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The effect of text-to-self reading strategies on reading comprehension

Cathy Arlene (Legg) Cutright
Walden University

Walden University

COLLEGE OF EDUCATION

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Cathy Arlene (Legg) Cutright

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Walden University
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ABSTRACT

The Effect of Text-to-Self Reading Strategies
on Reading Comprehension

by

Cathy Arlene (Legg) Cutright

M.A., Marshall University, 1986

B.A., West Virginia University of Technology, 1979

Dissertation Submitted in Partial Fulfillment

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ABSTRACT

Middle-school male students currently face a disadvantage in reading comprehension compared to female students. Research suggests the problem is that more male students score below grade level in reading comprehension because they require more cognitive scaffolding. The purpose of this study was to evaluate the effectiveness of text-to-self reading instruction and to compare the comprehension achievement of male and female students in 6th-grade reading and language-arts classes using guided reading of text-to-self instruction and guided reading using novels. The foundation of this study was based on constructivist theories including Dewey's pragmatist philosophy, Piaget's developmental theory, and Vygotsky's theory of zone of proximal development. Research questions focused on differences in reading comprehension scores between male and female students, using guided reading with text-to-self reading connections, and using guided reading using novels. The study involved a quantitative methodology using a pretest–posttest, quasiexperimental design. Two-way factorial analysis of covariance (ANCOVA) was used to compute the differences between the means of the experimental and control group students. The 2 independent variables were reading strategies and gender. The dependent variable was the 6th-grade WESTEST reading scores (converted to z–scores), and the covariate was the 5th-grade WESTEST reading scores (also converted to z-scores). Results indicated that 6th-grade male and female students in the text-to-self reading program had higher levels of reading comprehension, however only the females' gains were statistically significant suggesting that the problem of male literacy achievement is multifaceted. This study offers implications for positive social change by offering 1 strategy for parents, teachers, and policymakers to cognitively scaffold student reading comprehension while also offering a step toward better understanding male literacy underachievement.

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CHAPTER 1:

INTRODUCTION TO THE STUDY

With increasing educational reforms, literacy and reading instruction in the middle grades, 6 through 8, have recently become the focus of educators and researchers. According to Biancarosa and Snow (2006), most research studies have focused on early intervention in kindergarten through fifth grade. Literacy achievement is the most important component for children's success in school (Salinger, 2003; Slavin, Chamberlain, & Daniels, 2007; Xue & Miesels, 2004). Literacy practices usually consist of five components of reading: phonemic awareness, phonics, fluency, vocabulary, and comprehension (Tolman, 2005). Researchers have emphasized the importance of learning to read in the elementary grades (Allington, 2002; Hettleman, 2003; Slavin, Karweit, & Wasik, 1993; Tolman; Xue & Miesels). Xue and Miesels stated that children who have difficulty learning to read and who are reading below grade level may need specialized educational intervention with phonics or balanced literacy, a guided reading approach in the early grades that will lead to future school success. The consequences of reading failure in the early grades may be detrimental to achieving success in middle school.

Disadvantaged third-grade students in a longitudinal study who were reading below the expected grade level and failed more than one grade were "extremely unlikely to complete high school" (Slavin et al., 1993, p. 11). Salinger (2003) noted that "struggling readers in middle school may need systematic, explicit instruction as much as students in earlier grades, and often, they simply do not receive the instruction they need" (p. 81). Hettleman (2003) cited that "our nation's failure to diagnose and treat early

reading difficulties disproportionately harms poor and minority students" (p. 3). Slavin et.
al. (1993) stated that "reform is needed at all levels of education, but no goal of reform is
as important as seeing all children start off their careers with success, confidence, and a
firm foundation in reading" (p. 11).

