Leading Schools to Increased Reading Achievement: An Investigation Into Effective Reading Instruction

Patricia Anne Alford
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LEADING SCHOOLS TO INCREASED READING ACHIEVEMENT:
AN INVESTIGATION INTO EFFECTIVE READING INSTRUCTION

by

Patricia Anne Alford

A Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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December 2011
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ABSTRACT

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This study investigated the effectiveness of two models of middle school reading instruction as measured by mean scores of middle school students on a state criterion-referenced test. Two cohorts of students were repeatedly compared over a three year period: students who received reading instruction as a core content class (Intervention A) and students who received reading instruction through content-area courses of math, social studies, science, and language arts (Intervention B). The independent variable was the reading program implemented and the dependent variables were the scale scores on the Reading portion of the CRCT test. A mixed model analysis of variance (ANOVA) was performed to examine the effects of the reading delivery model on students’ CRCT scores in fifth, sixth and seventh grades to determine if a difference existed in reading scores between the groups based upon the reading instruction students received. Following a significant three-way interaction of time x reading intervention x subject area, an analysis of time x reading intervention simple interactions for each subject area revealed no interaction on reading scores ($F(2, 197) = .24, p = .99$). There was a main effect of grade level on students’ reading scores ($F(2, 394) = 97.67, p < .001$) with students in seventh grade scoring higher than students in grades five and six and students in grade six scoring higher than students in grade five. Since there was no change in reading score patterns, these results cannot be interpreted as a function of reading instruction. The type
of reading instruction produced no differential effects on reading achievement across time with both types of instruction revealing similar patterns in achievement. This study contributed to the body of educational research to assist school leaders in making informed decisions regarding the most appropriate reading instructional model.
ACKNOWLEDGMENTS

There are several important individuals who deserve to be acknowledged for their significant contributions to this effort. Without each of these people, this accomplishment would not have been possible for me, and I will be forever grateful.

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I also owe a tremendous thank you to my family. I am so thankful for and indebted to my mother, Loretta, who instilled in me a passion for learning, inspired me to work hard, and cheered me on every step of the way. Lastly, I could not be more grateful for the patience and encouragement of my husband, Carlton, and my two boys, Ryan and Daniel, who have sacrificed and made my life easier throughout this very challenging process so that I could achieve my goals. You made this possible for me.
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CHAPTER I
INTRODUCTION

Background of the Problem

Reading is a critical skill for all students since reading proficiency will have a life-long impact. For school leaders, the responsibility to sustain an effective reading program is paramount. Kutner, Greenberg, Jin, Boyle, Hsu, and Dunleavy (2007) report that compared to adults with lower literacy skills, strong readers are more likely to vote in national elections, hold full-time jobs, volunteer in their communities, and be able to help their children with homework. This supports the rationale that now mandates, since the implementation of No Child Left Behind (NCLB) (US Department of Education, 2001) legislation, that students demonstrate reading proficiency in the critical academic years of third, fifth, and eighth grades in order to be promoted to the next grade level. According to Heller and Greenleaf (2007), the National Assessment of Educational Progress (NAEP), which is also referred to as The Nation’s Report Card, indicates that American fourth grade students are demonstrating gains in reading skills as demonstrated by increased gains on the NAEP test. However, at the secondary level, which includes 8th- and 12th-grade students, scores have remained stagnant since the 1970s, and relatively little attention and investment has been made to increase reading proficiency. The more challenging reading materials presented to students in secondary grades often result in difficulty for students who may be reading at or below grade level. Educational leaders have the critical challenge of ensuring that students become proficient and capable readers based upon the instructional decisions that they make. Therefore, theory and practice must be connected to create the most effective reading instruction for today’s middle school students.
Education reform, which has historically been seen as a state issue of local control, has become an increasing national priority. Even before the signing of NCLB legislation, U.S. President Bill Clinton devoted much of his 1999 State of the Union address to improving reading achievement. U.S. President George W. Bush made campaign promises to improve achievement in reading. Debates over the most effective and appropriate methods for reading instruction, the use of phonics, whole language, etc., have been in implementation for the last several decades. Across the nation, every state is seeking to improve the literacy levels for all students and meet the requirements put in place by NCLB. For states, meeting these NCLB mandates is directly tied to federal funds, serving to increase the pressure to improve achievement in all areas, particularly reading. Revisions to state curricula and a movement for national academic standards have been the result of states raising expectations and standards for proficiency in education.

In one southeastern state, the former Quality Core Curriculum (QCC) has been replaced with State Performance Standards (SPS) in all grade levels and content areas (Georgia Department of Education, n.d.). The rollout of this new curriculum began in the 2004–2005 school year and was phased in over a period of the next several years. In the middle grades (6-8), the Reading Performance Standards changed the delivery model for reading instruction. Beginning in the year 2004, state middle schools in this state began delivering the Reading Across the Curriculum standards, in which reading was taught through the four core content-areas of language arts, science, social studies and math rather than through a separate core content (reading) class. In many metropolitan school districts, this brought about programmatic changes in the instructional schedule as the
reading course was dropped from the state course offerings. These programmatic changes were also fueled further by the NCLB mandate that all teachers be highly qualified in the content area in which they teach. At the time of the roll-out in 2004, few middle school teachers in the state held a certification or endorsement in reading. Therefore, these teachers would not be considered highly qualified under NCLB to continue to teach reading as a separate course. However, if teachers were teaching reading skills through the core content areas in which they held certification, the teachers were considered to be highly qualified. Therefore, with the implementation of the new SPS, one solution to this highly qualified problem was for all teachers to teach reading within the content areas in which they were already certified and considered highly qualified. Schools went from a five-period academic day to a four-period academic day, where the increase of time in each class would be used for content-specific reading instruction in accordance with the *Reading Across the Curriculum* Performance Standards. Instead of offering a reading class, schools began to utilize reading specialists and literacy coaches to assist teachers in professional development in order to deliver reading instruction within the content areas.

Students need to be literate in the various contexts and content areas. While many students are able to decode text, the ability to read and interpret, and comprehend expository texts in the various content areas presents a challenge to many secondary students in the absence of explicit reading instruction (Ness, 2007). In theory, the teaching of reading by content-area teachers should help students to understand various types of texts and styles of reading. In practice, however, the teaching of reading in content-area classes may prove to be less effective since these teachers are content-area
teachers who do not see themselves as reading teachers. The time allotted for instruction in reading may not be appropriately being used to increase student literacy in the individual content areas (Draper, 2002).

Theoretical Foundations and Preliminary Review of Literature

Students must be able to read and comprehend their textbooks in order to learn in each content area. However, “as the academic demands on our secondary students become more complicated, explicit reading instruction diminishes” (Ness, 2007). In fact, one of the most commonly cited reasons given by students who dropped out of high school is that they did not have the necessary literacy skills to successfully complete the requirements. It is estimated that as many as 70% of adolescent students struggle with reading in some manner (Biancarosa & Snow, 2006). However, at the secondary level reading simply cannot be defined as decoding and fluency. Adolescent students are challenged to move beyond the basic literacy skills that are taught in primary grades to more challenging literacy skills required to meet the demands of middle and high school. If American adolescent students will need to master more advanced reading skills, the current focus of American schools must be on improving adolescent reading instruction, not simply on catching up students who are behind. In the absence of literacy instruction throughout the K-12 curriculum, students will not learn to read the sophisticated content-related information that they need to understand in order to make progress in the core subject areas (Heller & Greenleaf, 2007).

Heller and Greenleaf (2007) stated, “Not all literacy skills can be transferred easily from one field to another” (p. 10). With literacy instruction that emphasizes generic reading and comprehension strategies, students may inaccurately perceive that
identical reading strategies are used for all academic disciplines. The academic content areas require specific reading, comprehension and literacy skills that are unique to that particular field. Being literate in a variety of academic content areas requires “skills and knowledge and reasoning processes that are specific to particular disciplines” (Heller & Greanleaf, 2007, p.10).

The Center for Public Education (2009) reported that there are beneficial instructional strategies that would provide guidance and input from teachers to improve reading in middle and high school students. For example, teachers should engage students in content-related readings written on a student’s level in order to increase both content-knowledge and reading comprehension, especially when combined with writing and talking about the academic content. The use of content-relevant and interesting reading materials by content-area teachers increases both reading comprehension and content knowledge (The Center for Public Education, 2009).

Neufield (2005) contended that the combination of hands-on learning and text-based learning in any content area will allow students to learn more than if reading is not a part of the instructional process. Therefore, students must be asked to read content-specific materials and be given the opportunity to engage in writing and discussion about the issues and problems specific to each academic discipline. Neufield (2005) outlined two necessary phases of reading instruction for content-area teachers. Phase one is the explicit instruction of individual strategies necessary in the content. Students need to know how to approach the reading to become competent users of the information presented. This phase has four components: Introduction and Justification, Modeling, Guided Practice, and Independent Practice. Teachers first must introduce the needed
strategies and explain their usefulness. This instruction must be followed by modeling of the strategy in use. Teachers should provide students to practice without consequence and with assistance before asking students to practice independently. Neufield’s phase two is the teaching of self-regulated strategy use. This should be the goal of any educator to have students who can determine which strategy is best for a particular piece of reading and to be able to use it successfully to comprehend the needed information.

Biancarosa and Snow (2006) identified the following instructional approaches as critical elements of effective literacy instruction for adolescents: (a) Direct, explicit comprehension instruction; (b) Instructional principles embedded in content; (c) Motivation and self-directed learning; (d) Text-based collaborative learning; (e) Strategic tutoring; (f) Diverse texts; (g) Intensive writing; (h) Technology component; and (i) Ongoing formative assessment. Teachers must move beyond teaching only basic reading strategies and skills.

Despite the benefits, there are several concerns about the effectiveness of reading instruction when it is taught through the content-areas rather than as a separate skills course. Most importantly, school leaders risk leaving reading skills untaught at the middle school level. Heller and Greenleaf (2007) contended that the teaching of reading must move beyond basic skill instruction that is prevalent at the elementary level. Many efforts and initiatives to teach reading across the content areas have translated in actuality to content-area teachers who did not consider themselves to be reading teachers helping students with learning basic reading comprehension strategies. Teachers in middle and high schools are certified differently than elementary teachers. They tend to see themselves as content specialists who specifically have an expertise in literature, science,
history, etc. While these teachers are likely extremely knowledgeable in their own chosen disciplines, they may be inadequately prepared to provide specific literacy instruction. Heller and Greenleaf (2007) stated, “It is one thing to know how to read and write with expertise, and is something else entirely to develop an acute awareness of the ways in which one reads and writes and makes sense of disciplinary texts, so that one can show students how to do so too” (p. 20). Each academic discipline has what Heller refers to as “hidden literacies” that must be taught explicitly to students (p. 20). Many specialized content-area teachers are ill-prepared to teach these skills to their students. Therefore, when left to their own abilities, the skills are often never taught. Content-area teachers often assume that struggling readers are not able to understand the high-level academic content. Additionally, teachers force students to do basic skill-focused reading exercises or Silent Sustained Reading (SSR) or Drop Everything and Read (DEAR) that do not relate to the content. However, the complexity of texts that students encounter in middle and high school increases in several aspects: relationships, richness, structure, style, vocabulary, and purpose. These are the advanced reading skills that teachers tend to ignore, leaving students struggling to learn these skills on their own.

Draper (2002) examined nine textbooks used in teacher preparation by pre-service secondary teachers seeking certification in mathematics, science and social studies. By noting the frequency in which these texts described methods, activities or need for implementing literacy strategies to help readers make meaning from text, Draper found “limited methods for how content-area teachers might provide that support” (p.383). The author concluded that teacher preparation for secondary teachers provides little
instructional or pedagogical practice specifically aimed at training pre-service teachers in content-area literacy instruction (Draper, 2002).

At the time of Heller and Greenleaf’s report to the Alliance for Excellent Education (2007), there was not one state in the nation that had individual reading standards specific to each content-area. Instead, all reading standards were either generic or relegated to the language arts content. This is a major barrier to teaching reading from the content-area since high-stakes tests do not assess reading skills in the content areas, and therefore do not reward or provide incentive for teachers to take time out of the curriculum to teach specific reading skills.

For school leaders and policymakers, the decisions regarding the best practices for reading instruction and designing effective programs of instruction and improvement are critical to student achievement. Heller and Greenleaf (2007) provide several considerations for school leaders. First, leaders must clearly define the roles and responsibilities of the content area teachers in regard to reading instruction. Additionally, leaders should see to it that every academic discipline defines its own essential literacy skills. Ongoing professional development regarding literacy instruction must be provided, and leaders must provide the appropriate tools for teachers to provide quality reading instruction. The implications extend beyond theory and include decisions regarding class scheduling, graduation requirements, and many procedural processes that must be put in place within districts and school buildings to ensure that students are able to receive adequate reading instruction.

In an examination of professional development in the area of adolescent reading instruction, Dole (as cited in Sweet & Snow, 2003) criticized professional development
workshops that did not require teachers to examine their own instructional practices. The author contends that teachers too often passively receive information and training that is never implemented into practice. Therefore, he asserts that job-embedded professional learning in which teachers learn how to teach adolescent reading strategies are most meaningful for improving student literacy when they are followed-up with on-going, meaningful, site-based coaching combined with monitoring of implementation. In his study, Dole (as cited in Sweet & Snow, 2003) recommended five guidelines for effective professional development in the area of adolescent literacy.

1. Design long-term professional development to support and assist teachers with implementation.

2. Ensure active involvement of teachers in professional development through observations, study groups and individual choice.

3. Provide teachers with theoretical background of reading pedagogy to build teachers’ own understanding, increase motivation, and decrease the divide between theory and practice.

4. Place concentrated efforts on the skills students need to know to become successful readers who comprehend the material presented.

5. Create opportunities for teachers to observe reading strategies in action, and provide teachers with feedback on their own instruction.

