability regulations being enforced on the educational system, school districts are aiming to exceed targeted expectations set forth by state and federal accountability assessments. This has led to an overwhelming increase in the use of the Read 180 program aligned with the RtI model within schools. The ultimate goal is to increase the reading ability and skills of struggling and at-risk students. School officials have placed a lot of confidence,

money, and support behind the Read 180 program to serve as the backbone to their RtI program. The desired return from this component of the Response to Intervention framework is to see at-risk students and struggling readers meet or exceed expectations on state accountability assessments.

While the internet has been developed as a resource used for educational purposes, a large amount of money has also been spent by school districts on software programs over the last decade (Oppenheimer, 2007). The integration of technology into the educational structure has been an increasing process over the years, but with the accountability reforms and mandates of critical laws, such as “No Child Left Behind” and the Individuals with Disabilities Act, technology integration has become a mandatory intervention tool to help educate students.

One of the most urgent issues facing educators today is that of raising the literacy achievement of students (Au, 2003). Educators are under pressure to increase literacy achievements on formal assessment (Au, 2003). Concerns over high-stakes, end-of-year, standardized, and state testing loom ever larger on the educational landscape, particularly as schools come under the increased accountability pressure that is part and parcel of the No Child Left Behind legislation (Au, 2003). With government programs and models such as the RtI plan, educators are now expected to meet the educational goals set forth by federal, state, and local educational agencies. It was becoming more evident that students were losing interest in reading and could not relate to the content of the classroom.

With a huge motivational decline in student interests, the RtI model was developed as a means to capture and improve reading abilities by applying best-practices and research-based instruction within the classrooms to address student reading skills. According to Kratochwill,

Volpiansky, Clements, and Ball (2007), the RtI component is a system that is multifaceted and involves knowledge of evidence-based interventions, multi-tiered intervention models, screening, assessment, and progress monitoring. Researchers have endorsed the incorporation of a scientific, research-based intervention because of its ability to address many of the limitations associated with aptitude and reading achievement (Mellard & McKnight, 2006).

To meet accountability demands and provide an effective RtI plan, schools are integrating the new reading technology programs with the plan to maximize learning. With premier interventions, such as the Read 180 program, schools are relying on such program as these to help meet literacy goals. Technology programs are now providing direct-instruction and target-based skill instruction with activities, lessons, and instructions that are designed to appeal to learners, while building motivation and confidence in reading. As educational views and demands continue to change in order to stay ahead of the learning curve, technology integration will be critical to education and serve as an instructional tool. The current climate of accountability, outcome-based education and standardization in assessment demand that educators have a deep understanding of pedagogy and how this translates into the experiences and technological resources that drive classroom practices (Kervin & Mantei, 2010).

It is imperative for educators to find a path through the educational maze as they make informed decisions about how technologies can be included within the classroom contexts (Kervin & Mantei, 2010). While there is focus on interventions, assessments, and monitoring, there is much growing emphasis on considering ways that technology can be incorporated within the classroom (Leu, Mallette, Karcher, & Kara-Soteriou, 2005; Herrington & Kervin, 2007; Dede, 2005). The impact of technology-based programs on student achievement in such areas as reading continues to remain constant and spark more educators to implore such

technology- based programs, such as Read 180.

As the majority of success stories and research originates from the Scholastic Company, the producers of the Read 180 program, more independent research needs to be conducted thoroughly to review student reading gains and achievements, based upon state accountability assessments. As reading achievement amongst middle school students continues to dwindle, educational lawmakers have regulated all school districts to implement a response to intervention model. The regulations mandated from lawmakers and reformers are an attempt to target at-risk students. As school districts have the freedom to create their own response to intervention model, many districts are relying on technology-based programs to enhance student reading achievement.

The Read 180 technology-based program is being incorporated to serve as the core intervention component for the response to intervention model. There is a plethora of research on the response to intervention model at the elementary level. However, more questions are being projected into the educational forum regarding the efficient infusion of the RtI model and the Read 180 technology program on adolescent students in middle school. This study explores the critical components of technology integration with the response to intervention model and how they are implemented to achieve reading accountability goals amongst at-risk middle school students.

CHAPTER THREE: METHODOLOGY

Introduction

This research study is focused on the Read 180 intervention program used in the focus school of this study during the 2010-2011 academic school year. This non-equivalent control group design study seeks to determine if the Read 180 program enhances the seventh and eighth grade Read 180 participants' reading abilities. This study is designed to explore if there is an impact on Read 180 participants' reading achievement based upon the Georgia Criterion Reference Competency Test in reading. Continual research and data reveals that Georgia students' illiteracy rates are impacting student graduation. As student literacy rates decline, educators and lawmakers are pressured to meet accountability assessments, such as the Georgia Criterion Reference Competency Test. The accountability demands enforced upon school systems have employed many districts to utilize technology-based literacy programs to help struggling readers meet proficiency performance scores on accountability testing.

Educational reform laws have injected elementary and secondary schools with the Response to Intervention model to help target struggling readers who are at risk of failing state accountability assessments. The intervention reform plan allows educators to integrate technology instruction with reading instruction by integrating the Read 180 technology instruction with the reading curriculum.

This research also is designed to analyze how the Read 180 program impacts the reading gap between Read 180 and non-Read 180 students. It is critical for participants within the program to make individual reading gains, but it is also imperative to review how these participants compare to their fellow classmates. This increases the opportunity to analyze the effectiveness of the program.

As there remains to be a concern regarding struggling readers and students with disabilities, there are also increasing issues regarding gender literacy. In the United States, an analysis of the results of the 1992–2003 National Assessment of Educational Progress (NAEP) revealed that girls in grades 4, 8, and 12 consistently performed better than their male counterparts in reading achievement (National Center for Education Statistics, 2006). According to Kleinfeld (2006), the typical boy in the United States lags a year and one-half behind the typical girl. Many parents, educators, and policy makers are now calling for a focus on the underachievement of boys in reading. Identifying if the Read 180 program has a specific influence related to gender is a critical component that needs to be addressed.

Design

This study utilizes a non-equivalent control group design to investigate how the Read 180 program is related to participants reading achievement. The 2010 Georgia Criterion Reference Competency Test reading scores for both the experimental and control groups serve as the study's pre-test, while students' 2011 Georgia Criterion Reference Competency Test reading scores function as the experiments post-test. The assignment of participants for both the experimental and control groups was based upon a non-random selection for the experimental group and a random selection for the control group. The experimental group for this study is based upon assigned scale cut-scores issued by the school of study.

To address differences between the experimental and control groups prior to beginning the study, the non-equivalent control group design was selected. The non-equivalent control group means that assignment to groups was not random and acknowledges existing differences amongst groups (Trochim, 2006). Due to possible differences amongst the experimental and control groups, the non- equivalent control group design employs such statistical tests as the

standardized analysis of covariance (ANCOVA) to control for potential differences amongst groups with limited information being used to obtain data from the random assigned sample groups.