The number of middle-school students who lack literacy skills is not
inconsequential. According to the International Reading Association (2007), "every
school day in the United States for the past decade, more than 3,000 students dropped out
of high school" (p. 1). Most of these students dropped out due to inadequate literacy
skills. They did not have the reading capability to decode their textbooks and they could
not comprehend the content (Allington, 1994; Kamil, 2003). More than 6 million U.S.
students in grades 6–8 are struggling with reading. Kamil stated that "one in four
adolescents cannot read well enough to identify the main idea in a passage or to
understand informational text" (p. 1). The International Reading Association reported that
high school students require targeted literacy instruction in order to meet the demands of
college and the work force. It also reported that reading scores have improved for
students in fourth and eighth grades. It further stated that "many student groups made
gains in both grades; however, these gains were not always accompanied by significant
closing of racial/ethnic and gender gaps" (p. 1). Male students lag significantly behind
female students in literacy, generally score lower on tests, and have greater difficulty
with reading comprehension than female students (Weaver-Hightower, 2003). Several
researchers, Goldberg and Roswell (2002), Gurian and Stevens (2004), and D. Taylor and
Lormier (2003), found that male students have scored significantly below female students
in reading in grades 4, 8, and 12. King and Gurian (2006) stated that boys are struggling

in school, with lower grades, more discipline problems, more learning disabilities, and more difficulties with behavior than girls.

The No Child Left Behind (NCLB) Act of 2001 has exerted an increasing influence on educational practice in schools to meet standards in reading/literacy. Paramount to this legislation is the identification of schools that are "failing to meet achievement goals and to label them as schools in need of improvement. The linchpin of that identification and labeling process is accountability" in testing students (Brimley & Garfield, 2008, p. 209). To meet these goals, teachers may need to understand how to teach literacy in middle school in order to close the achievement gap between low-performing students and students reading at or above grade level. High-stakes testing is a result of the NCLB Act. Testing starts in kindergarten and continues through high school. Gender inequity has been documented for some time, and the current culture of high-stakes testing appears to have ignited wider attention and the demand for instructional intervention for male students (Goldberg & Roswell, 2002). According to Katsiyannis, Zhang, Ryan, and Jones (2007) asserted:

> Under NCLB Act, states are mandated to establish rigorous educational performance standards in reading, mathematics, and eventually science. States must develop or adopt tests to assess student performance and demonstrate Adequate Yearly Progress (AYP) toward 100% proficiency by 2013–2014. (p. 160)

Primont (2006) noted that "the NCLB Act requires that schools make 'annual yearly progress' in raising student achievement, or face possible sanctions" (p. 1). The data have shown a gap between male and female students between Grades 3 and 8 (Goldberg & Roswell, 2002). D. Taylor and Lormier (2003) maintained that there is a disparity between male and female students' achievement scores and advanced-course

enrollments. There is an alarming trend of placing male students in special-education classes. According to the State Report Card (National Center for Educational Statistics, 2007), 75% of male students in this district scored "proficient" in reading on the WESTEST, the state NCLB Act assessment, during the 2007–2008 school year; 85% of the female students in this district scored "proficient" in reading for the same school year.

Problem Statement

More male students than female students have lower scores in reading achievement as measured by the WESTEST, conducted in the mid–Atlantic district during the 2007–2008 school year (State Department of Education, 2008d). This study explored the impact of text-to-self reading-connection instruction to measure reading comprehension. This research compared reading comprehension scores between male and female students who used the text-to-self-reading strategies in guided reading and those who did not. The primary goal was to investigate the impact of text-to-self reading strategies on reading comprehension between middle-school male and female students. Text-to-self-reading strategies help students make connections with texts based on their own experiences, thus making connections with their own lives (Harvey & Goudvis, 2000), and make personal connections that aid in the activation of prior knowledge and meaningful frameworks in order to comprehend texts (Levin & Presley, 1981; Ryan & Anstey, 2003; Tovani, 2000). There were two independent variables. The first independent variable was the two different reading strategies, text-to-self reading and reading with novels. The second independent variable was gender. The dependent

variable was the WESTEST scores. The fifth-grade WESTEST was a different test. Therefore, both WESTEST scale scores were converted into *z*-scores.