Ness (2007) contends that in order to improve reading in secondary classrooms, explicit professional development that shows the instructional value of literacy instruction should be in place. Middle and high school teachers and administrators must not ignore the responsibility of preparing students for the academic demands that they
face. For school leaders, improving professional development, encouraging reflective school cultures, and increasing collaborative efforts among teachers and other local experts can significantly increase reading achievement in students.

Statement of Purpose

The purpose of this study was to investigate the overall effectiveness of two models of middle school reading instruction: reading through content-area instruction and reading instruction as a core class. Effectiveness was measured by individual mean scores of middle school students on a state criterion-referenced test. Two cohorts of students were compared over a period of two years: students who participated in reading instruction as a core content class versus students who participated in reading instruction through content-area reading instruction in math, social studies, science and/or language arts. The study sought to determine if there is a difference in reading scores between students based upon the model of reading instruction implemented in the middle schools as measured by scores on the state test. These research results may inform better practice on the part of school leaders.

Research Questions

The following research questions guided the study:

1. Is there an impact of reading instructional program on student scores in reading?

2. If the reading intervention impacts reading scores, what is the impact of the reading intervention on other subjects?
Rationale/Significance of the Study

With the changes in the curriculum from Quality Core Curriculum to State Performance Standards, middle school principals were faced with the dilemma of how to implement the Reading Across the Curriculum standards. In one large metropolitan school district, individual principals handled the changes in reading instruction differently. Many followed the state example and moved reading out of the core content area and asked content area teachers in math, language arts, science and social studies to teach the reading standards through their content areas. Some principals, however, felt strongly that reading needed to be taught and found creative ways to continue reading instruction through a core content class. In order to satisfy the State curriculum standards, this course may have been renamed Language Arts 2 or Seminar.

Several years into the implementation of the middle school State Performance Standards in Reading, inquiry became possible in order to determine how successful the curriculum reform had been toward improving student achievement in reading for middle school students. The study provided data to help determine if reading proficiency as measured by the state’s Criterion-Referenced Competency Tests (CRCT) had been positively or negatively impacted by the implementation of Reading Across the Curriculum and subsequent elimination of the core content reading class. It is especially important for school leaders to read the research findings, collect data and analyze data in order to make informed decisions regarding all curricular matters and facets of school management and improvement. This study allows for principals to make informed programmatic decisions to determine whether to continue with content-area reading instruction or whether there could be a need for a decision to re-introduce the core class at his or her individual school.
Assumptions

The following assumptions guided the development of this research:

1. CRCT tests adequately measure student performance in reading.
2. All seventh grade students at both schools will be invited to participate in the study. Participant selection bias is not a factor other than that parents must elect to allow their students’ scores to be considered in the study.
3. Because the study covers the same period of time for students at both schools and these students take the same test, threats to validity, such as maturation, instrumentation, pre-testing, history and regression, should not threaten validity.

Limitations/Delimitations

The following limitations/delimitations were accepted for this study:

1. The study was limited to seventh grade students from two schools in one metro-area school district.
2. Academic performance was limited to student performance on the state CRCT test.
3. Scores considered in the study were limited to only those where permission to participate was granted by the parent.
4. As is the case in all studies in the field of education, changes are made so quickly, it is difficult to obtain a sample that received the same treatment for three consecutive years, as required by the design of this study. In order to accomplish this, the intervention A school, where the core reading course was in place, was in the first years of re-implementation of this delivery model.
5. Teachers in the study, though following the same curriculum, have diverse teaching styles. Even with comparable training, classroom teachers each have a unique style of delivery. Therefore, reading achievement gains may be attributed to the practices of individual teachers.

6. The two schools used in this study were of relatively similar socio-economic (SES) status to district averages, the schools are part of a high performing school district. Furthermore, though all students from both schools (special education, gifted, migrant, ESOL, etc.) were invited to participate, it is likely that students whose parents value education were more likely to return the informed consent to participate.

Definitions
The following terms were defined as they are related to the study: Adequate Yearly Progress, No Child Left Behind, and CRCT.

1. Adequate Yearly Progress (AYP). The No Child Left Behind Act of 2002 requires that all children be assessed yearly in order to show adequate yearly progress in reading and mathematics. Schools must test a minimum of 95% of the various subgroups of children. Student subgroups are (a) the School as a Whole; (b) White; (c) Black; (d) Hispanic; (e) Native American; (f) Asian/Pacific Islander; (g) Multiracial; (h) Economically Disadvantaged Students; (i) Limited English Proficient Students; and (j) Students With Disabilities. States must provide reasonable accommodations for students with disabilities or limited English proficiency (Sunderman, 2008).
2. **No Child Left Behind Act (NCLB).** The Elementary and Secondary Education Act (ESEA), first enacted in 1965, on the foundational principle of providing educational opportunities to disadvantaged youth has remained strong. The No Child Left Behind Act of 2001 (NCLB), a major reform of the ESEA, was passed by congress and signed into law on January 8, 2002. NCLB redefines the federal role in K-12 education and was created with the intention to help close the achievement gap between disadvantaged and minority students and their peers (Sunderman, 2008).

3. **Criterion Referenced Competency Test (CRCT).** A test in which the results can be used to determine a student's progress toward mastery in a specific content area. Student performance is compared to an expected level of mastery in a content area. The criterion is the standard of performance established as the passing score for the test. In the state where this study is conducted, a passing score, or a *meets standards* score is 800 or higher. A score of 850 or higher is an *exceeds standards* score. Scores have meaning in terms of what the student knows or can do rather than how the test-taker compares to a reference or norm group. Criterion-referenced tests can have norms, but comparison to a norm is not the purpose of the assessment (Georgia Department of Education, 2010).

4. **Reading as a core course.** Core curricular courses at the middle school level are the subjects that a student takes, and they include language arts, social studies, science and mathematics. Reading, then, is not traditionally considered a subject. Reading skills are essential for students to learn, but
generally middle school students should know how to read before beginning sixth grade. However, when offered as a core course, students take a separate reading class in addition to the other four core subjects in which specific reading skills are practiced and improved upon in order to have an impact on achievement in all other academic subjects.

5. Content-area reading instruction. This refers to content-specific reading skills being taught in the individual subject-area classrooms of language arts, social studies, science and mathematics. In this setting, skills essential to reading science textbook, charts, graphs, etc. are taught in the science classroom by the science teacher while reading skills that are specific and essential to social studies such as map skills are taught by the social studies teacher. Each subject area, or content-area, specifically instructs students in the hidden literacies essential to comprehending and communicating in that particular content-area.

Summary and Organization of the Study

This study provides five chapters. Chapter I gives a general overview and introduction to the study and includes background, theoretical foundations, problem statement, statement of purpose, research questions, rationale and significance, assumptions, limitations and delimitations, definition of terms, and organization of the study. Chapter II includes a review of literature relevant to middle school reading instruction, including theoretical foundations, the context and challenges of middle school reading education, and implications for school leaders. Chapter III describes the research methodology and explains the design used to carry out the study. Chapter IV
presents the findings of the research through an analysis of data and a summary of key findings. Finally, Chapter V presents a summary of the study, conclusions, implications for practice, and recommendations for future study.
CHAPTER II

REVIEW OF LITERATURE

Introduction

The purpose of this study was to investigate the overall effectiveness of two models of middle school reading instruction: reading through content-area instruction and reading instruction as a core class. Effectiveness was measured by individual mean scores of middle school students on a state criterion-referenced test. Two cohorts of students were compared over a period of three years: students who participated in reading instruction as a core content class versus students who participated in reading instruction through content-area reading instruction in math, social studies, science and/or language arts. The study was intended to determine if there was a difference in reading scores between students based upon the model of reading instruction implemented in the middle schools as measured by scores on the state test as compared to other subjects. These results may inform better practice on the part of school leaders.

This chapter reviews literature on middle school reading education and the impact of the instructional delivery methods on student achievement. Several major areas of relevant literature are presented. First, the theoretical foundations as they are related to reading instruction are reviewed. Second, the context of middle and secondary reading education and the challenges faced by the adolescent students will establish the importance for research in this area. Third, a review of literature regarding reading instructional strategies and best practices is presented. A review of the literature regarding content-area reading instruction including the beliefs, benefits and obstacles to implementation is also included. Finally, literature is presented about the implications for
Opposing Perspectives on Reading Instruction

Integrated Reading Instruction in the Content-Areas

There is a clear rationale for integrating reading instruction at the middle school level into the content areas rather than as a stand-alone skills class. The academic content areas require specific reading, comprehension and literacy skills that are unique to that particular field. These characteristics are not often conveyed to students in a class where the emphasis is on generic reading and comprehension strategies where students may inaccurately perceive that identical reading strategies are used for all academic disciplines. This fosters an ongoing assumption in students that all texts are the same and can be comprehended using the same generic strategies. Content experts understand and are able to explain the unique language of that particular field. Exposure to sophisticated reading materials and primary sources in the individual content areas is extremely beneficial for students and becomes a major component for success beyond middle and high school (Heller & Greenleaf, 2007).

The Center for Public Education (2009) reports that there are beneficial instructional strategies that would provide guidance and input to students from their content-area teachers to improve reading in middle and high school students. For example, teachers who engage students in content-related readings written on a student’s level help to increase both content-knowledge and reading comprehension, especially when combined with writing and talking about the academic content. The use of
content-relevant and interesting reading materials by content-area teachers increases both reading comprehension and content knowledge.

Neufield (2005) contends that the combination of hands-on learning and text-based learning in any content area will allow students to learn more than if reading is not a part of the instructional process. Therefore, students benefit when they are asked to read content-specific materials and then are given the opportunity to engage in writing and discussion about the issues and problems specific to each academic discipline. Neufield outlines two phases of reading instruction for content-area teachers. The first phase is the explicit instruction of the individual strategies necessary in the content where students learn how to approach the reading to become competent users of the information presented. This phase has four components: Introduction and Justification, Modeling, Guided Practice and Independent Practice. Teachers first introduce the needed strategies and explain their usefulness. This instruction is then followed by modeling of the strategy in use. Next, teachers provide students with opportunities to practice without consequence and with assistance before asking students to practice independently. Neufield’s second phase is the teaching of self-regulated strategy use, which is the goal of any educator. When students are in phase two, they are able to determine which strategy is best for a particular piece of reading and are able to use it successfully to comprehend the needed information.

Biancarosa and Snow (2006) identified the following instructional approaches as critical elements of effective literacy instruction for adolescents: (a) Direct, explicit comprehension instruction; (b) Instructional principles embedded in content; (c) Motivation and self-directed learning; (d) Text-based collaborative learning;
(e) Strategic tutoring; (f) Diverse texts; (g) Intensive writing; (h) Technology component; and (i) Ongoing formative assessment. By using these approaches, teachers move beyond teaching only basic reading strategies and skills.

*Explicit Reading Instruction through Reading Courses*

Despite the benefits of content-area reading instruction, there are several concerns about the effectiveness of reading instruction when it is taught by content-area teachers rather than as a separate skills course. Most importantly, school leaders risk leaving reading skills untaught at the middle school level. Heller and Greenleaf (2007) contend that the teaching of reading must move beyond basic skill instruction that is prevalent at the elementary level. Many efforts and initiatives to teach reading across the content areas have translated in actuality to content-area teachers who did not consider themselves to be reading teachers helping students with learning basic reading comprehension strategies. Teachers in middle and high schools are certified differently than elementary teachers. They tend to see themselves as content specialists who specifically have an expertise in literature, science, history, etc. While these teachers are likely extremely knowledgeable in their own chosen disciplines, they may be inadequately prepared to provide specific literacy instruction. Heller (2007) states, “It is one thing to know how to read and write with expertise, and is something else entirely to develop an acute awareness of the ways in which one reads and writes and makes sense of disciplinary texts, so that one can show students how to do so too” (p. 20). Each academic discipline has what Heller refers to as “hidden literacies” that must be taught explicitly to students (p. 20). Many specialized content-area teachers are ill-prepared to
teach these skills to their students. Therefore, when left to their own abilities, the skills are often never taught.

Draper (2002) examined nine textbooks used in teacher preparation by pre-service secondary teachers seeking certification in mathematics, science and social studies. By noting the frequency in which these texts described methods, activities or need for implementing literacy strategies to help readers make meaning from text, Draper found “limited methods for how content-area teachers might provide that support” (p.383). The author concluded that teacher preparation for secondary teachers provides little instructional or pedagogical practice specifically aimed at training pre-service teachers in content-area literacy instruction.

Content-area teachers often assume that struggling readers are not able to understand the high-level academic content (Center for Public Education, 2009). Additionally, teachers in misguided efforts to improve students’ reading abilities force students to do basic skill-focused reading exercises, *Silent Sustained Reading* (SSR) or *Drop Everything and Read* (DEAR), which do not relate to the content. However, the complexity of texts that students encounter in middle and high school increases in several aspects: relationships, richness, structure, style, vocabulary and purpose. These are the advanced reading skills that teachers tend to ignore, leaving students struggling to learn these skills on their own (Heller & Greenleaf, 2007).

**Underlying Challenges of Adolescent Literacy Instruction**

Students must be able to read and comprehend their textbooks in order to learn in each content area. However, “as the academic demands on our secondary students become more complicated, explicit reading instruction diminishes” (Ness, 2007). In fact,
one of the most commonly cited reasons given by students who dropped out of high school is that they did not have the necessary literacy skills to successfully complete the requirements. It is estimated that as many as 70 percent of adolescent students struggle with reading in some manner (Biancarosa & Snow, 2006). However, at the secondary level reading cannot simply be defined as decoding and fluency. Adolescent students are challenged to move beyond the basic literacy skills that are taught in primary grades to more challenging literacy skills required to meet the demands of middle and high school. If American adolescent students will need to master more advanced reading skills, the current focus of American schools must be on improving adolescent reading instruction, not simply on catching up students who are behind. In the absence of literacy instruction throughout the K-12 curriculum, students will not learn to read the sophisticated content-related information that they need to understand in order to make progress in the core subject areas (Heller & Greenleaf, 2007).