Questions and Hypotheses

Research Question 1: Does participation in the Read 180 program have an impact on students' Georgia Criterion Reference Competency Test reading scores when compared to students not participating in the program?

Null Hypothesis One: There will be no significant difference between reading achievement (as shown by the Georgia Criterion Referenced Reading Competency Test) of Read 180 participants as compared to non-Read 180 participants.

To answer question one, the analysis of covariance (ANCOVA) statistical method was used to help analyze reading achievement for non-Read 180 and Read 180 participants. Subjecting this study to the analysis of covariance (ANCOVA) statistical technique was ideal because it would statistically adjust the 2011 Georgia Criterion Reference Competency Test mean reading scores for any initial differences between the non-Read 180 and Read 180 participants. This was critical for testing because the analysis of covariance (ANCOVA) addressed the control group's reading ability, which could influence or relate to the reading achievement of the dependent variable (2011 Georgia Criterion Reference Competency Test reading scores). The standardized analysis of covariance (ANCOVA) method removes the portion of the participants' post Georgia Criterion Reference Competency Test score that is correlated with his or her pre-Georgia Criterion Reference Competency Test score (Ary, Jacobs, Razavieth, & Sorenson, 2006). Removing the score variance that is systematically associated

with the previous Georgia Criterion Reference Competency Test variance, the precision of the experiment improves (Ary et al., 2006).

Research Question 2: Does female gender impact Read 180 participants' reading achievement on the Georgia Criterion Reference Competency Test in reading when compared to female participants not enrolled in the Read 180 program?

Null Hypothesis Two: There will be no significant difference between reading achievement (as shown by the Georgia Criterion Referenced Reading Competency Test) of female Read 180 participants compared to non-Read 180 female participants.

In order to investigate Research Question Two, the standardized analysis of covariance (ANCOVA) statistical test was utilized to determine how female gender has impacted the reading achievement of Read 180 participants when compared to female students not enrolled within the Read 180 program. The standardized analysis of covariance (ANCOVA) statistical method was selected because it allowed for the researcher to control the effects of the 2010 Georgia Criterion Reference Competency Test reading scores and female students' 2011 Georgia Criterion Reference Competency Test reading scores. The standardized analysis of covariance (ANCOVA) can control how the treatment group's reading achievement is affected by possible correlations between the independent variable (2010 Georgia Criterion Reference Competency Test scores) and dependent variable (2011 Georgia Criterion Reference Competency Test scores).

Research Question 3: Does male gender impact Read 180 participants' reading achievement on the Georgia Criterion Reference Competency Test in reading when compared to male participants not enrolled in the Read 180 program?

Null Hypothesis: There will be no significant difference between reading achievement

(as shown by the Georgia Criterion Referenced Reading Competency Test) of male Read 180 participants compared to male non-Read 180 participants.

Research Question Three also attempts to investigate how gender could potentially influence students' reading achievement on the reading section of the Georgia Criterion Reference Competency Test. Question three explores how male Read 180 participants' reading achievement is impacted when compared to male students not enrolled in the Read 180 program. To better control the effects of the 2010 Georgia Criterion Reference Competency Test reading scores and male students' 2011 Georgia Criterion Reference Competency Test reading scores, the standardized analysis of covariance (ANCOVA) was selected. The standardized analysis of covariance (ANCOVA) can control how the male experimental or treatment group's reading achievement is affected by possible correlations between the independent variable (2010 Georgia Criterion Reference Competency Test scores) and dependent variable (2011 Georgia Criterion Reference Competency Test scores).

Participants

The participants in this study include 102 Read 180 seventh and eighth-grade students who live in a rural Georgia suburban area where the school of focus is located. Participant ages range from twelve to fourteen years. The Read 180 participants in this study are enrolled in the quarterly Read 180 program at Templeton Middle School for the 2010- 2011 school year. The participants in this study have been identified as Tier 2 students based upon their sixth and seventh-grade Georgia Criterion Reference Competency Test reading scores. These participants have been identified as bubble students, or those at risk of failing the 2010-2011 Criterion Reference Competency reading test based upon a score of 815 and below. This was the designated cut-off score assigned by the school's administration.

This study also included seventh and eighth grade students who did not participate in the Read 180 program for the 2010-2011 school year. The control group for this study was also comprised of 102 students who were only enrolled in language arts for the 2010-2011 school year. The non-Read 180 students used in this study were randomly selected based upon a Georgia Criterion Reference Competency Test reading scale cut- score of 816 or higher and did not receive any form of Read 180 remediation for the 2010-2011 school year. Participants were randomly chosen from inclusion or co-teaching classes that Read 180 participants were enrolled in.

Setting

This non-equivalent control group design was conducted in the Read 180 specialized classroom. The Read 180 classroom contains three centers: reading technology, individual reading/writing, and whole group discussion. The classroom contains a total of eight designated computers for students to complete Read 180 reading assignments. The environment is organized and functions on a twenty-minute rotating time basis and a ten-minute summarizing section facilitated by a reading specialist.

The Read 180 classroom at the school helps to contribute to the 1,233 students who attend the school. The racial demographics include 77 percent White students, 15.8 percent African American students, 2.6 percent Latino students, 1.1 percent Asian students, and 3.5 percent Other (including Native American students and mixed-raced). The school is a Title One school that serves a population that is 53 percent economically disadvantaged and has a special education subgroup of 19.9 percent.

Instrumentation

Reading achievement will be a discrete variable for the present study. Reading

achievement will be measured using the Georgia Criterion Reference Competency Test scale scores. On the Georgia Criterion Reference Competency Test reading section, students are given a total of sixty questions that pertain to various in-depth passages to assess student reading comprehension, media/information literacy, and vocabulary skills. Students are allowed a total of seventy minutes to complete multiple choice questions.

The purpose of the Georgia Criterion Reference Competency Test is to measure the effectiveness of education on the state of Georgia (Georgia Department of Education, 2012). The reading subtest has been aligned to assess students' skills based upon the Georgia Performance Standards (GPS) curriculum. The Georgia Performance Standards curriculum provides distinct expectations for instruction, assessment, and student work (Hambleton, 2012). The reading and literature Georgia Performance Standards focus on comprehension, vocabulary, literature discussion, cross-curriculum reading, and using cross-curriculum context (Georgia Department of Education, 2012).

The Georgia Criterion Reference Competency Test subtest in reading is based upon three domains: reading comprehension, information/media literacy, and vocabulary skills. The Georgia Criterion Reference Competency Test validity is based upon the test development cycle that aligns with Georgia Performance Standards. Committees of Georgia educators create content domain specifications and test item specifications to provide information regarding test development. This is called the Content Descriptions, which provides an outline for the organization of the test, how it will be scored, and content weights.