Educators must try to eliminate the achievement gap in literacy between male and female students in middle school. Compared to female students, middle-school male students face a disadvantage in the educational system with reading comprehension (Goldberg & Roswell, 2002). Gurian and Stevens (2004) observed that, since the Department of Education began recording statistics, it has noted that "males lag behind females in most categories" (p. 23). Literacy is often identified as an area of disadvantage for male students (Weaver-Hightower, 2003). According to Slavin, Cheung, Groff, and Lake (2008), "the secondary years provide a last chance for many students to build sufficient reading skills to succeed in their demanding courses" (p. 290). Recent studies have shown that teachers need to alter teaching strategies to better suit males' learning styles in order to deal with gaps in reading and writing (Goldberg & Roswell; King & Gurian, 2006). Goldberg and Roswell stated that male students have a consistent gap between performance and reading proficiency in the United States. They advised that the gap between male and female students widens from third grade to eighth grade. This study adds to the body of knowledge for educators and instructional leaders who must meet the needs of all students with gender equity, comprehension strategies for male students, and understanding the impact of the differences in the male and female brains in middle-school literacy. Text-to-self reading connection strategies used in this study add to the existing literature that addresses the gap in research in the area of creating meaningful experiences for students, especially in reading comprehension for male and female students.

Nature of the Study

I conducted a quantitative study to determine if text-to-self reading strategies in guided reading would increase student achievement in male students' reading comprehension. Wiersma and Jurs (2005) defined an experimental study as "a research situation in which at least one independent variable, called the experimental variable, is deliberately manipulated or varied by the researcher" (p. 99). This study investigated the differences between students who have guided reading with text-to-self reading strategies and guided reading with reading instruction using novels. Participants were measured before and after receiving experimental treatments. According to Wiersma and Jurs, quasiexperimental research involves using "an experimental variable with intact groups, or at least with groups that have not been found through random selection or random assignment; single subjects, not randomly selected, may also be involved" (p. 491). The research design and hypotheses are presented in detail in chapter 3.

This research study was conducted in two rural middle schools in a district in the mid-Atlantic region with a population of 302 students in School X and 573 in School Y. I used analysis of covariance to answer the research questions, and the pretest (fifth-grade WESTEST) was used as the covariate. A two-way ANCOVA controlled for scores on the covariate (pretest WESTEST score) and then performed a normal two-way ANOVA to determine if there was a significant main effect for the first independent variable (group), a significant main effect for the second independent variable (gender), or a significant interaction between the two independent variables (Wiersma & Jurs, 2005). A factorial design was used with two independent variables, each with two levels. Wiersma and Jurs cited that the "factorial design provides the economy of a single design rather than

separate designs for each of the independent variables, and it allows the researcher to investigate the interaction between the variables" (p. 116). This statistical analysis provided information on interaction effects and differences in the means of the two groups. The state WESTEST was administered at the end of the school year. This study used end-of-year fifth-grade results for 2007-2008, and end-of-year sixth-grade results 2008–2009.

Research Questions

Question 1. Is there a statistically significant group mean difference in reading-comprehension posttest scores between students who participate in the use of text-to-self reading-connection strategies in guided reading using the McDougal Littell Reading (2002) basal series and students who use the guided-reading approach using novels?

Null Hypothesis 1. There is no statistically significant group mean difference in reading-comprehension posttest scores between students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading basal series and students who use the guided-reading approach using novels.

Question 2. Is there a statistically significant group mean difference in reading-comprehension posttest scores, between male students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading basal series and male students who use the guided approach using novels?

Null Hypothesis 2. There is no statistically significant group mean difference in reading-comprehension posttest scores between male students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell

Reading basal series and male students who use the guided reading approach using
novels.