Because there is no subject of greater importance for a student’s academic success than reading, a student’s reading ability is at the root of all other learning. According to Heidi Hayes Jacobs (2006), an individual student’s ability to perform in a classroom rests significantly on his or her corresponding ability to read, understand and interact with text. Jacobs states that, “every standardized test, whether it is state or national, is first and foremost a reading test” (p. 3). Students cannot perform well on tests when they cannot read and understand the test questions. This is further complicated by the specific vocabulary and terminology of the individual content areas. In Jacobs’s view, falling test scores should not be surprising to educators as a reflection of students’ reading aptitude. Though political and educational agendas have pushed for decades for improvement in
student achievement, approximately four million middle school students were reading below grade-level in the United States in 1998. (Donahue, Voelkl, Campbell, & Mazzeo, 1999). According to Alvermann & Moore (as cited in Kamil, Barr, Mosenthal, & Pearson, 2000), in the 1970s and 1980s, literacy and reading studies focused primarily on understanding the cognitive processes of learners and on teachers’ instructional approaches in the classroom. Biancarosa and Snow (2006), report that there has been an increased focus in the last decade to increase student achievement in reading. This is reflected in a number of initiatives, including No Child Left Behind legislation, which requires that all students be proficient in reading as measured by annual required assessments.

Historically, the majority of attention in the reform movement has been placed at the elementary level where students are learning to read and are learning fundamental reading skills. The earlier studies of the 1970s and 1980s provided valuable insight into young students’ comprehension and reading skills acquisition (Hinchman & Moje, 1998). Therefore, students’ reading abilities in early childhood, kindergarten through third grade, is the primary focus of education policies. In fact, the No Child Left Behind Act (U.S. Department of Education, 2001) places great focus on early reading instruction, prevention and early intervention. Largely, the educational system recognizes the window of opportunity from ages three to seven (Jacobs, 2006) where primary grades teachers are under great pressure in their attempts to capitalize on students’ interest in word play and their eagerness to learn to read.

This focus on early literacy may have served to detract attention from adolescent literacy and to assist in perpetuating the problem (Conley & Hinchman, 2004). With
little attention historically being given to reading instruction for adolescents, “Reading instruction is viewed as an elementary school concern, rather than a proper curriculum direction for middle and high school educators” (Block & Pressley, 2002, p. 389). By the time students reach the upper elementary and secondary grades, teachers expect students to bring home reading material in order to read and complete activities as homework. Beginning in fourth grade, reading instruction becomes of lesser importance to content-area instruction (Chall, 1983). In sixth grade, when students enter middle school, students are expected to be able to utilize higher order reading skills to comprehend the content of their textbooks and other instructional materials (Sturtevant, 1996). Jacobs (2006) asserts, “Middle and high school teachers often deal with more than a hundred students in a day, and they base their assignments on the assumption that the students can read and react to the text” (p. 4). In its 2006 report, the Alliance for Excellent Education (Biancarosa & Snow, 2006) explained that the demands on the literacy skills of adolescent readers are increasingly more challenging due to the more sophisticated vocabulary, content-driven text, and higher-order thinking skills necessary for comprehension. The report begins by defining the required skills necessary for today’s adolescent readers.

How to read purposefully, select materials that are of interest, learn from those materials, figure out the meanings of unfamiliar words, integrate new information with information previously known, resolve conflicting content in different texts, differentiate fact from opinion, and recognize the perspective of the writer (p. 1). Without these skills and strategies in place, even those students who excelled in reading in their early childhood years could be at risk of failure if the teaching of reading is
neglected in the middle and secondary grades (Biancarosa & Snow, 2006). As a result, the increased attention given to improvement in adolescent reading achievement has fueled more recent research efforts focused more specifically on adolescent learners, texts, performance tasks and context for learning (Alvermann & Moore, 1991; Alvermann & Strickland, 2004; Biancarosa & Snow, 2006; Heller & Greenleaf, 2007).

Current Reading Performance of America’s Students

According to data from the most recent 2009 administration of the National Assessment of Educational Progress (NAEP), which is also known as the Nation’s Report Card, only 32% of America’s eighth graders performed at or above proficient in the area of reading, and only 3% scored at the advanced level, while 25% of America’s eighth graders performed below basic reading proficiency levels (NAEP, 2009). The scores of these students have remained stagnant for the last three decades. In fact, “average scores for thirteen-year-old students (eighth graders) rose only eight points between 1971 and 2007” (Lee, Grigg, & Donahue, 2007, p. 26). Students who score below the proficient level have attained only “partial mastery” of expected reading achievement (Loomis & Bourque, 2001, p. 2). According to Biancarosa and Snow (2006), the results of the NAEP scores can be interpreted to show that 68% of students entering ninth grade in 2010 are reading below grade level. Therefore, little to no improvement has been made since DeLeon (2002) reported that nearly half of America’s students entering ninth grade are reading several years below grade level.

When adolescent students are not able to read and understand information from a textbook, their struggle is often due to basic skill deficits in phonemic awareness, phonics, fluency, vocabulary and comprehension. With specific instruction, these skills
can be improved in middle school students (Alley, Deshler, Clark, Schumaker, & Warner, 1983.) However, an underlying assumption due to the departmental nature of middle school instruction is that the student’s lack of language capacity is his English teacher’s problem (Jacobs, 2006). Jacobs asserts that content-area teachers are not adequately prepared to be literacy teachers. “Despite the fact that reading and writing in the content areas is the bedrock of academic success, it is difficult to locate a university that prepares teachers adequately in reading, writing, speaking, and listening in the content areas” (p. 9). The author further explains that teachers are prepared to teach their individual fields. For example, a math teacher’s preparation helps him or her to teach math but ignores the necessary literacy components of the content area. Therefore, secondary teachers who have specialized expertise in their own individual fields of education are not prepared to teach and assess these reading skills in students.

To compound the problem, numerous studies indicate that as students enter middle grades, they become increasingly less interested in reading (Ley, Schaer, & Dismukes, 1994; McKenna, Kear, & Ellsworth, 1995; Alvermann & Strickland, 2004). Those students who are already struggling in reading develop increasingly more negative attitudes toward reading and school than their average and above-average reading peers (Alvermann & Strickland, 2004; McKenna et al., 1995). These students are increasingly at risk of dropping out of high school (Binacarosa & Snow, 2006). Woods (1998) stated, “Students at risk for educational failure are typically students who are struggling readers…who are often unable to undertake even the simplest course assignment because the textbooks they are required to read are too difficult for them” (p. 67).
Additional attention must also be given to secondary reading education due to the increasing demands of society. If a student is not able to read by the eighth grade, the chance of that student dropping out of high school increases considerably. Biancarosa and Snow (2006) report, “Students who enter ninth grade in the lowest 25 percent of their class are twenty times more likely to drop out than the highest-performing students” (p.7). This is especially problematic because substantially less opportunity is available to students who do not hold a high school diploma. In 1950, students had the necessary skills to make a comfortable living even without a high school diploma. This is no longer true in our modern society. There are now fewer opportunities for high school dropouts to “achieve a comparable way of life; jobs, welfare, and social safety nets will no longer be available as they once were” (Biancarosa & Snow, 2006, p.1). In fact, without a high school diploma, students are not even able to enter into military service. Increasingly less opportunity will be available to students in the future without a college degree or certification of some sort after high school.

Leu, Kinzer, Coiro and Cammack’s study (as cited in Ruddell & Unrau, 2004) state, “the essence of both reading and reading instruction is change” (p.1). By definition, students who are literate are no longer simply those who are able to read and decode text. Instead, the definition of literacy has evolved into a more comprehensive and changing meaning which reflects the continual changes and growth in our society. Therefore, according to Leu (as cited in Farstrup & Samuels, 2002), the definition must now also include literacy in information and communication technologies as the literacy demands have increased with the improving technological capabilities of our society. Reading and literacy, which are critical to success in society, become even more
important skills for American students to master, which must also force attention to improvement in these areas to the forefront of critical areas for improvement within the educational system. This has led in recent years to systematic improvements and revisions in the curricular expectations and demands on students and teachers (Biancarosa & Snow, 2006).

Theoretical Frameworks for Reading Instruction

In looking at the relevant research in adolescent reading, one cannot ignore the underlying developmental and predominant educational theories that contribute to learning. One predominant theory relevant in reading instruction is the Social Development Theory of Lev Vygotsky discussed in his work, *Thought and Language* (1986). Rather than viewing education as a transmission of information to students from a teacher or lecturer, Vygotsky’s theory presents learning as an active process in which students play an active role while the teacher serves as a facilitator or guide, gradually releasing control as students gain more knowledge and ability, until students are able to be independent and autonomous learners. The roles of the teacher and student are eventually shifted as the teacher helps to facilitate the construction of meaning in students.

The work of Vygotsky is especially relevant and applicable as students must grow to become independent learners who are able to see learning as an active process. The public educational system in the United States was originally created for the purpose of creating human capital. Reading proficiency, then, has a life-long impact. Biancarosa and Snow (2006) indicate in their study that strong readers are more likely to participate in the democratic process, vote in elections, maintain employment and be productive
citizens. Not possessing the necessary literacy skills is among the most commonly reasons given by students who drop out of high school. For these reasons, effective reading instruction in the middle school is a critical component for future academic and personal success (Ness, 2007).

According to the National Reading Panel report (NRP, 2000), there are five essential areas of early reading essential for early reading instruction, and each contributes to the reading process:

1. Phonemic awareness – an auditory process that involves hearing sounds that make up words. Skills in this area include rhyming, blending sounds together to make words, and segmenting words into separate sounds.

2. Phonics – recognizing that sounds link to letters and that those letters are combined to make words. To read and spell words, readers use their knowledge of the alphabetic principle to identify patterns of letters that represent specific sounds.

3. Fluency – reading effortlessly and automatically, recognizing individual words by sight. Fluent reading sounds natural as if the reader is speaking casually.

4. Vocabulary – understanding and using words in listening, speaking, reading and writing.

5. Comprehension – the purpose of reading. Involves complex cognitive processes that enable the reader to gain meaning from text and to repair misunderstandings when they occur.
The National Reading Panel (2000) also provides instructional recommendations for older readers, which differ only slightly from those for younger readers. They can be organized into five general areas: word study, fluency, vocabulary, comprehension and motivation. Two additional areas for instruction were identified in another research study for the Center on Instruction: content knowledge and higher-level reasoning and thinking skills (Torgesen, Houston, Rissman, Decker, Roberts, Vaughn, Wexler, Francis, Rivera, Lesaux, 2007; Boardman, Roberts, Vaughn, Wexler, Murray, 2008).

Two components are not included in this list: phonemic awareness and phonics. Middle school students require instruction that will assist them in the more advanced academic demands. Therefore, the literacy skills and knowledge obtained and practiced in the primary years (e.g., decoding, fluency, vocabulary and comprehension) are necessary for adolescents, but they are not sufficient to meet the increasing literacy demands of older students (Conley & Hinchman, 2004). Adolescent readers cannot simply be taught a repetition of the same skills taught at the elementary level but require instruction to assist them in reaching more advanced stages of literacy in order read and learn at a deeper level (Conley & Hinchman, 2004; Moore, Bean, Birdyshaw, & Rycik, 1999). For most older readers, instruction in advanced word study, or decoding multisyllabic words, is a better use of time than instruction in the more foundational reading skills, such as decoding single-syllable words, which many older readers have accomplished. Of course, older readers may also possess a range of knowledge and skills, and there may be older readers who would profit from instruction in the more foundational skills.
The adolescent reader, then, must build upon the foundation of basic reading skills in order to increase reading skills to become more efficient. Torgenson et. al (2007) stress the importance of increasing reading skills in order to maintain an appropriate level of reading proficiency as students move from elementary to middle school and beyond. “If they do not acquire the new skills specific to reading after the initial period of learning to read, they will not leave high school as proficient readers” (p. 4). The following table outlines the characteristics of successful and struggling readers in the NRP’s five areas of recommended instructional attention.