The scale score reported for each content area is derived by converting the number of correct responses on the test (the raw score) to the CRCT scale Georgia Department of Education, 2012). Since the scale scores are equivalent across test forms within the same

content area and grade, students obtaining the same score have demonstrated the same level of performance with respect to the Georgia Performance Standards (GPS) (Georgia Department of Education, 2012). Once a raw score has been converted to its scaled score for the Georgia Criterion Reference Competency Test the need to be concerned with the level or form that the test was administered decreases (Scholastic, 2000). This makes scaled scores especially suitable for comparisons when different forms or levels of the battery have been administered and for studying change in performance over time (Scholastic, 2000). Scaled scores have the advantage of representing approximately equal units on a continuous scale; that is, a difference of five points between two students' scores represents the same amount of difference in performance, wherever it occurs on the scale (Georgia Department of Education, 2012).

The reliability of the Georgia Criterion Reference Competency Test is based upon Cronbach's alpha and the Standard Error of Measurement (Georgia Department of Education, 2009). Cronbach's alpha is used to ensure that all scores are an even representation of a student's performance. Reliability is based upon a (.858-.932) range. The conditional Standard Error of Measurement is used to define a range of cut-scores to determine if students are below basic, meeting, or exceeding test expectations (Georgia Department of Education, 2009). The Georgia Criterion Reference Competency Test is scored according to "Below Basic," "Meets," or "Exceeds" expectation categories. A score of 799 or below is classified as below basic performance expectations, 800-849 meets expectations and 850 and above exceeds expectations.

Procedures

After submitting a research approval form to the school's system and gaining county approval, an IRB packet was submitted to Liberty University for research approval. Due to my

employment in the county and middle school, access to archived data is accessible for research to be conducted. No physical contact with students, student opinions, or private information was needed to render the research. In addition, only numerical data was used as the names of all participants within the study were protected using pseudonyms or identification numbers.

On the first day of each Read 180 class, students are given a Scholastic Reading Inventory test, designed from the Read 180 program to assess students' current reading level based upon grade and age. Once student scores are calculated, the Read 180 teacher collects students reading data and identifies each student's score. At the end of each eight-week course, students are given a final Scholastic Reading Inventory test that is compared to students' previous Scholastic Reading Inventory results. Participants' reading achievement result summary data is assessed and stored within the Read 180 Scholastic Achievement Manager (SAM).

Students' 2010-2011 Georgia Criterion Reference Competency Test scale scores will be analyzed and compared to last year's 2009-2010 results in order to investigate Read 180 participants reading progress after enrollment. After the completion of the Georgia Criterion Reference Competency Test data collection for students enrolled in Read 180, Georgia Criterion Reference Competency Test data collection will begin for students not enrolled within the Read 180 program. A reading achievement comparison between Read 180 participants and non-participants will be conducted to further investigate the impact of the program.

To establish an investigation for this particular research, a random sample of reading Georgia Criterion Reference Competency Test scores was collected from students not participating in the Read 180 program. A total of 102 students' 2010 and 2011 Georgia Criterion Reference Competency Test scores was used. The number of non-Read 180 students

to be selected was based upon the number of students enrolled within the Read 180 program. A random sample of males and females was selected from only seventh and eighth-grade inclusion classes.

An investigation into reading achievement based upon participant gender was also a critical component. Read 180 participants' Georgia Criterion Reference Competency Test reading data collection was again used to explore the reading achievement between Read 180 female and male participants. This component of the research was designed to analyze how gender influenced reading achievement.

Data Analysis

A standardized analysis of covariance (ANCOVA) test was employed in this study to analyze the data garnered from the study because it allows the researcher to make partial adjustments for pre-existing differences between variables (Ary, Jacobs, Razivieth, & Sorenson, 2006). In this study, students' pre-test scores are being used as the covariate in the ANCOVA model. The standardized analysis of covariance (ANCOVA) statistical method limited the influence that students reading ability may have had on their 2010 Georgia Criterion Reference Competency Test reading scores. This is critical to the research data as it could have posed a threat to the statistical outcome of the research. The standardized analysis of covariance (ANCOVA) not only decreased the threat that students' reading ability could have had on the 2010 Criteria Reference Competency Test in reading, but this statistical test also allows the researcher to examine differences on the dependent variable of interest (reading achievement) between the treatment and the control group.

CHAPTER FOUR: FINDINGS

Chapter four of this research study displays the analysis results used to examine the effect of the Read 180 program on the reading achievement of both seventh and eighth-grade Read 180 participants. In addition, the chapter will discuss how the Read 180 program impacted student participants and how Read 180 students' reading achievement scores compared with those of students not participating in the program. Comparisons between the experimental and control groups within this study will also be analyzed statistically based upon student gender. Results from this chapter will be used to determine if the Read 180 program has an impact on students' Georgia Criterion Reference Competency Test in reading. In addition, results will be used to determine if this program is significant in terms of gender performance.

Descriptive Statistics

The data collection process for this study was based upon an assigned cut-score from the school. The designated cut-off scores for students taking the Georgia Criterion Reference Competency Test in reading was a scale score of 815. This number is significant as it does represent a passing scale score on the Georgia Criterion Reference Competency Test. Despite a passing scale score, this number indicates that students have not met their grade-level reading criteria, based upon the assigned MetaMetrics Lexile score. Based upon this criterion, a total of 102 students from seventh and eighth grade scored below 815 on the Georgia Criterion Reference Competency Test and did not meet the school's reading requirements. Of the 102 students not meeting requirements, 59 seventh graders and 43 eighth graders were required to take the Read 180 program for at least one quarter, thus creating the experimental group for this study.

To obtain a control group for this research, 102 students were randomly selected from seventh and eighth grade. The group was comprised of 55 seventh graders and 47 eighth graders. To select a control group, students passing the Georgia Criterion Reference Competency Test in reading with a scale score above 815 were randomly selected as participants of this study.

The control group had a mean pretest score of 828.84 (SD=6.19), with a minimum pretest score of 819 and a maximum score of 842. In comparison to the control group's posttest, the mean score was 832.23 (SD=11.05), with a minimum score of 805 and a maximum score of 858. Based upon the control group's mean pretest and posttest scores, there was a 3.39 average increase, which is located in Table 2. The experimental group within this study had a mean pretest score of 797.35 (SD=11.29). Pretest scores for the experimental group revealed a minimum pretest score of 766 and a maximum posttest score of 814, while the posttest scores for the experimental group yielded a mean score of 810 (SD=15.15), with a minimum score of 766 and a maximum score of 850. The experimental group experienced an overall growth of 13.34, which can be referenced in Table 2. Based upon the growth rates between both the control and the experimental groups, the experimental group received an overall 9.95 point gain over the control group.