Question 3. Is there a statistically significant group mean difference in reading-comprehension posttest scores between female students who participate in the use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading basal series and female students who use the guided-reading approach using novels?

Null Hypothesis 3. There is no statistically significant group mean difference in reading-comprehension posttest scores between female students who participate in the use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading (2002) basal series and female students who use the guided-reading approach using novels.

Question 4. Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series?

Null Hypothesis 4. There is no statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series.

Question 5. Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels?

Null Hypothesis 5. There is no statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels.

Purpose of the Study

The purpose of this study was to evaluate the effectiveness of text-to-self reading instruction and to measure comprehension achievement (scores) of male students in sixth-grade reading and language-arts classes with and without text-to-self reading instruction. According to Harvey and Goudvis (2000), the text-to-self reading instruction helps "good readers make connections between the texts they read and their own lives" (p. 3). When students activate prior knowledge with reading connections and experiences, they are able to mediate meaningful frameworks in order to comprehend texts (Harvey & Goudvis; Levin & Presley, 1981; Ryan & Anstey, 2003; Tovani, 2000). According to Tovani, "understanding how meaning is constructed from print is essential if teachers are to improve the comprehension of their students" (p. 17).

This quantitative research study evaluated the effectiveness of text-to-self reading strategies used by middle-school students in an experimental group on their reading comprehension scores. Text-to-self reading connections were taught directly in two classrooms in conjunction with the McDougal Littell Reading (2002) basal series. Their scores were compared to students in a control group who were taught directly in two classrooms using a balanced-literacy approach with guided reading, self-selected reading, and vocabulary development with the reading of novels. The scores of both male and female students were compared for the two groups. Students in both the experimental and

the control groups received one 90-minute block of instruction in reading and language arts, as well as one extra 45-minute "flex" class of reinforcement in reading and written language. Choosing the best method of teaching reading improves reading comprehension for adolescent students.

<center>Theoretical Framework</center>

The theoretical framework for this study was Dewey's progressive-education theory that reflected his philosophy of pragmatism and experiential learning. This theory holds that children "learn by doing" and by using problem-solving methods (Thanasoulas, 2009). Dewey saw the classroom as a miniature society and learning as integrated into real-life experiences. At the center of the learning process was motivation, as well as a focus on the needs and interests of the child and their natural curiosity (Webb, 2006). Dewey proposed that children be given the opportunity for creative self-expression and that their interests be considered in the learning process (Webb, 2006). This theory applies to the present study showing the improvement of reading comprehension through the use of text-to-self strategies. Text-to-self reading-connection strategies helped the student connect the text to prior knowledge and experiences in order to make sense of the world (Harvey & Goudvis, 2000; Ryan & Anstey, 2003).

As a constructivist, Dewey detested the uniformity of curriculum, the massing of students, and rigid guidelines of education in 1894. His philosophy was to develop the full potential of each student, and he devised a different approach to learning that encouraged learning to be self-motivating and child-centered. According to Rippa (1997), Dewey developed a viable alternative that "gave children the freedom to develop and

understand themselves in the context of the world around them; a practical education

based on experience, participation and hands-on-exercises" (p. 165). Thus, Dewey

focused on making sense of students' lived experiences. Rippa explained the significance

of the lived experiences:

> No longer would children be forced to memorize information that had no practical meaning to them. Instead, they would be encouraged to investigate, experiment, and discover those things that sparked their interests. They would be given the opportunity to reach their own conclusions when participating in experiments that had a direct correlation to the world around them. (p. 165)

The theoretical framework for the present study was also built on Vygotsky's

(1978) constructivist theory. In the sociocultural theory of Zone of Proximal

Development (ZPD), Vygotsky introduced the concept of learning as occurring through

social interactions with peers and adults (Hawkins, 2004). Vygotsky defined the ZPD as

"the distance between the actual development level as determined by independent

problem solving and the level of potential development as determined through problem

solving under adult guidance or in collaboration with more capable peers" (p. 86).