Table 1

Comparison of Successful and Struggling Readers

<table>
<thead>
<tr>
<th>Successful Readers</th>
<th>Struggling Readers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Word Study</strong></td>
<td></td>
</tr>
<tr>
<td>• Read multisyllabic words and use strategies to figure out unknown words.</td>
<td>• Read single-syllable words easily but have difficulty decoding longer multisyllabic words.</td>
</tr>
<tr>
<td>• Make connections between letter patterns and sounds and use this understanding to read words.</td>
<td>• Lack knowledge of how sounds map to print.</td>
</tr>
<tr>
<td>• Break unknown words into syllables while reading.</td>
<td>• Have difficulty breaking words into syllables.</td>
</tr>
<tr>
<td>• Use word analysis strategies to break words into meaningful parts (prefixes, suffixes, and roots.)</td>
<td>• Often do not use word analysis strategies to break words into syllables.</td>
</tr>
</tbody>
</table>
Table 1 (continued)

<table>
<thead>
<tr>
<th>Successful Readers</th>
<th>Struggling Readers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluency</strong></td>
<td></td>
</tr>
<tr>
<td>• Read 100-160 words per minute (at middle school level), depending on nature and difficulty of the text.</td>
<td>• Read slowly and laboriously.</td>
</tr>
<tr>
<td>• Decode words accurately/ automatically.</td>
<td>• Struggle with decoding or decode slowly.</td>
</tr>
<tr>
<td>• Group words in meaningful chunks and phrases.</td>
<td>• Do not pause at punctuation or recognize phrases.</td>
</tr>
<tr>
<td>• Read with expression.</td>
<td>• Lack voice or emotion while reading.</td>
</tr>
<tr>
<td>• Combine multiple tasks while reading (decoding, phrasing, understanding, and interpreting).</td>
<td>• Lacks proficiency in individual skills that result in dysfluent reading and limit comprehension.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vocabulary</strong></td>
<td></td>
</tr>
<tr>
<td>• Are exposed to variety of words in conversations and in print from early age.</td>
<td>• Have limited exposure to new words.</td>
</tr>
<tr>
<td>• Have word consciousness.</td>
<td>• Do not enjoy reading or choose to read.</td>
</tr>
<tr>
<td>• Understand most words they are reading (at least 90%) and make sense of unknown words to build their vocabulary knowledge.</td>
<td>• Lack consciousness of complex and varied nature of words in written/oral language.</td>
</tr>
<tr>
<td>• Learn new words with multiple exposures that helps to understand words in context</td>
<td>• Do not comprehend text to learn new words</td>
</tr>
<tr>
<td>• Have content-specific prior knowledge</td>
<td>• Lack variety of experiences and exposures needed to gain understanding of new words.</td>
</tr>
<tr>
<td></td>
<td>• Have limited content-specific prior knowledge to support word learning.</td>
</tr>
</tbody>
</table>
### Table 1 (continued)

<table>
<thead>
<tr>
<th>Successful Readers</th>
<th>Struggling Readers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comprehension</strong></td>
<td><strong>Struggling Readers</strong></td>
</tr>
<tr>
<td>• Monitor reading for understanding.</td>
<td>• Do not use metacognition as they read.</td>
</tr>
<tr>
<td>Consider the writing from the author’s view, interacting with text during and after reading.</td>
<td>• Not aware when not understanding text</td>
</tr>
<tr>
<td>• Link content with prior knowledge.</td>
<td>• Do not interact with text during or after reading.</td>
</tr>
<tr>
<td>• Use a variety of effective reading strategies before, during, and after reading.</td>
<td>• Lack subject-specific prior knowledge.</td>
</tr>
<tr>
<td>• Set a purpose for reading and adjust their rate and strategy use depending on the text and content.</td>
<td>• Do not make connections to knowledge.</td>
</tr>
<tr>
<td><strong>Motivation</strong></td>
<td><strong>Struggling Readers</strong></td>
</tr>
<tr>
<td>• Interact with text in a motivated and strategic way.</td>
<td>• Engage in reading without activating prior knowledge, using strategies, or employing other thought processes.</td>
</tr>
<tr>
<td>• Improve comprehension when engaged with text.</td>
<td>• Prefer not to read.</td>
</tr>
<tr>
<td>• Read more and thus have more access to a variety of topics and text types.</td>
<td>• Not interested in or curious about exploring topics through reading.</td>
</tr>
<tr>
<td>• Are interested /curious about topics and content in texts and read to find out more.</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Adapted from Bhattacharya & Ehri, 2004; Nagy, Berninger, & Abbott, 2006; Boardman et al., 2008.
Word Study

Because the range of vocabulary in text increases substantially after third grade (Anderson & Nagy, 1992), adolescents who have difficulty reading at the word level can benefit from vocabulary expansion through word study (Boardman et al., 2008). Word study encompasses the instructional practices that focus on reading at the word level since proficiency in decoding is a requisite skills for students to read fluently (Scammacca, Roberts, Vaughn, Edmonds, Wexler, Reutebuch, & Torgesen, 2007). In practice, advanced word study instructs students on strategies to enable the decoding and comprehension of words through analysis of structure or semantic patterns (Boardman et al., 2008).

Through word study, students can learn to effectively understand the cues of context in a sentence, letter patterns and the structural features of text, and to use word parts such as prefixes and suffixes, inflectional endings and roots (Torgesen et al., 2007). According to Boardman et al. (2008), there are six recommended instructional practices for teachers when conducting word study:

1. Teach students to identify and break words into syllable types;
2. Teach students when and how to read multisyllabic words by blending the parts together;
3. Teach students to recognize irregular words that do not follow predictable patterns;
4. Teach students the meanings of common prefixes, suffixes, inflectional endings, and roots;
5. Teach students how to break words into parts and to combine word parts to create words based on their roots, bases, or other features; and

6. Teach students how and when to use structural analysis to decode unknown words.

**Fluency**

“Reading fluency refers to a level of accuracy and rate, where decoding is relatively effortless; where oral reading is smooth and accurate with correct prosody; and where attention can be allocated to comprehension” (Wolf and Katzir-Cohen, 2001, p. 219). Good readers must be fluent readers. Because fluent readers can quickly identify words by sight, the effort of decoding words can then be placed on understanding what is being read (Boardman et al., 2008).

Two instructional practices have been widely associated with improving reading fluency: repeated reading of the same passages and non-repetitive reading practice on a wide variety of topics (Homan, Klesius, & Hite, 1993: Rashotte & Torgesen, 1985; Samuels, 1979). In addition, Boardman (2008) offers three teacher practices that she asserts should be standard in reading instruction:

1. Tracking students’ gains and providing frequent feedback to students;

2. Supportive practice where a teacher, tutor, or peer model and provide corrective feedback; and

3. Involvement of students in monitoring their own progress toward fluency goals.

**Vocabulary**
A knowledge of word meanings strongly contributes to reading comprehension and overall academic success (NRP, 2000). Students who have a strong vocabulary also understand that words can have multiple meanings, subtleties, connotations and denotations (Boardman et al., 2008). According to Hirsch (2003), the average 12th grader knows about 80,000 words. These words are learned through reading but also through individual experiences and conversations throughout a student’s lifetime. Therefore, the quality of a student’s experiences and exposure to words affects a student’s overall vocabulary. Poor readers who read less will also be exposed to fewer words in print. Many struggling readers then do not gain enough useful vocabulary knowledge as they develop. Stanovich (1986) named this cycle the Matthew Effect – a phenomenon where educated families create more educated and word-conscious students while less-educated families continue in a repeating lack of quality exposure which contributes to poor vocabulary and reading ability.

Improved vocabulary knowledge (Boardman et al., 2008; Beck, McKeown, & Kucan, 2002; Cunningham & Stanovich, 1991) can result from explicit vocabulary instruction of specific important and useful words (additive vocabulary instruction), instruction on strategies for using existing knowledge of word parts and context clues (generative vocabulary instruction), and instruction on academic and content-related vocabulary specific to educational concepts (academic vocabulary instruction).

Comprehension

All aspects of reading culminate in the reader’s understanding of the text. Successful readers monitor their understanding with comprehension strategies. Knowing
how and when to apply the appropriate comprehension strategies – before reading, during reading and after reading – is a necessary skill in adolescent readers who need to understand texts of increasing levels of difficulty (Biancarosa & Snow, 2006). These strategies allow the reader to identify and repair misunderstandings when they occur.

The National Reading Panel (2000) recommends that teachers explicitly teach the following reading strategies for before reading, during reading and after reading and also provide students with opportunities to benefit from practicing the strategies in order to increase comprehension for adolescent readers.

1. **Before reading strategies**: teachers and students should activate prior knowledge to create a context for reading;
2. **During reading strategies**: use graphic organizers, use comprehension monitoring strategies such as noting confusing or difficult words, stopping after a paragraph to mentally summarize, asking questions while reading;
3. **After reading strategies**: use summarization skills and ask and answer questions about the text to check for understanding.

**Motivation**

Students who enjoy reading will read more than struggling readers who lack the motivation to read. Alvermann & Strickland (2004) state, “The frequency of reading itself relates strongly to children’s achievement in reading” (p. 61). Guthrie and Humenick (as cited in McCardle & Chabra, 2004) stated, “Motivated students usually want to understand text content fully and therefore, process information deeply” (p. 403). These students will have more opportunity to utilize effective reading strategies, learn
vocabulary, increase fluency and improve overall reading ability (Kamil, et.al, 2000; Eccles & Wigfield, 2002; Alvermann & Strickland, 2004). There is a decline in motivation and interest in reading after the early elementary grades, which is especially prevalent for readers who struggled in learning to read. Students’ motivation often declines as they move through school, “with the declines becoming especially marked across the transition to middle school. Their intrinsic motivation for learning in general, and for reading in particular, often decreases” (Alvermann & Strickland, 2004, p. 61). Therefore, educators must incorporate a number of strategies aimed at enhancing adolescents’ motivation and engagement in reading in order to improve literacy among adolescents (Torgesen et al., 2007).

Guthrie and Humenick (2004) provided four instructional characteristics to improve students’ motivation to read:

1. Providing content goals for reading;
2. Supporting student autonomy;
3. Providing interesting texts; and
4. Increasing social interactions among students related to reading.

Content Knowledge

A student’s comprehension of text is improved by knowledge related to the content (Hirsch, 2006). As content-area teachers increase students’ knowledge within each subject area, this simultaneously increases students’ reading comprehension ability (Torgesen et al., 2007).

High-Level Thinking and Reasoning Skills
The prevalence of state-level accountability tests as a measure of progress increases the demand for students to engage in higher-level thinking and reasoning skills. The complexities of the curriculum and standards for what students must know increasingly require students to be able to read, comprehend, make inferences, draw conclusions, and engage in critical thinking and reasoning (Pressley as cited in Kamil et al., 2000; Jacobs, 2006).

In 2000, the National Reading Panel (NRP) conducted a review of the research on 203 studies of effective reading comprehension instruction (Kamil, 2000). The members of the panel reported seven types of comprehension strategies show evidence of effectiveness in adolescent students in grades 3-8, and the panel suggests them as effective ways of teaching comprehension in the middle grades:

1. Comprehension monitoring – students knowing when their understanding breaks down and being able to apply a strategy to resolve the problem (e.g., rereading, reasoning the matter through, and using cues from the sentence/paragraph’s organizational structure);
2. Cooperative learning – participating in problem-solving activities or sharing ideas with peers;
3. Using graphic and semantic organizers (including story maps) – organizing information by visually representing ideas;
4. Answering questions – responding and receiving feedback to teachers’ questions;
5. Generating questions – self-questioning in order to monitor and understand texts;

6. Using text structure – understanding how writers organize information to assist readers in learning and understanding; and

7. Summarizing – restating and being able to generalize information across texts.

In addition to these instructional techniques, Biancarosa and Snow (2006) argue that effective literacy instruction for adolescents must include explicit and direct instruction in cognitive strategies (e.g. activating prior knowledge, inferencing) and comprehension with a gradual exchange of responsibility from the teacher to the student. These strategies to improve overall reading achievement will build upon and increase the reading skills that are taught at the elementary level.

However, Heller and Greanleaf (2007) argue that with the teaching of these generic strategies alone, students will not achieve the higher literacy levels that are needed for success beyond high school. The authors assert, “these strategies will help students climb from the lower rungs of the ladder to the middle, but will leave them a few rungs short of being able to continue their education” (p. 4).

*The Case for Content-Area Reading Instruction*

The teaching of fundamental reading comprehension strategies that are applicable across any text does have merit (Kamil, 2000; Biancarosa & Snow, 2006). However, Heller and Greenleaf (2007) state, “a sole emphasis on generic reading comprehension strategies may also lead students to believe that all academic texts are more or less the same, as though the reading that students do in math class were identical to the reading
they do in history” (p. 10). Because researchers have found that individual academic fields require unique reading and literacy skills (Alvermann & Moore as cited in Kamil et. al, 2000), reading in the various content areas requires “skills and knowledge and reasoning processes that are specific to particular disciplines” (Heller & Greanleaf, 2007, p.10). Therefore, the implementation of content-area reading instruction is based upon the pedagogical belief that readers in each academic discipline require specific skills and strategies that are dependent upon what and why they are reading. (Moore, Readence, & Rickelman, 1983). Heller and Greenleaf (2007) argue that content-area reading instruction is a “cornerstone of any comprehensive movement to build the kinds of thriving, intellectually vibrant secondary schools that young people deserve and on which the nation’s social and economic health will depend” (p. 6).

Because teachers must move beyond teaching basic skills, Biancarosa and Snow (2006) identified the following instructional approaches as critical elements of effective content-area literacy instruction for adolescents:

1. Direct, explicit comprehension instruction. This should include specific instruction in comprehension strategies, comprehension monitoring (meta-cognition) strategies, teacher modeling, scaffolding, and apprenticeship where students have a social, personal, cognitive, and knowledge-building approach to learning.

2. Instructional principles embedded in content. The authors emphasize that teachers do not teach an isolated skill such as outlining but instead utilize the
subject area content to reinforce the reading and writing practices that are specific to that subject.

3. Motivation and self-directed learning. Students are more engaged when they have an opportunity to select for themselves a specific work product. Differentiating instruction to allow for student choice increases motivation.

4. Text-based collaborative learning. Students discuss and interact with each other over text-based information in order to assist students in drawing meaning from text and making stronger connections with the material.

5. Strategic tutoring. This strategy assists students who need additional assistance in understanding how to learn or read textual information.

6. Diverse texts. Teachers can provide a range of reading materials at various levels to assist students in understanding concepts through materials that may be more approachable or easier to understand.

7. Intensive writing. To increase writing proficiency and support learning through reading, writing activities require the synthesis of information and engagement of students with the material.

8. Technology component. Technology is increasingly important in today’s modern society. Literacy skill must include a technology component to increase students’ technology literacy.

9. Ongoing formative assessment. Formative assessment allows teachers to monitor student needs and make adjustments to instruction. Student progress should be monitored and used to inform instructional decisions. (pp. 13-19)
Barriers to Content-Area Reading Instruction

Despite the literature in support of content-area reading instruction, the difficulty of implementing effective content-based instruction cannot be ignored. The barriers to integrating reading into the content-area classrooms include the structure of middle and secondary schools, departmentalization of academic subjects, teachers’ reluctance and lack of preparedness for teaching reading, and ineffective professional development in the area of content-area reading instruction for teachers.