The data analysis of the Read 180 program in the research offered informative data in categories comparing Read 180 participants' reading achievement scores to those of non-Read 180 participants, as well as analyzing Read 180 participants' reading test score results, based upon gender, and their overall pre and post test scores. According to Table 1, based upon descriptive statistics of gender, the male control group for this study had a mean pretest score of 828.10 (SD=6.26) and a mean posttest score of 832.14 (SD=10.26), which leads to an

overall 4.04 growth in Georgia Criterion Reference Competency Test reading scores. In comparison, the male experimental group's average pretest score was 796.31 (SD=12.24), with an average posttest score of 809.76 (SD=15.36), which caused an overall growth of 13.45. According to results, the male experimental group succeeded the male control group reading growth by 9.41 points.

Table 1

Descriptive Statistics: Pretest and Posttest

Variables	Pretest					Posttest				
	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max
Group										
Control	102	828.84	6.19	819	842	102	832.23	11.05	805	858
Experimental	102	797.35	11.29	766	814	102	810.69	15.15	776	850
Total	204	813.09	18.21	766	842	204	821.46	17.07	776	858
Gender										
Read180- Males	64	796.36	12.24	766	814	64	809.76	15.36	776	839
NonRead180- Males	64	828.10	6.26	819	842	64	832.14	10.26	805	854
Total Males	128	812.21	18.67	766	842	128	820.95	17.19	776	854
Read180- Females	38	799.10	9.37	775	813	38	812.26	14.85	785	850
NonRead180- Females	38	830.07	5.94	819	842	38	832.39	12.39	807	858
Total Females	76	814.59	17.43	775	842	76	822.33	16.95	785	858

Table 1 from this study also revealed that the female control group for this study averaged a pretest score of 830.07 (SD=5.94), with a posttest average score of 832.39 (SD=12.39), which leads to a 2.32 increase in their reading achievement. The female experimental group, however, averaged a pretest score of 799.10 (SD=9.37), with a posttest average score of 812.26 (SD=14.85), which caused a 13.16 growth score, given in Table 2. When compared to the control group, the female experimental group increased its reading achievement growth by 10.84 points.

Table 2

Descriptive Statistics: Growth

Variables	Growth				
	N	Mean	SD	Min	Max
Group					
Control	102	3.39	10.84	-24	24
Experimental	102	13.34	14.22	-19	47
Total	204	8.37	13.56	-24	47
Gender					
Read180-Males	64	13.45	14.32	-19	45
NonRead180-Males	64	4.03	10.39	-24	18
Total Males	128	8.74	13.45	-24	45
Read180-Females	38	13.15	14.23	-15	47
NonRead180-Females	38	2.31	11.14	-22	24
Total Females	76	7.74	13.82	-22	47

Analysis for Research Question One

Null Hypothesis One. There will be no significant difference between reading achievement (as shown by the Georgia Criterion Referenced Reading Competency Test) of Read180 participants as compared to non-Read180 participants. The analysis of covariance (ANCOVA) model was utilized to help control or statistically adjust the mean 2011 Georgia Criterion Reference Competency Test reading scores for any potential differences between the experimental and control groups of the study.

First, note that there is a technical issue within this study regarding the difference between the control and experimental group's pre-test requirements. The pre-test scores of the individuals representing the control groups are not the same as the pre-test scores for the experimental group. This variation in requirements prompted incorporating the ANCOVA statistical design for this particular study. The experimental group's pre-test score requirements included a scale score cut-off of 815 or below, whereas the control group's scale cut-off score was 816 and above. The control group's pre-test score requirements indicate a higher academic reading capability than that of the experimental group. Students scoring below 815 on the Georgia Criterion Reference Competency Test in reading have been identified as achieving less than 65 percent reading accuracy on the test. To overcome this problem, the standardized values of the pretest scores are used instead of the raw values of the pretest scores in the ANCOVA model. Throughout this chapter, this model, which has standardized pretest scores, will be called standardized ANCOVA model.

The results of the Type I and Type III SS of the standardized ANCOVA model are given in Table 3 and Table 4. The Type I and Type III SS have the same results, thus

indicating that the Read 180 program is significant ($F(1,201) = 159.15, p < .0001$). The Adjusted R^2 effect size value is equal to 0.48, meaning that approximately fifty percent of the variance between the Read180 and non-Read180 groups can be explained by treatments.

Therefore, the results from the standardized ANCOVA model prove that the Read 180 program is significant, and the null hypothesis for Research Question One is rejected. This means that participation in the Read 180 program has an impact on students' Georgia Criterion Reference Competency Test reading scale scores.

Table 3

Results of ANCOVA Analysis for Standardized model (Type I SS)

Source	df	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	29289.580	14644.790	98.50	<.0001
Read180	1	23660.828	23660.828	159.15	<.0001
Pretest	1	5628.751	5628.751	37.86	<.0001
Error	201	29883.179	148.672		
Corrected Total	203	59172.759			

R Squared= 0.49 (Adjusted R Squared =0.48)

Table 4

Results of Type III SS of the Standardized model

Source	Df	Type III SS	Mean Square	F Value	Pr > F
Read180	1	23660.828	23660.828	159.15	<.0001
Pretest	1	5628.751	5628.751	37.86	<.0001

Figure 1, below, represents the average reading achievement growth between those who

took the Read180 program and those who did not take the Read180 program. Figure 1 supports the results from analyzing the standardized ANCOVA model (in Table 3 and Table 4) indicating that the Read180 program was significant.

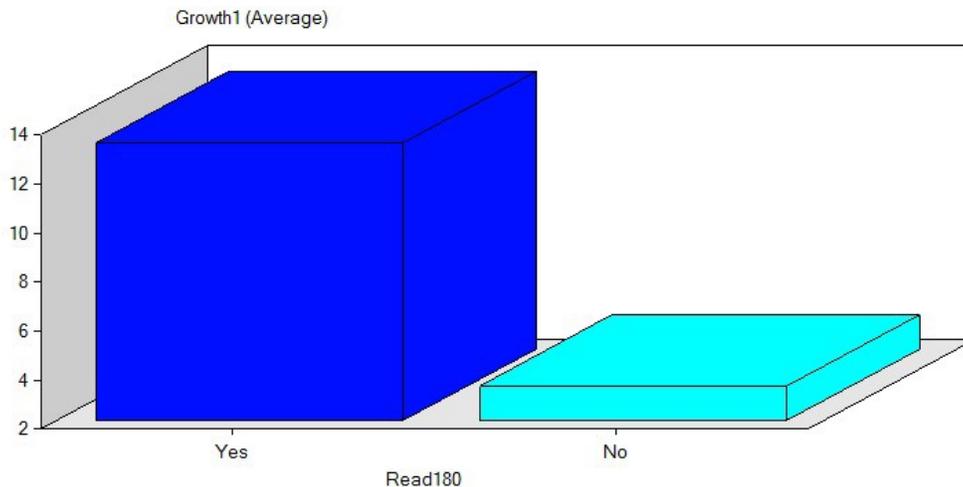


Figure 1. The Growth rate for Reading Achievement for all of Read180 and non-Read180 Participants