Once students leave the all-inclusive, self-contained classrooms of the elementary school and enter middle school, the structure of their instruction changes. The academic day is broken into a series of class periods that require the middle school student to see several different teachers, throughout the instructional day, who are each instructional specialists in a particular subject or content-area. According to the state Department of Education, there are four academic content areas: English Language Arts & Reading, Mathematics, Science and Social Studies. These four courses are required and are delivered by teachers who have been defined by Heller and Greenleaf (2007) as “specialists in the academic content area, where content is understood to be an entirely different matter from skills” (p.15). Alvermann and Stickland (2004) stated that subject-area instruction in middle and high school dictates the organization and curricular design, which further discourages reading instruction. As the focus of instruction shifts from one content area to the next, the time dedicated for explicit reading instruction diminishes. According to the authors, “content area teachers – even those teaching subjects that require a lot of reading, such as history – often are unprepared to teach reading and do not
necessarily want to do so” (p. 65). Therefore, students already struggling with reading are less likely to receive needed reading instruction and will continue to struggle, causing a further drop in reading motivation (Alvermann & Strickland, 2004).

Kamil (2000) asserts that it is the infrastructure of the middle and high schools that discourages reading instruction (p. 27). The middle school teachers, therefore, too often believe that it is the responsibility of the language arts teacher or reading teacher alone to teach the necessary literacy skills. Researchers have found that teachers hold deeply-rooted beliefs about the role and responsibilities of their content disciplines, which has been referred to as the locus of instruction (Draper, 2002). Teachers misinterpret their own roles in providing reading instruction due to a belief that reading skills are to be mastered in elementary grades (Heller & Greenleaf, 2007). Many teachers, then, though they see the necessity of effective reading strategies for their students, view content-area reading instruction as a burden (Heller & Greenleaf, 2007; Alvermann & Strickland, 2004).

In 1999, Schoenbach, Greenleaf, Cziko and Hurwitz indicated that secondary teachers resist content-area reading instruction. The researchers found that teachers avoided the need for students to utilize more sophisticated reading skills by adjusting their instructional methods, assignments or presentation of the content. This assertion was also noted by Heller and Greenleaf (2007) who stated, “The vast majority of middle and high school students engage in very little sustained reading, and when they do it is mainly from brief, teacher-created handouts and to a lesser degree from textbooks” (p. 16). The findings of the report for the Alliance for Excellent Education (Heller &
Greanleaf, 2007) indicate that when teachers assign more complex readings, they place a burden on themselves to teach students how to make sense of the material, which slows the teachers’ progress toward the content standard. Instead, teachers often resort to reading the textbook aloud, drilling students in specific facts, or showing videos to their classes in place of more challenging reading assignments or independent activities that improve literacy.

Another major barrier for not implementing content-area reading instruction has been the amount of specific content-based standards for which teachers are responsible. Teachers are held accountable through the high-stakes tests for their own content-specifics standards (Moje & O’Brien, 2001; Heller & Greenleaf, 2007). However, the reading portion on these tests is separate from the other subject areas, further adding to the myth that teaching reading is someone else’s job.

The State of Middle School Reading Instruction in a Southeastern State

At the time of Heller and Greenleaf’s report to the Alliance for Excellent Education (2007), there was not one state in the nation that had individual reading standards specific to each content-area. Instead, all reading standards were either generic or relegated to the language arts content. This is a major barrier to teaching reading from the content-area since high-stakes tests do not assess reading skills in the content areas and, therefore, do not reward or provide incentive for teachers to take time out of the curriculum to teach specific reading skills.

It is a requirement of this state’s Quality Basic Education Act of 1985 (QBE) that the state maintain and communicate a curriculum for the minimum standards for what
students are expected to learn in each grade in order to guide teachers in planning appropriate lessons. In addition, the standardized tests, such as the Criterion Referenced Competency Tests for grades 1-8 and the state’s High School Graduation Test for grade 11, are aligned to the state’s established curriculum. Until the first implementation of the State Performance Standards which began in 2005, the state’s educational system was based upon the Quality Core Curriculum (QCC) Standards. According to the State Superintendent, the QCCs were insufficient to meet the needs of students. The state superintendent stated, “For too long, our teachers have had to rely on a curriculum so bloated with topics that a recent Phi Delta Kappa audit concluded that it would take twenty-three years—not twelve—to cover them at anywhere near the level of depth necessary for real learning to take place” (Cox, 2004).

The State Performance Standards serve to increase the depth of coverage of material across the four academic content areas: English Language Arts, Mathematics, Science and Social Studies. The English Language Arts State Performance Standards in middle grades 6-8 are subdivided into four strands of instruction: Reading, Writing, Listening, Speaking and Viewing. The strand of Reading is further divided into two sections: Reading and Literature and Reading Across the Curriculum. The sixth grade reading standards are below.

*Reading and Literature Standards*
1. The student demonstrates comprehension and shows evidence of a warranted and responsible explanation of a variety of literary and informational texts.

2. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

3. The student reads aloud and accurately (in the range of 95%) familiar material in a variety of genres in a way that makes meaning clear to listeners.

**Reading Across the Curriculum Standards**

1. The student reads a minimum of 25 grade-level appropriate books or book equivalents (approximately 1,000,000 words) per year from a variety of subject disciplines. The student reads both informational and fictional texts in a variety of genres and modes of discourse, including technical texts related to various subject areas.

2. The student participates in discussions related to curricular learning in all subject areas.

3. The student acquires new vocabulary in each content area and uses it correctly.

4. The student establishes a context for information acquired by reading across subject areas.

The implementation of the English Language Arts SPS brought about systematic changes in the delivery of reading instruction in one state. According to the State Department of Education’s Reading Resource Center, literacy education is a priority for the state. “Similarly, our world-class standards based curriculum offers a ‘reading across
the curriculum’ strand to support and meet the needs of content-area teachers. Through state and federally funded grants and programs (K-12), the [State] Department of Education Reading Unit provides the resources necessary to improve the overall literacy skills of [one state’s] children” (State Reading Resource Center, 2010).

Implications for School Leaders

For school leaders and policymakers, the decisions regarding the best practices for reading instruction and designing effective programs of instruction and improvement are critical to student achievement. Heller and Greenleaf (2007) provide several considerations for school leaders. First, leaders must clearly define the roles and responsibilities of the content area teachers in regard to reading instruction. Additionally, leaders should see to it that every academic discipline defines its own essential literacy skills. Ongoing professional development regarding literacy instruction must be provided, and leaders must provide the appropriate tools for teachers to provide quality reading instruction. The implications extend beyond theory and include decisions regarding class scheduling, graduation requirements and many procedural processes that must be put in place within districts and school buildings to ensure that students are able to receive adequate reading instruction.

Ness (2007) contends that in order to improve reading in secondary classrooms, explicit professional development that shows the instructional value of literacy instruction should be in place. Middle and high school teachers and administrators must not ignore the responsibility of preparing students for the academic demands that they face. For school leaders, improving professional development, encouraging reflective
school cultures, and increasing collaborative efforts among teachers and other local experts can significantly increase reading achievement in students.

According to Moore, Alvermann and Hinchman (2000), school leaders must understand that students build literacy in all academic subjects, and becoming literate is not a process that students can master in the lower grades. Therefore, attention to literacy instruction cannot be limited to the language arts or English teachers. It is essential that school leaders help teachers and students to view reading and literacy as a life skill that is necessarily cross-disciplinary. Educators cannot assume that essential reading skills are applicable across all genres. Students may read novels or literary texts with ease but struggle to comprehend a scientific journal or interpret a graph. Therefore, Moore et al. (2000) assert that professional development is necessary to assist teachers in understanding how to address needed literacy skills in their content-area classrooms.

Heller and Greenleaf (2007) stated the following:

All teachers should know not only how to integrate comprehension strategies into their ongoing instruction to help students access the academic content, but they should also understand what is distinct about reading and writing in their own discipline, and how to make those rules, conventions, and skills apparent to students (p.22).

Research has also suggested that the implementation of rigorous reading standards has a significant impact on improving reading performance in schools (Raywid, 1992; Wayson, 1988) while lower standards for reading performance breed low results (Shulman, Lotan, & Witcomb, 1998).
Biancarosa and Snow (2006) identified six infrastructure-based improvements that would assist in creating an effective adolescent literacy program:

1. **Extended time for literacy.** The authors suggest integrating two to four hours of literacy connected learning into each academic day where students are focused on reading and interacting with texts. This requires teachers to adjust their thinking regarding their teaching responsibilities within their content areas.

2. **Professional development.** The authors suggest ongoing pre- and in-service professional learning programs that assist teachers in learning the sorts of readings, assignments and concepts that give students trouble and strategies and suggestions for how they can address those areas with effective reading instruction.

3. **Ongoing summative assessment of students and programs.** Continuous progress-monitoring that allows school leaders and teachers to track student gains and losses in order to guide instructional decisions.

4. **Teacher teams.** The school structure should support teacher planning of instruction in order to increase consistency and achievement across all content areas.

5. **Leadership.** The principal and administrative team must be instructional leaders with a clear understanding of how adolescents learn.

6. **A comprehensive and coordinated literacy program.** This factor encompasses all of the previous infrastructure improvements, along with the personnel
required, such as literacy specialists, coaches, media specialists, etc., who provide additional expertise and support in teaching reading (pp. 20-22).

In addition, Heller and Greenleaf (2007) identified four key considerations for educational leaders and policymakers in order to encourage more effective content-area reading instruction: (a) Make clear and consistent the roles and responsibilities of content-area teachers; (b) Have every academic discipline define its unique and essential literacy skills; (c) Provide initial and ongoing professional development of literacy in all secondary teachers’ own content areas; (d) Provide appropriate tools and positive incentives to providing reading instruction.

The federal No Child Left Behind Act (US Department of Education, 2001) adds an additional level of implication for school leaders. Many of the initiatives of this policy are specifically aimed to increase student achievement in the area of reading. “These provisions include several requirements: that all students are proficient in reading within 12 years; that assessment in reading be conducted annually for all students in grades 3-8 and be conducted at least once in grades 10-12; that reading programs be funded only if they are based on scientifically based reading research; and that all teachers be highly qualified, with state certification” (Farstrup & Samuels, 2002). Specifically, the law states, “Not later than 12 years after the end of the 2001-2002 school year, all students...will meet or exceed the state’s proficient level of academic achievement on the state assessments” (Title I, Subpart I, Section 1111[b][2][F]). Therefore, by the year 2014, 100% of students must be proficient in reading in order to avoid federal sanctions.
School leaders must be knowledgeable about effective reading instruction in order to be able to select and institute programs that bring about positive student outcomes in all curriculum areas. Heller and Greenleaf (2007) state, “If students are to be truly prepared for college, work, and citizenship, they cannot settle for a modest level of proficiency in reading” (p. 1). It is then the responsibility and charge of school leaders to connect for teachers and students the essential components of literacy instruction in all curriculum areas in order to ensure that today’s students develop the skills they need to be successful.

Summary

A review of literature presented on adolescent reading discussed the theoretical foundations of reading as they relate to reading instruction. The context of middle and secondary reading education and the challenges faced by the adolescent students was discussed to establish the importance for research in this area. Best practices and effective reading instructional strategies were presented through a review of the literature regarding the beliefs, benefits and obstacles to implementation. Finally, literature was presented about the implications for school leaders in light of No Child Left Behind’s mandate for continuous improvement in student achievement and necessary professional development.
CHAPTER III

METHODOLOGY

Introduction

This quasi-experimental study investigated the overall effectiveness of two models of middle school reading instruction: reading through content-area instruction and reading instruction as a core class. The goal of the study was to ascertain whether students achieved at higher levels when taught reading as a core class or through content-area instruction at the middle school level. Achievement was measured by mean scores of middle school students on a state criterion-referenced test. Two cohorts of students were compared over a period of three years: students who participated in reading instruction as a core content class and students who participated in reading instruction through content-area reading instruction in math, social studies, science and/or language arts. The study examined the relationship between the model of reading instruction implemented in the middle schools and students’ proficiency in reading as measured by scores on the state CRCT test.

Research Questions

The following research questions guided the study:

1. Is there an impact of reading instructional program on student scores in reading?
2. If the reading intervention impacts reading scores, what is the impact of the reading intervention on other subjects?

Research Design
This study utilized a quantitative quasi-experimental design to compare student performances of two groups as measured over time by achievement scores on a state test. The rationale for selecting a quasi-experimental design was due to the researcher’s inability to randomly assign the student participants to groups. Instead, the students were selected from a convenience sample of students attending the middle schools selected for the study.

Sample/Participants

Student participants in the study were selected from a convenience sample of seventh-grade students who attended two district middle schools. The reading intervention A school \((n = 154)\) served a total population of 1148 students in grades 6, 7 and 8, and reading instruction was delivered through a core reading class as part of a five-period academic day. The reading intervention B school \((n = 45)\) served a total population of 819 students in grades 6, 7 and 8, and reading instruction was delivered through content-area reading instruction in language arts, social studies, science and math in a four-period academic day. Participants were selected from the total number of students who were enrolled at each of the two schools in the seventh grade for the 2010-2011 school year who were also consecutively enrolled at the same middle school campuses in the sixth grade \((2009-2010)\) and district feeder elementary schools in fifth grade \((2008–2009)\). This eliminated the extraneous variable of student transiency. Though more than 600 seventh-grade students from the schools were invited to participate, the total number of participants was based upon the number who returned the invitation and provided active informed consent granting parent permission for the
researcher to use their student’ scores in the study and who also met the continuous enrollment requirement. All participants and families were informed about the purposes of the study and were given a copy of the participant letter from the University of Southern Mississippi and from the school district. The schools selected to participate in the study were similarly matched in total years experience and were comparable to district averages as well. Additionally, as required with all districts in the state, both schools represented in the study were required to teach the state-mandated, grade-level specific State Performance Standards for reading.

Several steps were taken in order to ensure that participants’ rights and confidentiality were protected. Due to the nature of the study, there were no risks to the participants and no time outside of the regular school program was required of the students. In addition, no instructional time was lost due to participation in the study. In order to maintain confidentiality for student participants, students were coded numerically by a number that the researcher assigned to each student when consent to participate in the study was returned. In order to provide anonymity for the schools, each school was also assigned an alphabetic identification (Intervention A and Intervention B).