Analysis for Research Question Two

Null Hypothesis Two. There will be no significant difference between reading achievements of female Read180 participants compared to non-Read180 female participants. The standardized ANCOVA model was used to determine if there are any effects of the Read 180 program or pre- test scores on all female participants' post-test reading scores. Based on the standardized ANCOVA model, the results of the Type I SS (Table 5) and Type III SS (Table 6) indicated that the Read 180 program has a significant impact on females ($F(1,73) = 46.34$, $p < .0001$). The Adjusted R^2 effect size value is equal to 0.43, meaning that approximately 43 percent of the

variance between the Read180 and non-Read180 groups of females can be explained by the model.

Table 5

Results of ANCOVA Analysis for Females based on Standardized model (Type I SS)

Source	df	Sum of Squares	Mean Square	F-Value	Pr > F
Model	2	9813.23	4906.62	30.51	<.0001
Read180	1	7452.86	7452.86	46.34	<.0001
Pretest	1	2112.9	2112.9	13.14	0.0005
Error	73	11739.54	160.81		
Corrected Total	75	21552.77			

R Squared= 0.45(Adjusted R Squared =0.43)

Table 6

Results of Type III SS for Females based on the Standardized model

Source	Df	Type III SS	Mean Square	F Value	Pr > F
Read180	1	7452.86	7452.86	46.34	<.0001
Pretest	1	2112.90	2112.90	13.14	0.0005

Therefore, the standardized ANCOVA Type I SS and Type III SS analysis results provided data that allowed the researcher to reject the null hypothesis for Research Question Two.

These results indicated that there is a significant difference between the reading achievement of female Read180 participants and female non-Read180 participants.

Figure 2, below, indicates the average reading achievement growth between female students who took the Read180 program and those who did not take the Read180 program.

Figure 2 supports the results from analyzing the standardized ANCOVA model for Research Question 2 (in Table 5 and Table 6), revealing that the Read180 program was significant for female Read180 participants.

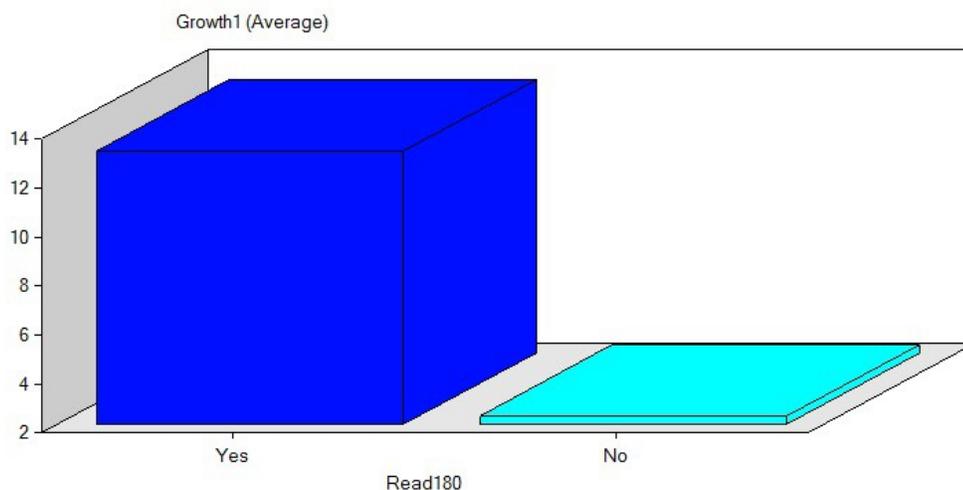


Figure 2. The Growth rate for Reading Achievement for Females of Read180 and non-Read180 Participants

Analysis for Research Question Three

Null Hypothesis Three. There will be no significant difference between reading achievements of male Read180 participants compared to non-Read180 male participants. The ANCOVA method was used to determine if there are any effects of the Read 180 program or pre-test scores on all male participants' post-test reading scores. Based upon Table 7 and Table 8, the Type I SS and Type III SS of the standardized ANCOVA model reveal that the Read180 program is significant ($F(1, 125) = 112.72, p < .0001$). This means that the Read 180 program significantly impacts male post-test scores for male the Read180 participants. Approximately 51 percent of the variance between the Read180 and non-Read180 groups of males can be explained by the model, as the adjusted R^2 effect size value is equal to 0.51. Therefore, the null hypothesis for Research Question Three is rejected. These results indicate that the Read 180

program does have a positive impact on male Read 180 participants' reading achievement.

Table 7

Results of ANCOVA Analysis for Males based on Standardized model (Type I SS)

Source	Df	Sum of Squares	Mean Square	F-Value	Pr > F
Model	2	19523.41	9761.70	67.77	<.0001
Read180	1	16237.92	16237.92	112.72	<.0001
Pretest	1	3502.91	3502.91	24.32	<.0001
Error	125	18006.30	144.05		
Corrected Total	127	37529.72			

R Squared=0.52 (Adjusted R Squared =0.51)

Table 8

Results of Type III SS for Males based on the Standardized model

Source	df	Type III SS	Mean Square	F Value	Pr > F
Read180	1	16237.92	16237.92	112.72	<.0001
Pretest	1	3502.91	3502.91	24.32	<.0001

Figure 3, below, shows the average reading achievement growth of the Read180 male participants and the non-Read180 male participants. Figure 3 supports the results from analyzing the standardized ANCOVA model for Research Question 3 (in Table 7 and Table 8), revealing that the Read180 program was significant for male Read180 participants.

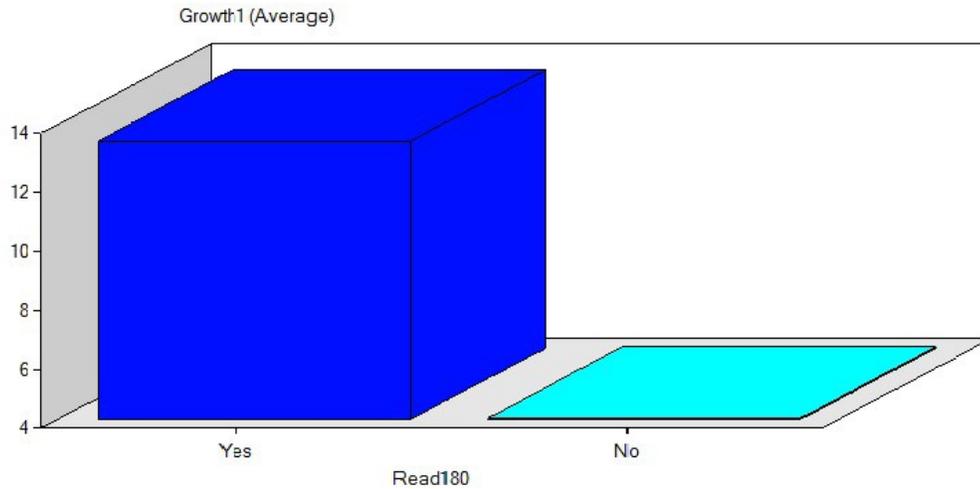


Figure 3. The Growth Rate for Reading Achievement for Males of Read180 and non-Read180 Participants

Summary

Chapter Four provided statistical data regarding the analysis for each research question and hypothesis. The data for this study were analyzed using the Statistical Analysis Software (SAS) to conduct standardized ANCOVA statistical models to answer research questions One through Three. According to ANCOVA results, the hypotheses for Research Questions One, Two, and Three could be rejected based upon standardizing the pretest scores and implementing the standardized ANCOVA model.

Recall, from Research Question one, that the standardized ANCOVA model was implemented, instead of the usual ANCOVA model, to address technical issues that were previously explained in Question One. The standardized ANCOVA model adjusts the design of the model by standardizing the pre-test scores. This adjustment helps to modify the differences between the pre-test scores of the control and experimental groups. The control group did not come from the same group as the experimental group, which means that the control group's pre- test scores and reading ability are higher than that of the experimental

group.

CHAPTER FIVE: DISCUSSION

Summary of Findings

The purpose of this non-equivalent control group design research study was to determine if the Read 180 program was significantly impacting the reading achievement of Tier 2 students enrolled within the Read 180 program for the 2010-2011 school year. The school incorporated the Read 180 program to function as its primary Response to Intervention tool for seventh and eighth graders, whom had been identified as at-risk for failure to meet the reading requirements for the Georgia Criterion Reference Competency Test in reading and the school's achievement requirements. Based upon the standardized ANCOVA statistical method for this study, the Read 180 program has indicated to yield significant results for student participants. In Chapter Five, the findings, implications, limitations, and recommendations for future research will be addressed.

Discussion of Findings

Null Hypothesis One. The first research question focused on whether participation in the Read 180 program had an impact on seventh and eighth-grade participants when compared to students not enrolled in the program. According to results from analyzing the standardized ANCOVA data, it was indicated that the Read 180 program did have a significant impact on Read 180 participants' reading achievement.

Response to Intervention was developed because of the many problems with the discrepancy model for identifying students with learning disabilities (Mesmer & Mesmer, 2009). The data for Question One indicates that the Read 180 program is adequately addressing the literacy needs of students at risk for reading failure. The school's Read 180 participants averaged a Georgia Criterion Reference Competency Test reading scale score of

797 in 2010, before implementation of the Read 180 program. After a one-quarter enrollment within the Read 180 program, the Read 180 participants experienced a 13-point gain from their 2010 Georgia Criterion Reference Competency Test reading score. The Read 180 participants' overall average score for their 2011 post-test Georgia Criterion Reference Competency Test scale score was 810. This increase in reading performance is critical; however, it does not quite meet the schools' goal of students achieving a scale score above 815 on the Georgia Criterion Reference Competency Test. The educational goal is to have its at-risk students to close the reading gap between below-average and low-average readers within the school. The basic requirements for passing the Georgia Criterion Reference Competency Test is a scale score of 800; however, the school recognizes a scale score of 800 as representing approximately fifty percent accuracy. The goal for the school is to have its Read 180 students achieve 65-70 percent accuracy on the Georgia Criterion Reference Competency Test in reading. In order to close the reading gap between low- average readers – those students earning roughly 65-80 percent accuracy – and below-average readers – those students earning 64 percent or below accuracy – Templeton Middle School uses a cut score of 815 to qualify students for the Read 180 program. By recognizing 815 as a cut score, the school is able to target more students who are below average in reading and help them improve their reading achievement scores. Students continuing to score below the 815 scale score are not minimizing the gap for this target goal. Before enrollment in the Read 180 program, the experimental group of this study was not meeting the state reading requirements. A scale score of 799 or below constitutes failure to meet the Georgia Criterion Reference Competency Test reading requirements, as well as a below-reading-level Lexile score.

Read 180 participants scoring below a scale score of 800 were indicated as having a below-

grade-level Lexile, based upon the Scholastic Reading Inventory Lexile and CRCT Conversion Chart (Scholastic Reading Inventory, 2012), and, therefore, at-risk of not meeting state reading requirements. Following implementation of the Read 180 program, the school's Tier 2 students increased their overall Lexile reading level scores from 755L to 870L. These gains in Lexile scores are to be commended, but for the school to improve students' reading ability and text complexity successfully, students in seventh and eighth grades should be achieving proficiency Lexile scores ranging from 955L to 1155L (Scholastic Reading Inventory, 2012).

Null Hypothesis Two. In Research Question Two, the primary focus of the research was to investigate how the Read 180 program impacted the participants' reading achievement based upon female gender. Based upon the data, the Read 180 program did have a significant impact on seventh and eighth-grade female participants enrolled within the program. Results from the standardized ANCOVA model Type I SS and Type III SS indicated that the Read 180 program is significantly impacting the reading achievement of female participants. Analyzing the reading achievement results of the school's Read 180 participants based upon gender is critical for addressing a continual issue within education and at the focus school of this study. According to the Center on Education Policy (2010), disparities between males and females in reading achievement have been a long concern.

To address gender, Research Question Two is designed specifically to identify how female Read 180 participants correspond with the Read 180 program. According to the results, the 38 female participants in the Read 180 program experienced a thirteen-point reading achievement gain in their Georgia Criterion Reference Competency Test reading scale score.

Read 180 female participants' pre-test scale scores were an average score of 799. This score does not meet the passing criteria established for the Georgia Criterion Reference Competency Test. A scale score of 799 indicates that the average reading Lexile score for the female participants was 800L, which means these students are reading below grade-level. After a one- quarter enrollment in the Read 180 program, female participants' post-test scores were an average scale score of 812. Based upon this score, female Read 180 participants did meet passing criteria for the Georgia Criterion Reference Competency Test, but they failed to meet the school's required 815 cut score, thus indicating that female Read 180 participants did not adequately close reading achievement gap, but successfully enhanced their reading achievement.