Instrumentation

A mixed-model repeated measures analysis of variance (ANOVA) was the statistical analysis that was employed to determine differences in reading achievement for the two groups. The independent variable in this study was the reading program implemented in the schools: reading as a core curriculum class (Intervention A) or content-area reading instruction (Intervention B). The dependent variables were the
reading achievement scores of the seventh grade students as repeatedly measured in the fifth grade, sixth grade and the seventh grades using the Georgia CRCT test. These students’ fifth grade scores, when students were in elementary school and were exposed to the same curriculum delivery, were used as a baseline against which progress was measured. In addition, science and social studies scores were used to allow the researcher to determine if changes in test scores were the result of a difference in reading program or some other factor.

Data Collection Procedures

All data relating to student academic achievement was collected from school district records after seeking and attaining approval from the University of Southern Mississippi Institutional Review Board (Appendix A) and the Accountability and Research division of one metropolitan school district in one southeastern state (Appendix B) and after sending a cover letter (Appendix C) to obtain active informed consent (Appendix D) from the parents of students whose scores were used as part of the study.

The achievement measures in reading were derived from the Georgia CRCT test, which was administered to all seventh-grade students in the spring of 2011, and previously in the spring of 2010 as sixth-grade students, and in the spring of 2009 as fifth-grade students. CRCT scores were reported as scale scores and performance levels where scores below 800 did not meet the standard for proficiency, scores from 800-849 met the standard for proficiency, and scores of 850 and above exceeded the standard for proficiency in reading. The CRCT test was developed by the Georgia Department of Education to be given to all third – eighth graders in Georgia to measure student learning
of the Georgia Performance Standards curriculum in compliance with the federal No Child Left Behind mandate of demonstrated Adequate Yearly Progress. Statistical analysis and field testing of each test item was conducted in order to qualify the test as a valid measure of student performance. To determine reliability of the CRCT as a measure of student performance, several reliability indices were reported. Table 2 shows the reliability indices in terms of Cronbach’s alpha for the subjects of reading, science and social studies for grades 5, 6 and 7 of the CRCT.

Table 2

<table>
<thead>
<tr>
<th>Grade</th>
<th>Reading</th>
<th>Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>.87</td>
<td>.90</td>
<td>.93</td>
</tr>
<tr>
<td>6</td>
<td>.88</td>
<td>.91</td>
<td>.94</td>
</tr>
<tr>
<td>7</td>
<td>.88</td>
<td>.94</td>
<td>.94</td>
</tr>
</tbody>
</table>

*Note. Adapted from Georgia Department of Education, 2010*

With approval from the district’s Chief Accountability and Research Officer (Appendix B), the participant’s individual test results on the 2009, 2010 and 2011 CRCT were obtained from district records.

Data Analysis

After the data was gathered, it was analyzed using the Statistical Package for the Social Sciences (SPSS) software.

Summary
This chapter provided an overview of the purpose of the study, the research questions and hypotheses, population, instrument and data analysis procedures. The researcher carried out a mixed model fully repeated measures analysis of variance (ANOVA) study that was three years in scope. Beginning with the 2008-2009 school year and concluding with data from the 2010-2011 school year, the researcher repeatedly compared the mean scores of two groups of middle school students on the Reading portion of the Georgia Criterion-Referenced Competency Test (CRCT), which is the measure for determining if schools meet NCLB requirements for Adequate Yearly Progress and used the students’ Science and Social Studies CRCT scores as a control variable. The study anonymously compared individual student scores from two middle schools in a large metropolitan school district. Schools were selected based on the reading program being implemented.

Individual student test performance data was collected. The first year was used as a baseline year against which progress was measured. The researcher selected the two schools based upon the reading instructional delivery model each school was and had been using since the implementation of the Georgia Performance Standards. The data collection was broken into two groups: one school that eliminated reading as a core class and taught the standards exclusively through content-area instruction; one school that kept reading as a separate core class under a different name (Seminar, Literacy, Language Arts 2, etc.). The data was collected after obtaining informed consent from the participants’ parents and was analyzed for trends and implications about the teaching of reading in an effort to determine the impact of the content area reading instruction and
the specific reading instruction provided to students through the core class. These answers are intended to inform better practice on the part of school leaders. The findings of the study are presented in Chapter IV.
CHAPTER IV
FINDINGS/PRESENTATION/ANALYSIS OF DATA

Introduction

This chapter presents the findings of the study undertaken to investigate the overall effectiveness of two models of middle school reading instruction. Effectiveness was measured using the scores of two cohorts of middle school students on the state CRCT test. The reading scores of students from two schools (reading through content-area instruction and reading instruction as a core class) were collected and measured over the course of three academic years (fifth, sixth and seventh grades), then, were compared to the science and social studies scores over the same period. The purpose of the study is to determine if there are differences in standardized test (CRCT) scores in reading compared to other subjects based on the type of reading program students received in order to inform better practice on the part of school leaders. The results are organized by research question.

Data Analysis

A reading intervention x time x subject area mixed model analysis of variance (ANOVA) was used to determine the differential impact of reading intervention (reading in separate class, reading through content area instruction) on CRCT scores for different subject areas (reading, math, science) as measured over time (year one, year two, year three). Reading, science and social studies CRCT scores of students receiving reading instruction through a core academic course ($n = 154$) or through content-area ($n = 45$) were measured across three years for purposes of this study.
Presenting the Findings

Participants

Participants (N = 199) in the study were seventh-grade students from two middle schools in the southeastern United States. The majority of the participants were male (57%). Table 3 provides additional information regarding the participants. Participants were informed of the purpose of the study prior to their participation, and the research was approved both by the Institutional Review Board for the Protection Human Subjects at the University and by the Office of Accountability and Research for the school district from which the participants were selected.

Table 3

Descriptives by Reading Intervention Group

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>F</th>
<th>SWD</th>
<th>ELL</th>
<th>F/RD</th>
<th>Asian</th>
<th>Black</th>
<th>White</th>
<th>Hispan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention A</td>
<td>154</td>
<td>56%</td>
<td>44%</td>
<td>12%</td>
<td>3%</td>
<td>6%</td>
<td>14%</td>
<td>8%</td>
<td>75%</td>
<td>3%</td>
</tr>
<tr>
<td>(reading class)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention B</td>
<td>45</td>
<td>60%</td>
<td>40%</td>
<td>18%</td>
<td>3%</td>
<td>36%</td>
<td>4%</td>
<td>19%</td>
<td>63%</td>
<td>13%</td>
</tr>
<tr>
<td>(content-area instruction)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

1M Percent Male participants  
2F Percent Female participants  
3SWD Percent for sample of Students with Disabilities  
4ELL Percent of for sample English Language Learners  
5F/RD Percent of Free/Reduced Lunch Participants for sample

Simple Correlations

Simple correlations among and between reading, science and social studies scores appear in Table 4. All achievement scores were highly correlated.
Table 4

*Descriptives and Simple Correlations for Reading Scores, Social Studies Scores and Science scores Across Three Years (N=199)*

<table>
<thead>
<tr>
<th></th>
<th>Read1</th>
<th>Read2</th>
<th>Read3</th>
<th>Sci1</th>
<th>Sci2</th>
<th>Sci3</th>
<th>SS1</th>
<th>SS2</th>
<th>SS3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>848.73</td>
<td>859.26</td>
<td>869.04</td>
<td>848.53</td>
<td>857.77</td>
<td>850.55</td>
<td>898.89</td>
<td>896.55</td>
<td></td>
</tr>
<tr>
<td>(SD)</td>
<td>(20.08)</td>
<td>(22.20)</td>
<td>(36.42)</td>
<td>(28.51)</td>
<td>(49.50)</td>
<td>(42.35)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Read1 .573** .564** .556** .544** .531** .603** .631** .540**
Read2 .539** .580** .596** .554** .499** .587** .547**
Read3 .523** .573** .606** .525** .591** .596**
Sci1  .662** .543** .620** .601** .555**
Sci2  .671** .553** .667** .611**
Sci3  .510** .600** .699**
SS1   .634** .605**
SS2   .674**

**p < 0.01 two-tailed.

Research Questions

Regarding the first research question, concerning how teaching reading as a separate core class or through content area instruction affects reading scores over time, results indicated a significant reading intervention x subject area x time interaction
An analysis of time x reading intervention simple interactions for each subject area revealed no simple interaction on reading scores \( F(2, 197) = .23, p = .99 \). There was, however, a time x reading intervention interaction on social studies \( F(2, 197) = 31.62, p = .03 \) and science scores \( F(2, 197) = 36.24, p = .03 \). Graphs of the simple interactions (time x reading intervention) for each subject area can be seen in Figures 1, 2 and 3.

\[ F(4,788) = 19.1, p < .001. \]

Figure 1. Plot of reading achievement scores for simple interaction of reading intervention x grade.
Figure 2. Plot of science achievement scores for simple interaction of reading intervention x grade.

Figure 3. Plot of social studies achievement scores for simple interaction of reading intervention x grade.
In addition, there was a main effect of Reading Intervention \( (F_{(1, 197)} = 15.84, p < .001) \) with students receiving the reading class intervention scoring higher on average (M = 856.48, SD = 20.58) than students receiving the content-area reading intervention (M = 844.26, SD = 23.55). However, these results are not interpretable as a function of reading instruction because the two schools that provided the interventions were different in their overall achievement. Therefore, in all likelihood, this main effect of reading intervention was an effect of the school achievement.

There was also a main effect of grade level on achievement averaged across all content areas and across reading intervention \( (F_{(2,394)} = 97.67, p < .001) \). Students in seventh grade (M = 871.2, SD = 60.60) scored higher than students in grades 5 (M = 849.97, SD = 46.67) and 6 (M = 862.96, SD = 57.66), and students in grade 6 scored higher than students in grade 5 (Tukey’s HSD = 3.05, n = 597, p < .01).

Type of reading instruction produced no differential effects on reading achievement across time with a both types of instruction, revealing similar patterns in achievement (see Figure 1). Since there was no change in reading score patterns based on reading scores, these results cannot be interpreted as a function of reading instruction. Therefore, no additional analyses were necessary to determine the impact of the reading program on other subject areas.

Summary

The purpose of this quasi-experimental study was to investigate whether the reading instructional delivery model would yield a significant difference in the achievement of middle school students as repeatedly measured by the reading CRCT test
over the course of a three-year period between 2008 and 2011. Data was analyzed using a mixed model ANOVA to examine the effects on reading achievement.

Based upon the quantitative data analysis, a significant difference in achievement scores did not exist between the mean reading scores for students who receive reading instruction in the content-area classroom compared to those who received instruction through a core class as compared to other subjects. The differences in scores were different, with Intervention A scoring higher than Intervention B, which was expected based on the differences between the schools from which the participants were taken and as presented in Table 3. However, the scores were no more different across the three years as a result of the reading program implemented at each school. Therefore, the reading instructional model implemented, whether delivered through a core class or through content-area instruction, yields no significant differences in reading achievement scores as measured by the CRCT. Because no significant effect on the reading variable was revealed, the research analyses were not extended to answer the secondary research question to determine the impact of the reading interventions on other subjects.

Chapter V will address the interpretation of the results and findings of this study. In addition, Chapter V will draw conclusions based upon the data and address the recommendations for educational practitioners. This final chapter will also address in detail the implications for school leaders and outline the researcher’s recommendations to expand upon this research for future studies.
CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS & RECOMMENDATIONS

Introduction

The primary purpose of this study was to provide insight to school leaders and policy makers regarding effective reading instructional models for middle school students. To that end, this study examined the impact of two models of middle school reading instruction, content-area reading instruction and reading instruction taught through a core class, on the mean scores of students on state criterion-referenced tests. Specifically, the study investigated the effectiveness of the two different reading delivery models to determine whether one model resulted in higher scores than the other. The research focused on two cohorts of middle school students, each receiving only one of the instructional delivery models. One cohort received content-area reading instruction where teachers of science, social studies, language arts and math provide content-specific reading instruction. The second cohort received a traditional reading program taught through a separate core class.

To examine effectiveness of the two reading models, the reading achievement scores of the two cohorts of students were repeatedly compared over a period of three years using fifth-, sixth-, and seventh-grade scores. In addition, the achievement scores of the two groups in science and social studies for this same period of time were used to determine if there was a difference in reading scores between the two groups when compared to other subjects. The results of this study have provided insight and have added to the larger body of research into the best instructional practices to increase
academic achievement in the critical area of reading in middle school. These results may inform better practice on the part of school leaders to assist them in making more informed programmatic decisions regarding the most appropriate reading instructional model. In addition, this research may assist school leaders in determining whether to consider programmatic changes as an effective way to increase student performance in the area of reading.

This chapter will summarize the results and findings of this study. In addition, Chapter V will draw conclusions based upon the data and address the recommendations for educational practitioners. Chapter V will also address in detail the implications for school leaders and will outline the researcher’s recommendations to expand upon this research for future studies.

Summary of the Study

Overview of the Problem

There is no skill more important for life than the ability to read. “Adolescents entering the world in the 21st century will read and write more than at any other time in human history. They need advanced levels of literacy to perform their jobs, run their households, act as citizens, and conduct their personal lives” (Vacca, 2002, p.3). There is no doubt that a student’s reading proficiency will have a monumental, life-long impact. For this reason, educational quality and continuous improvement of educational practice is the ongoing priority of school leaders, and in these efforts, much of the focus of school improvement has been aimed at reading instructional practices.
Since the implementation of the federal No Child Left Behind Act (U.S. Department of Education, 2001), schools across the nation have been striving to meet the mandated continuous improvement requirements for student achievement. Specifically, the act mandated that schools as a whole and within individual subgroups demonstrate academic growth as measured by annual standardized testing. Students must be proficient in the academic content areas of Reading and Math in the three critical years of third, fifth, and eighth grades in order to be promoted to the next grade level. In addition, by the year 2014, school district leaders must ensure that 100% of all students, including special education students, meet this required standard of proficiency. Those schools who do not meet the standard, which is called Adequate Yearly Progress (AYP), are labeled as failing schools and are subject to sanctions such as loss of funding, restructuring, school choice, etc.