This data is critical not only to examining how female Read 180 participants compare to those females not enrolled within the program, but also in helping the school and the researcher identify whether the Read 180 program is effectively closing the reading and gender gap.

Null Hypothesis Three. The focus school's implementation of the Read 180 program is also supposed to propel the reading achievement of their male population. It has been identified that the Read 180 program served 64 male students, in comparison to only 38 female students. Data for male participants of the program does reveal an overall thirteen-point reading achievement gain. Male participants' pre-test scores were an average scale score of 796, indicating a "Does Not Meet" criteria report for the Georgia Criterion Reference Competency Test and a below-grade-level reading Lexile score. A failing Georgia Criterion Reference Competency Test scale score computes to a Lexile score below 800L, which indicates a student is reading below grade level. Upon completing the Read 180 program after

one quarter, the average Georgia Criterion Reference Competency Test reading scale score for male participants' post-tests was 809, which qualifies for the does-meet/pass category for the Georgia Criterion Reference Competency Test. The data regarding male participants indicated that the male Read 180 participants experienced an average reading achievement gain of 13.45, which represents a slightly higher reading achievement gain over that of the female Read 180 participants, who experienced an average reading achievement gain of 13.15. Despite growth achievement, male Read 180 participants were not able to average higher Georgia Criterion Reference Competency Test scores than that of their female counterparts. This indicates a failure to close the reading gap between the genders. In addition, a Georgia Criterion Reference Competency Test scale score of an 809 also does not meet the school's target score of 815. It is evident that male Read 180 participants are experiencing reading achievement from the Read 180 program, but the growth has not been able to close the pre-existing reading achievement gaps acknowledged by the school.

In conclusion, the findings for Research Questions One, Two, and Three do support the implementation of the Read 180 program at the primary focus school of the study. Data for each question indicated that the Read 180 program is significantly impacting the reading achievement of Read 180 participants; however, it is not successfully addressing the reading achievement gap between below-average and low-average readers. Based upon evidence from Figure 2 and Figure 3, Read 180 participants have respectfully made some progress. The male Read 180 participants experienced an overall nine-point gain over male students not enrolled within the program, while female Read 180 participants experienced an overall eleven-point gain over females not enrolled within the program. Despite participants experiencing growth in reading achievement after being enrolled within the program for one quarter, students'

overall reading achievement did not improve to meet the school's required score of 816 or higher to help close the existing reading gap.

According to the literature, the goal of "No Child Left Behind" and the new College and Career Readiness Performance Index is to have students achieve specified goals in order to reach accurate grade-level reading comprehension and complexity. These laws continue to hold schools accountable by issuing mandates such as the "Response to Intervention" model. Under the Read 180 program, students are receiving differentiated instruction that is driven by technology to help increase reading skills. As previously stated in the research, many schools have experienced success with the implementation of the Read 180 program. The Council of Great Schools, which includes Boston, Dallas, Houston, and Columbus, reported that students achieved an average reading achievement increase of 22.94 points on the Stanford-9 Achievement Test. Both the Georgia Criterion Reference Competency Test and Stanford-9 Achievement Test measure students' reading ability based upon raw and scale scores. Data yielded that students' test results were statistically significant ($F_{12,624}$, $p=0.000$) (Scholastic Reading Inventory, 2009). In 2009, the Osceola School District reported that seventh-grade students who participated within the Read 180 program increased their overall reading performance on the Florida Comprehensive Assessment Test by 208 points, while eighth-grade participants increased overall with 166 points. Seminole County, Florida, reported, in 2007, that the expected growth rate goal for seventh and eighth-grade students was 77 percent; but, after enrollment in the Read 180 program, participants' average growth rate was 105 percent. In comparison to the focus school of the study, these schools are achieving proficient reading gains, twenty points and beyond, whereas the focus school of this study is only seeing an average of a thirteen-point gain overall with Read 180 participants. The data from the focus

school of study is significantly different from that of previous research studies conducted on the effectiveness of the Read 180 program. Data from the previously mentioned school districts were all based upon state tests that are similar to that of the Georgia Criterion Reference Competency Test, which means that students' reading ability is based upon raw scores that are too converted to scale scores based upon multiple choice responses. From here, scores can be compared to examine student growth based upon content and/or to other students.

In reviewing the data from the focus school of study, it was also noted that more male students were enrolled within the Read 180 program than females. In addition, the retention rate for the school males yielded a 66.7 percent retention rate, compared to a 33.3 percent retention rate among females, thus supporting the claim that nearly twice as many boys are retained as girls (Whitmire, 2010). Furthermore, for every 100 girls diagnosed with a learning disability, 276 boys are, as well (Mortenson, 2006). One of the main components of RtI is to decrease the extraordinarily high number of students being recommended for special education programs. By implementing the Tier 1 and Tier 2 protocol, students are able to receive extensive instruction before being qualified or recommended for special education programs.

Such indicators reveal reading and academic gaps between the focus school's females and males. Based upon reading Georgia Criterion Reference Competency Test scores, the female Read 180 participants' average posttest scores were 812, in comparison to their male counterparts' average score of 809. These scores continue to indicate that male students are improving their reading levels but are not surpassing female students and not meeting the required gains for closing the focus school's specified reading gap. The Response to Intervention program has been implemented to help address reading deficiencies within school

systems; however, the implementation of the Read 180 program at the school is successfully improving the reading ability of students participating within the program. Even though data from this study proved to be significant, it remains evident that Read 180 participants were not able to meet the criteria set forth by Templeton Middle School.

Theoretical Framework. The Read 180 program was founded by Ted Hasselbring, under the situated constructivist theory that involves learning by doing and addressing real problems, which derived from the cognitive theory that learning comes about as a result of processes related to experiences, perceptions, memory, and overtly verbal thinking (Pajares, 2002). Just like the Florida school districts utilizing the program, data from Templeton Middle School proved to yield significant results for Read 180 participants' reading progression; however, it was documented that Read 180 participants were not able to meet the reading requirements established by Templeton Middle School. These growth rates from the focus school, along with significant data results from other school districts, support the situated constructivist theory of the Read 180 program. Despite the school's students' limited, seventy-minutes per eight-week quarter, exposure to the Read 180 program, participants were still able to be exposed to an updated classroom pull-out model that utilizes technology as a major centerpiece for improving students' reading ability. In addition, participants are able to work on decoding skills, cause and effect analysis, main idea identification, and comprehension through differentiated small groups devised of individual reading time and teacher-led small/large group instruction to keep students engaged in learning.