To meet the mandate of NCLB, school leaders worked to re-write curriculum, improve the teaching practices, and identify the most effective instructional programs to increase student achievement. In one southeastern state, one of these means was a rollout of new state Performance Standards to replace the curriculum that had been in place previously. The rollout began in the year 2004-2005 and changed the reading curriculum in middle schools to Reading in the Content Area standards. Before the change, reading instruction was taught through a separate core class. As a result of the new curriculum, school districts underwent programmatic changes that eliminated Reading as a core class due to the fact that the traditional Reading class was dropped from the state course offerings. This meant structurally changing the academic five-period day to a four-period
day, adding the minutes of extra time saved from the fifth class to each other class period of individual content area instruction in math, science, language arts and social studies for the purpose of content-specific reading instruction of the Reading in the Content Area standards. In theory, this change allowed teachers of each content-area to teach students the content-specific “hidden literacies” outlined by Heller and Greenleaf (2007), which are independent to each academic area (p. 3).

Heller and Greenleaf’s (2007) study also found that one major obstacle exists to the teaching of reading through the content areas, which is the risk of leaving reading skills untaught. This was the fear and perception of many school leaders that the extra time allocated to each content area for reading instruction would instead be swallowed up by the teacher to complete a lab or work on other content skills thereby ignoring the teaching of reading altogether.

In one large metropolitan school district, principals implemented the Reading in the Content Area standards differently. Some principals eliminated the core reading class in accordance with the state model while other principals felt strongly that the students still needed an individual reading course and kept the course but called it Literacy, Language Arts 2 or Seminar. This study investigated the outcome of the two reading programs to determine if either delivery model proved more effective toward meeting the AYP mandates for 100% of all students to meet proficiency standards in reading by the year 2014.

*Statement of Purpose*
The purpose of this study was to compare the academic achievement of two cohorts of students receiving two different reading instructional delivery models as measured on a state criterion-referenced test over a period of three years. One cohort of students received reading instruction through a traditional reading class while the second cohort of students received reading instruction through the content-area courses of math, science, social studies and language arts. This study investigated whether one reading instructional delivery model resulted in a greater improvement in students’ achievement scores than the other reading instructional delivery model.

**Research Questions**

The following research questions guided the study:

1. How does the reading instructional program increase performance in reading compared to other subjects as measured by scores on the state test?
2. If a significant reading effect exists based on the instructional program, what is the impact of the reading intervention on other subjects?

**Study Design**

This study utilized a quantitative quasi-experimental design to compare the achievement scores of two cohort groups of middle school students as measured over a three-year period of time by the state CRCT test. The quasi-experimental design was selected due to the researcher’s inability to randomly assign the student participants to groups. The students were selected from a convenience sample of students attending two middle schools in one large metropolitan school district in the southeast. The two
schools selected for the study were similarly matched in total years of teacher experience and were chosen because they had consistently implemented the same reading instructional model for the three-year period of the study. Additionally, as required with all districts in the state, both schools represented in the study utilized the state-mandated, grade-level specific State Performance Standards for reading.

Participants were selected from a sample population that included the total number of students who were enrolled at each of the two schools in the seventh grade for the 2010-2011 school year who had also been consecutively enrolled at the same middle school campuses in the sixth grade (2009-2010) and district feeder elementary schools in fifth grade (2008-2009). This eliminated the extraneous variable of student transiency. The total number of participants in each sample was based upon the number who returned the invitation and provided active informed consent granting parent permission for the researcher to use their students’ scores in the study and who also met the continuous enrollment requirement. All participants and families were informed about the purposes of the study, and the data was collected only after obtaining written informed consent.

The independent variable in this study was the treatment level consisting of Intervention A ($n = 154$) where reading instruction was provided through a separate core reading course, and Intervention B ($n = 45$) where reading instruction was taught through content-area instruction delivered through science, social studies, math and language arts classes. The dependent variables were the mean scale scores of the Reading test for each of the three years on the CRCT test. A mixed model repeated measures analysis of variance (ANOVA) was performed to examine the effects of the reading instructional
delivery model on students’ CRCT scores as repeatedly measured in fifth, sixth and seventh grades.

The main effects of the reading program on the group mean scores were analyzed to determine the impact of the reading instructional model for each school. Additionally, this study attempted to determine whether the model of reading instruction students received, as measured by scale scores on the CRCT test in reading, accounted for significant variance above and beyond that of the scale scores in Science and Social Studies on the CRCT, which would allow the changes in reading achievement scores to be attributed to the reading program rather than some other factor.

Summary of Findings

Research Question 1. The first research question was stated as follows: How does the reading instructional program increase performance in reading compared to other subjects as measured by scores on the state test?

This first research question addressed whether the model of reading instruction, reading in the content area (Intervention B) or a core reading class (Intervention A) increased performance in reading CRCT scores. In order to answer this question, the scores of the two reading intervention groups were first compared to each other, and then, the changes in reading scores were compared to the changes in the other two subjects, science and social studies. The researcher conducted statistical analysis that included a mixed model ANOVA examining the effects of the within-subjects manipulations.

Looking at the results of the ANOVA, the students receiving reading Intervention A (reading class) scored higher on average than students receiving Intervention B
(content-area reading) on the state tests. However, these results were not interpretable as a function of reading instruction because the two schools that provided the two interventions were different at the onset of the study in their overall achievement. Though the scores for the Intervention A group were higher statistically, by the third year of the study, the students receiving reading Intervention A were not scoring more highly on the tests as compared to the Intervention B group. Therefore, in all likelihood, this main effect of reading intervention was actually an effect of the school achievement rather than reading program.

Results also indicated that students in sixth grade scored higher than students in grades 5 and 7. However, the results indicated that although all means were significantly different across the three years, this difference appeared in both intervention cohorts of students, those receiving content-area reading instruction as well as those receiving instruction through the traditional reading class. There was no significant interaction between the reading scores for Intervention A and Intervention B across the three years, which means that this result was likely due to the test itself rather than to the reading intervention.

Based on the results of the quantitative data analysis, a significant interaction did not exist between the mean reading scores for students who receive reading instruction in the content-area classroom compared to those who received instruction through a core class as compared to other subjects. This indicates that the reading instructional model implemented, whether delivered through a core class or through content-area instruction,
yields no significant differences in reading achievement scores as measured by the CRCT.

The reason that significant differences did not exist between the two reading interventions is difficult to pinpoint. Heller and Greenleaf (2007) reported that at the secondary level, reading scores have remained stagnant since the 1970s. Perhaps it is the reading assessment itself that is not testing the higher-level, more challenging literacy skills that Biancarosa and Snow (2006) report must be taught. On the other hand, these research findings did indicate proficiency on average in the area of reading as a result of both interventions. In light of the NAEP (2009) assessment where only 32% of America’s eighth-grade students perform at or above proficient in the area of reading, the results of this study are encouraging, especially when research shows that as students enter middle school, they become less motivated to read and less interested in reading (Ley, Schaer, & Dismukes, 1994; McKenna, Kear, & Ellsworth, 1995; Alvermann & Strickland, 2004). Positive trends in reading may be hard to see. The changes in reading achievement were not found to be significantly different from one type of reading instruction (core class) to another (content-area).

Based on these findings, the researcher concluded that it must have been some factor other than the reading program that accounted for the significant main effects. Had the significant results been attributable to the reading Intervention A or Intervention B, the significant changes would have occurred in the area of reading as measured by the standardized scores. Instead, significant changes occurred in social studies and science that could not be attributed to the reading intervention program being implemented in
either group since both groups have reading scores that follow the same pattern of achievement.

Research Question 2. The second research question was stated as follows: If a significant reading effect exists based on the instructional program, what is the impact of the reading intervention on other subjects?

This question was predicated on a significant effect of reading instruction. Since the type of reading instruction produced no differential effects on reading achievement across the three year period, this second research question could not be answered. If a significant reading effect had been found, this question would have assessed how the reading programs impacted the achievement scores of science and social studies. The test results indicated that the science and social studies scores increase dramatically and are very different across the three years, with Intervention B students making tremendous changes. However, because both types of reading instruction led to similar patterns in achievement results and because there was no significant change in reading score patterns based on reading intervention, the changes in science and social studies scores cannot be interpreted as a function of reading instruction. Therefore, no additional analyses were necessary to determine the impact of the reading program on the other subject areas.

Conclusions

The following conclusions were reached from the data analysis pertaining to the effects of reading instructional model on student achievement in reading. The main empirical findings of this study show that Intervention A (reading course) scores were
higher in reading than the Intervention B (content-area reading) scores. At all three points of measurement throughout the study, though, the scores for Intervention A students were no higher than the scores for Intervention B. In other words, the patterns of change for these two schools are exactly similar (see Figure 4). The higher scores for students receiving Intervention A were expected due to the differences that existed between the two schools from which the sample participants were recruited. However, it was also expected that one of the two reading interventions would have resulted in a change in reading scores so that a differential pattern for one of the interventions would be apparent. In the other two subjects, science and social studies, the students receiving Intervention A (reading class) and those receiving Intervention B (content-area instruction) perform very differently (See Figures 1 and 2), which was not an expected outcome.

This explains the importance of using these two additional subject scores as a variable in the study. If changes were happening in reading scores between Intervention A and Intervention B, and these changes were not happening in science and social studies, it could be concluded that the reading program implemented at each school was the reason for the change in performance. However, this is not the case. The changes in scores are happening in the areas of science and social studies without occurring in the area of reading.

The changes are actually most apparent in science where Intervention A scores began higher than Intervention B scores but ended lower while Intervention B scores began lower but ended much higher than Intervention A scores. In the area of social
studies, the scores of Intervention A and Intervention B began the three-year period with Intervention A demonstrating higher scores. By the end of the three years, Intervention A students still had higher scores, but the gap between the scores had diminished greatly. The significant changes in science and social studies scores were interesting, though unexpected. Heller and Greenleaf (2007) reported that in the absence of reading instruction, students would not learn to read the more sophisticated content-related information necessary to understand and make progress in the core subjects. It was expected that reading instruction would impact reading scores in some significant way and that one instructional method would have produced stronger reading results. Though the changes in science and social studies scores cannot be attributed by the research findings to be the result of reading instruction, it may be that the science and social studies scores were, in fact, affected by the reading instruction students received.

The encouraging result of this study is that the data indicated that students were achieving at higher rates at the end of the three-year period than they were at the beginning of the study in all three content areas: reading, science and social studies. It was the intention of the researcher to link these changes to the reading instructional program. Because the changes cannot be attributed to the reading program implemented at either school, some other factor must account for these changes.

If the researcher considers the findings of Heidi Hayes Jacobs (2006) that “every standardized test, whether it is state or national, is first and foremost a reading test,” then, the researcher could speculate that the rise in both science and social studies scores from the students receiving Intervention B (content-area instruction) are attributable to the
reading instruction that students receive in their content-area classrooms of science social studies (p. 3). For students who receive Intervention A (core class), less attention is given to reading instruction in the content-area classrooms since the reading teacher is partly responsible for this instruction. According to Jacobs (2006), students will not perform well on tests when they cannot understand the test questions due to reading ability, which is further complicated by the specific vocabulary and terminology of the individual content areas. Therefore, the rise in test scores could in actuality be a reflection of students’ reading aptitudes in those specific content areas.

However, the researcher did not find the results for the study that were anticipated. Perhaps this was due to the fact that the research was limited only to test scores. One possible explanation for the curriculum changes not resulting in differential growth could be that the reading instruction for either intervention A or intervention B may have been only superficial in nature. In other words, without monitoring classrooms through observation or survey or some other qualitative format, there is no definitive way to know that instruction in the classrooms actually changed as a result of the change in curriculum. If this is the case, the lack of difference could simply have been the result of a lack of implementation of the appropriate reading program. Therefore, the research is not complete. Literacy cannot simply be embedded in the curriculum words only without coaching and follow-up to ensure that changes are made.

Implications for Policy and Practice

This study served to fill a gap in existing literature on effective middle school reading instruction by examining the effect of the instructional delivery model on reading
achievement of students. With so much attention to reading achievement being placed at the primary level, this study specifically investigates reading programs aimed at students in grades 5, 6 and 7. According to the mandates of No Child Left Behind (US Department of Education, 2001), 100% of eighth-grade students must be proficient in the area of reading by the year 2014. If this national benchmark is not met, schools will be labeled as failing schools and subject to federal sanctions. Therefore, educational leaders continue to seek the best instructional methods and models to positively impact student achievement. NCLB also mandates that schools implement research-based reading programs in every classroom. In accordance with this law, state educational leaders authorized a change in curriculum that called for content-area reading instruction, which is supported by the report by The Center for Public Education (2009) that found engaging students in content-related readings increases both content-knowledge and reading comprehension. The expectation was that this change would result in an increase in reading achievement scores when compared to traditional reading instruction through a core course. However, when implemented, many individual school leaders felt that the reading instruction suffered and reverted back to a more traditional reading program. This research provides insight that could validate or change these decisions.

For school principals who make instructional decisions on behalf of the students of his or her school, the results of this study could be of use when considering whether to offer the state-mandated reading instruction through the content area or through a separate core class. With so much at stake for failing schools, principals must seek out the most effective instructional methods, delivery models and teachers to deliver high
quality instruction. Principals cannot take this responsibility lightly and must review the research in order to make informed decisions that will meet the needs of the students. The insight into the effects of content-area reading versus the reading course at the middle school level provided in this research is one source of information that can assist principals in determining how implementing such programs may affect scores. If a significant increase in reading achievement had been identified through the use of one reading instructional delivery method over the other, instructional leaders would have some data to support their hunches about improving reading instruction.