Implications

Practical implications, which could prove beneficial for the school, were derived from this research study. The data from this study did indicate that the Read 180 program

could serve as an effective Response to Intervention tool. However, despite Read 180 participants not being able to meet the school's criteria, it was evident from Research Questions One, Two, and Three that students participating in the Read 180 program could benefit from more instructional time in the program. To be effective, the program model requires a strong commitment, which includes ninety-minute classes every day of the week for a full year (Damle, 2010). Currently, the focus school of the study implements the Read 180 program through connections for a seventy-minute time period for one quarter (eight weeks). Students then rotate to a different connections class, only being served once in the program. The students participating within the program did make gains based upon their pre and post-test scale scores; however, these gains were insufficient to "catch-up" or extinguish the reading achievement gap between Tier 2 students and average readers. Schools such as those in the Osceola School District, Lawrence Public Schools, the Council of Great Schools, and Florida school districts implement the Read 180 program for 90-100-minute class periods from half a year to at least one full year, thus impacting the significant gains these students experienced in reading.

The focus school of the study and all other Georgia schools are being scored on the new College and Career Readiness Performance Index (CCRPI). Based upon this new index, all schools must show that at-risk students are making at least a 35 percent reading gain in efforts to close the reading achievement gap that has been established between at-risk students and average readers. In addition, there is a desire to show that all students are making progress in regards to Georgia Criterion Reference Competency Test scale scores. Students should be achieving fifteen percent reading gains in their reading achievement: a Lexile measure equal to or greater than a 1050L (Georgia Department of Education, 2013).

The overall implication of this study was that the Read 180 program is needed at the focus school to help meet the requirements of the Response to Intervention program for Tier 2 students. The school needs to reconsider how the Read 180 program is implemented, in regards to scheduling, to meet the program requirements for students to achieve full reading success. The data also indicates that there is a need for another program, or Read 180 class, to be included in the Response to Intervention design created by the school to help meet the reading needs of students who are not enrolled in the program.

Limitations

Based upon this study, there were several limitations that could be noted. Due to the limited sample size of the Read 180 students (experimental group), results should be analyzed with caution. The data obtained from this study is specific to the student population at the focus school of the study and should not be generalized to other settings. Data from this study was based upon two groups with varying reading abilities, which had an impact on results and student outcomes for pre and post-test scale scores from the Georgia Criterion Reference Competency Test in reading. The pre-test scores of the individuals representing the control groups are not the same level as the pre-test scores for the experimental group. This different level of reading ability is due to selecting the control group without randomization. This variation in requirements prompted incorporating the ANCOVA statistical design for this particular study. This variance in the control and experimental groups' pretest scores thus created a reading achievement gap between the two groups that needed to be addressed by using a standardized ANCOVA model.

Because students from both the control and experimental groups within the study did not have equal or similar pre-tests levels, the Levine's test should have been conducted to

determine the equality of variance for both groups. It is important to determine if the groups of the study are comparable. Because there is a chance that the comparability of the groups were significantly different this created a limitation within the data.

The control group of this study for research questions one, two, and three all exhibited substantially low reading growths in comparison to the experimental groups. The average reading growth for the combined control groups was 3.24. The low improvement growth for students not enrolled within the Read 180 program could have been contributed to students achieving their highest possible reading scale score on the Criterion Reference Competency Test based upon their ability. This could pose as a limitation because the control groups for research questions one, two, and three were identified as achieving scale scores substantially higher than that of the experimental groups. This limitation is known as the Ceiling Effect which means that there was no possibility for the control groups to achieve a higher level of reading growth thus impacting the overall low reading growth in comparison to participants who were enrolled in the Read 180 program.

Both experimental and control groups' scale scores and data results could be compromised. Considerations must be taken into account based upon the way students may have tested that day in regards to attitude, effort, and time spent during the administration of the test. These are all factors that could impact a student's final score. Another critical limitation is the master schedule for the school. Results from the Read 180 program have been impacted due to Read 180 implementation being altered to accommodate the school. For example, the Read 180 program is designed for students to be enrolled for one full academic year, during which time they receive ninety minutes of instruction, Monday through Friday. However, the focus school of the study Read 180 participants are only enrolled for one quarter; therefore,

they receive only seventy minutes of instruction, Monday through Friday. Even this mere twenty-minute difference in instructional time equates to one hour and forty minutes lost in instruction time each week at the school. The results of this study are influenced as the program was not implemented correctly.

Recommendations

It was recommended that further research be continued at the school to determine if the Read 180 program is a useful and productive Response to Intervention tool. Since the results of this study indicate that the Read 180 program is significant, it was recommended that students participate in the Read 180 program for more than one quarter so they will be able to earn a scale score of at least 815, and therefore pass the Georgia Criterion Reference Competency Test in reading. The data from this study should be analyzed so that future studies can be conducted based upon a wider student population at the school, as well as neighboring middle schools, to determine which population is seeing the most success from the program. In addition, research needs to be conducted based upon scheduling and time. It is important for the focus school to discover how students perform on the Georgia Criterion Reference Competency Test in reading, based upon quarterly enrollment. Do students enrolled in the second and third quarters outperform those enrolled in first and fourth quarters? This is a critical question that needs to be addressed to help create a more productive schedule. Another recommendation from this study is to have the school implement reading programs that could be compared to the Read 180 program. This type of study could help provide insight to determine if Title I funding could be utilized to invest in more resources that could potentially expand the Read 180 program or to incorporate new reading programs and resources to help other students improve their reading achievement. Lastly, further research

should be conducted using experimental and control groups that have been selected based upon similar reading abilities and achievement. This type of selection decreases or minimizes any preexisting reading gaps between the two groups that could potentially impact the outcome of the study.

The researcher from this study will share the results with the Read 180 teacher, Response to Intervention Coordinator, language arts teachers, and administrators. The results from this study can help the school begin to redevelop its approach to improving reading achievement, scheduling, classes, and Title I spending. This research study will not only benefit Templeton Middle School, but it will also be a tremendous indicator for the school system, should there be continued use of the Read 180 program. The purpose of the county and the school purchasing the program was to help increase the reading abilities of struggling readers by providing an effective intervention tool. Students are increasing their reading abilities and making sufficient progress for accountability guidelines at the local, state, and federal levels, but Read 180 students are not able to meet the target goals established by the school. It is evident that the program is improving students' reading skills, but ineffective in helping the school meet its target goals. Instead of using and/or implementing a program that is not maximizing results needed to help students effectively improve their reading skills and meet Templeton Middle Schools target goals, Templeton Middle School can make an informed decision regarding terminating or revamping the program's implementation to better help students.

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APPENDIX A

Liberty University IRB Application

November 26, 2012

Kimberly

Rakestraw

IRB Exemption 1451.112612: The Impact of the Read 180 Program on Students Receiving Tier Two Services

Dear Kim,

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

Your study falls under exemption category 46.101 (b)(4), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:

(4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

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

number.

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

Sincerely,

Fernando Garzon, Psy.D.
Professor, IRB Chair
Counseling

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