The study did not find that significant achievement differences existed between students who received reading instruction delivered through the content-area when compared to students who received reading instruction through the core class. However, the study did show that reading instruction at both schools did positively affect reading scores. Therefore, reading instruction in either format may assist students in increasing their proficiency in the area of reading. This finding allows principals some flexibility in the structure of the delivery model, which is especially critical in the face of budget shortfalls and personnel cutbacks being experienced across the nation. School principals may select the program and instructional delivery model that is most appropriate in the context of his or her building. In addition, principals may need to combine the new initiative with professional learning to enhance teacher instruction to have a greater impact on student achievement. This is especially true in light of the fact that the research in this study did not yield the expected results. Principals must be aware that without coaching, follow-up and monitoring of new instructional practices, potentially
powerful changes that are implemented with the best of intentions and based on the most current and effective research could result in no changes or in superficial changes that do not impact student achievement. For this reason, principals should add a component of classroom observation or survey to find out whether any new program being implemented actually changed what was happening with the students and the teachers in the classrooms.

For superintendents and district-level curriculum leaders, any research into what increases student achievement is helpful as districts seek to continuously move one step closer to meeting the NCLB mandate of 100% proficiency by 2014. This research was approved by the superintendent’s office because it provided insight into the district’s research priorities: instructional techniques. It is a priority of school districts to collect and review research on the most effective ways to maximize the integration of content instruction and to improve achievement in all areas. Therefore, the insight provided by this research into the effects of two instructional models in middle school reading assists leaders as they begin to share, discuss, examine and take action to improve student achievement in reading.

Superintendents feel the pressure of the NCLB mandates because district success is directly tied to federal funds and sanctions. Therefore, it is critical that schools across the district and the state are providing the most optimal instruction to improve achievement in all areas, particularly reading. Revisions to state curricula and a movement for national academic standards have been the result of states raising expectations and standards for proficiency in education. This research provides some
insight into the effects of two models of reading instruction at the middle school level after the implementation of the new curriculum and may be one component that helps to point superintendents toward more effective instructional models.

For school boards who create policy, the results of this study may also be of use toward improving curriculum and instruction for all students. School boards conduct periodic curriculum reviews and mandate that every school maintain and work toward a School Strategic Plan. The reporting of test data, including specific information on improvement or decline in achievement scores, is required from each school and is regularly reviewed as these policy makers seek to initiate policy toward continuous improvement. In order to effectively discuss and monitor pivotal practices that lead to instructional improvement, school boards must read the research and take action where necessary for growth. Without current information, any policy changes made by school boards would simply be guesses about what improves achievement. Research into the effects and impacts of reading instruction is critical to all learning, and NCLB requires that research-based reading programs are implemented in all classrooms. This study is one step toward understanding what improves reading achievement, which combined with other research, may inform better decisions and better policy on the part of the school boards.

One final point for policy makers is especially important. Education is unique to all other disciplines in that meaningful research in the field is difficult at best and totally confounding at worst. Changes occur in education so frequently and concurrently with other changes that it is often impossible to do meaningful research about the implications
of the changes and find a result that is substantial. Even with the best intentions of helping students achieve higher levels, these rapid and frequent changes could be proving to do exactly the opposite. The targets continually move and even change completely before results can be fully realized. Therefore, research in this field is not as powerful as it could be due to the complex confounds that prevent research from being meaningful. Researchers chase a moving target that prevents true results. Therefore, it would be recommended to policy makers who are making changes to stay the course long enough to gather substantial data that can be analyzed before making any additional changes.

Recommendations for Future Research

This study focused on the effectiveness of two different models of reading instruction on the reading achievement scores of middle school students, compared to other subjects and measured by state CRCT tests. Based upon the findings and conclusions of this study, recommendations for future research in the area of adolescent reading are presented in this section.

1. Use of IQ testing. This study focused only on achievement testing. However, if IQ or mental abilities testing were an added component, information could be gathered regarding whether or not a particular reading delivery model affected reading achievement scores differently than would have been expected based upon students’ mental abilities.

2. Use of a more difficult test. This study utilized CRCT test data, which is the test that receives most attention due to its required assessment under NCLB. However, this test is a test of basic competencies. Therefore, because the
students in this study did so well relative to the highest possible score that a
d student could receive, there may be some range restriction that is a factor in
the students’ changes in scores. Students at lower performing schools have
more room for growth than the students in this study. A test (like the SAT)
where students are performing at the lower end of the score range would allow
students greater movement and teachers could chart the growth students make.

3. Consider professional development. This study did not take into
consideration the professional development in reading instruction that took
place with teachers at either school included in the study. Instead, this study
used the science and social studies scores as a control variable. However, it
would be interesting and noteworthy to look at the professional development
that teachers receive in reading instructional practices – are reading teachers
focusing on fiction or use of non-fiction? Are teachers comfortable teaching
reading, and do they know the best pedagogical strategies to assist students in
reading texts of increasing difficulty? Perhaps one school had spent a
significant amount of time in professional development toward reading
instruction while the other school had not. In addition, it would be interesting
to note how many of the teachers at each school held a reading endorsement
or specialist certificate. A survey of teacher preparation and professional
development would provide additional insight into the results obtained and
would provide possible explanation.
4. Compare reading scores for low-SES and high-SES schools. In this study, both of the schools were relatively well-matched. However, some differences between socio-economic status did exist. This is why, though the two schools in this study followed the same pattern of achievement, School A began with slightly higher test scores than School B and also ended with slightly higher test scores. If four schools were included in the study, one high SES school and one low SES school with the reading course, and one high SES school and one low SES school teaching reading in the content area, a two-way ANOVA could be utilized to look at differences in reading program between high SES schools and between low SES schools. Perhaps the differences in student achievement would be more apparent in the lower SES schools than they were in the higher SES schools that were a part of this study.

5. Compare to years before the change in curriculum. This study took into consideration three consecutive academic years after the curriculum change had been implemented. If the achievement data of these schools in the years before the curriculum change were compared to the achievement data of these schools after the curriculum change, a better picture of the overall impact of the new curriculum could be uncovered. Perhaps there was great growth in the area of reading after the curriculum changed in 2004, but this study did not begin until the 2008 school year. It is possible that in the three years prior, there were significant increases in student achievement that were not considered as part of this study.
6. Isolate the impact of content-area reading on subject area scores. In this study, the rise in social studies and science scores at Schools A and B were likely attributable to some other factor besides the reading program. However, it would be noteworthy to understand how the teaching of reading in the content area of science or social studies improves test scores in these subjects.

7. Gather and compare data on ethnic groups and special populations of students. If this research were to be replicated and additional information be gathered to isolate the impact of reading instruction on specific ethnic groups or special populations such as economically disadvantaged students (poverty), more information on how to improve achievement in reading for these groups of students could be gathered.

8. Add a monitoring component to the change in curriculum. In this study, there was no monitoring or classroom observation to determine whether the intended goals of the curriculum change were carried out in the classrooms. If a component of classroom observation were included, this could indicate if teachers changed what they were doing to impact students.

Concluding Remarks

It is the ultimate goal of any educational system to produce knowledgeable and capable citizens who are able to be productive, self-sufficient contributors to society. Reading proficiency is a critical component in this endeavor. There is no doubt that reading proficiency is the foundation for all learning; however, many students still
struggle and fall short of their full potential. The federal No Child Left Behind (2001) law also places a large burden on school leaders to make wise decisions as instructional leaders. Poor decisions that result in a school failing to meet AYP have significant consequences and punitive sanctions. Therefore, school leaders do not make decisions without careful thought, evidence and scrutiny.

The primary intention of this study was to provide information that can assist principals and district leaders in making informed programmatic decisions about reading instruction. This research is one inquiry into how successful the curriculum reform in one state had been toward improving student achievement in reading for middle school students. By examining whether scores had been positively or negatively impacted by the implementation of Reading Across the Curriculum standards, school leaders have more information regarding whether content-area reading instruction is more or less effective than the core reading class in middle schools toward maximizing student achievement in reading.

Educators have the opportunity and responsibility to substantively improve reading achievement for all students. Reading achievement is vital to all future learning and success. According to Schmoker (2006), literacy “profoundly affects students’ life and career options, their understanding of the world, their facility with concepts and ideas. These intellectual abilities pervade every subject area” (p. 52). Therefore, Schmoker states, “If we sincerely desire better schools, then our use of time must match our priorities” (p. 100).
With so much dependent on students’ abilities to read, it is critical that a major focus of attention by school leaders and educators is placed on improving reading instruction. Schmoker (2006) states, “Classroom practice won’t change until the case for such literacy is made much more urgently and explicitly in undergraduate and administrative preparation; it must be front and center in our ongoing discussions of how to improve schools” (p. 58). Students’ reading proficiencies can improve. It is for this reason that seeking the best instructional methods must remain a priority for school leaders, teachers, parents and community stakeholders. With improved student performance being the ultimate goal of educational reform efforts, school districts have a duty to examine existing research data regarding the most effective delivery models and to implement the most effective programs to improve academic achievement in reading.

APPENDIX A

UNIVERSITY IRB APPROVAL TO CONDUCT RESEARCH
The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 11032107
PROJECT TITLE: Leading Schools to Increased Reading Achievement: An Investigation into Effective Reading Instruction
PROPOSED PROJECT DATES: 03/01/2011 to 12/31/2011
PROJECT TYPE: Dissertation
PRINCIPAL INVESTIGATORS: Patricia Anne Alford
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Educational Leadership
FUNDING AGENCY: N/A
HSPRC COMMITTEE ACTION: Exempt Approval
PERIOD OF APPROVAL: 03/28/2011 to 03/27/2012

Lawrence A. Hosman, Ph.D.
HSPRC Chair
SCHOOL DISTRICT APPROVAL TO CONDUCT RESEARCH
March 31, 2011

Ms. Patricia Anne Alford

Dear Ms. Alford:

Your research project has been approved. Listed below are the schools where approval to conduct the research is complete. Please work with the school administrator to schedule administration of instruments or conduct interviews.

Middle School

Middle School

Should modifications or changes in research procedures become necessary during the research project, changes must be submitted in writing to the Office of Accountability and Research prior to implementation. At the conclusion of your research project, you are expected to submit a copy of your results to this office. Results cannot reference the County School District or any District schools or departments.

Research files are not considered complete until results are received. If you have any questions regarding the process, contact our office at

Sincerely,

Dr. Judith A. Jones
Chief Accountability and Research Officer
Dear Parents,

As a Ph.D. candidate at The University of Southern Mississippi, I am conducting a doctoral dissertation study entitled, "Leading Schools to Increased Reading Achievement: An Investigation into Effective Reading Instruction." The purpose of my study is to determine how reading proficiency, as measured by the state's Criterion-Referenced Competency Tests (CRCT), has been impacted by the implementation of Reading Across the Curriculum Performance Standards in middle school.

To complete this study, I am requesting your permission to access your student’s CRCT scores for the years 2009, 2010, and 2011. These scores, along with other participating students’ scores at [ ] and other schools participating in the study will be used to answer the research question, "Is there a difference in reading scores for students who receive reading instruction in the content-area classroom versus through a separate core class?" Your child was selected to participate because he/she is currently a seventh grade student receiving reading instruction at [ ].

Confidentiality
As a parent and an educator, I know you are concerned about your student’s privacy and the confidentiality of his/her educational records. Let me assure you that I am looking at whole group trends and patterns, and I will protect the confidentiality of both students and schools by concealing names. If you agree to allow your student’s scores to be part of my study, your student will be assigned a number (1-500) and will not be identified. Furthermore, the records of this study will remain private. In any sort of report that might be published, I will not include any information that will make it possible to identify your student or your school. Research records will be stored securely and only researchers will have access to the records. Data collected in this study may be used for future research. The results of the study will also be made available to you if you are interested.

Contacts and Questions
The researchers conducting this study are: Patricia Alford and Dr. Wanda Maudling (Southern Mississippi Faculty and Dissertation Chair). If you have any questions or concerns regarding this study, you are encouraged to contact Patricia Alford at [ ] or [ ].

I hope that you will allow your students’ scores to be a part of this study! If you agree to allow your students’ scores to become part of this study, I ask that you please sign and return the Parental Consent form in the pre-addressed and stamped envelope provided.

Sincerely,

Patricia Alford
APPENDIX D

PARTICIPANT'S INFORMED CONSENT FORM

Parental Consent Form

My signature below indicates that I have read the information provided and have decided to allow my child to participate in the study titled "Leading Schools to Increased Reading Achievement: An Investigation into Effective Reading Instruction." to be conducted at my child's school between the dates of March and May 2011. I understand that the signature of the principal indicates he/she has agreed to participate in this research project.

I understand the purpose of the research project will be to investigate the overall effectiveness of two models of middle school reading instruction: reading through content-area instruction and reading instruction as a core class. The study will determine if there is a difference in reading scores between students based upon the model of reading instruction implemented in the middle schools as measured by scores on the CRCT test and that my child will participate in the following manner:

1. Take the Reading portion of the CRCT test in the spring of 2011 as part of the regular academic program.
2. Return the parental consent form granting permission for the researcher to view students’ Reading CRCT scores from 5th, 6th, and 7th grade years.

Potential benefits of the study are:
- Awareness that scores are being used for the study may encourage stronger efforts by the student on the Reading portion of the 2011 CRCT test, yielding higher scores.

I agree to the following conditions with the understanding that I can withdraw my child from the study at any time should I choose to discontinue participation.

- The identity of participants will be protected. In order to maintain confidentiality for all student participants, the researcher will assign a number (1 – 600) to each student when he/she returns consent to participate in the study. No names or other identifying indicators will be used during the course of this study. Student and school identities will remain confidential.
- Information gathered during the course of the project will become part of the data analysis and may contribute to published research reports and presentations.
- There are no foreseeable inconveniences or risks involved to my child participating in the study.
- Participation in the study is voluntary and will not affect either student grades or placement decisions (or if staff are involved-will not affect employment status or annual evaluations.) If I decide to withdraw permission after the study begins, I will notify the school of my decision.

If further information is needed regarding the research study, I can contact Patricia Alford at 770-578-2710.
REFERENCES


Portsmouth, NH: RMC Research Corporation, Center on Instruction.