Learning is mediated through the "sense we make of the world by using intellectual tools

that in turn profoundly influence the kind of sense we make" (Reed & Johnson, 2000, p.

264).

This study was also built on the theoretical framework of Piaget (1896–1980).

Piaget's constructivist approach was based upon the concept that children form

conceptual categories of developmental stages of human development (Piaget, 1965).

Piaget was a Swiss biologist who theorized about developmental thinking (R. Campbell,

2001). Children learn through the schema that describes cognitive development as the

gradual acquisition of knowledge through experience (Reed & Johnson, 2000).

Thanasoulas (2009) found that "children go through stages in which they accept ideas they later discard as wrong. Understanding, therefore, is built up step by step through active participation and involvement" (p.1).

<div align="center">Definitions</div>

Adequate yearly progress (AYP). Under NCLB, public schools must meet academic standards in academic achievement and must meet proficiency with AYP in reading and mathematics (Brimley & Garfield, 2008, p. 209).

Brain-based learning. Learning is based on the structures of the four lobes of the brain: the frontal, parietal, occipital, and temporal lobes (Jensen, 2000).

Comprehension. The ability for students to understand what they have read at "a deep level" (Tolman, 2005, p. 21). Comprehension is the ability to understand written text (Tannenbaum, Torgesen, & Wagner, 2006, p. 381).

Constructivist. The active manner in which students construct knowledge through a process of reflection (Kinsella, 2006). The term also refers to "the idea that learners construct knowledge for themselves—each learner individually and socially constructs meaning" (Hein, 1991, p. 1).

Flex time. An extra 45-minute class is devoted to extra assistance in reading comprehension and written language. Students can also receive assistance in other content area such as mathematics, science, and social studies.

Gender equity. Both genders have an equal opportunity (Weaver-Hightower, 2003).

Guided reading. Small, flexible group instruction according to instructional level. Guided reading focuses on strategies used before, during, and after reading. Minilessons on explicit decoding and comprehension skills are provided during guided reading.

Guided writing. Guided writing includes the use of minilessons with opportunities for flexible grouping (Fountas & Pinnell, 2001, p. 13).

Literacy. Being facile in reading and written language (Cunningham & Allington, 2007).

Literacy coaching. A form of highly targeted staff development for improving reading skills (International Reading Association, 2007).

McDougal Littell Reading. According to McDougal Littell (2002) the reading series consists of the following reciprocal strategies: Questioning, Summarizing, Clarifying, and Predicting.

No Child Left Behind Act (NCLB). The NCLB Act is a federal law with the purpose of improving the performance of elementary and secondary schools by increasing standards of accountability, requiring every state to "test students in grades 3 through 8 annually in reading and mathematics" (Brimley & Garfield, 2008, p. 209). The NCLB Act also requires states to have highly qualified teachers (Brimley & Garfield, p. 209).

Reading gap. Describes the difference between the target level of reading proficiency, which should be possible for students to achieve, and the actual level of reading proficiency (McDougal Littell, 2002).

Text-to-self reading strategies. Active reading strategies are used to promote critical reading skills. Often the strategy involves previewing texts and making personal

connections in order to construct meaning. These strategies focus on the student's prior knowledge and experiences (Harvey & Goudvis, 2000; Ryan & Anstey, 2003; Tovani, 2000).

Zone of proximal development. Vygotsky's (1978) ZPD is defined as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, p. 86).

Assumptions

I assumed that the fifth and sixth grade students in the present study were representative of all students in this district, but were not necessarily representative of students in other districts or states. Another assumption was that students took the WESTEST under normal testing conditions and performed to the best of their abilities. I assumed that teachers with more experience and training in the teaching of reading would observe their students experiencing higher reading comprehension scores. It was assumed that teachers may need coaching in instructional strategies to improve competency in adolescent literacy (Steurtevant & Linek, 2007, p. 240).

Limitations

Different teaching styles and training may interfere with the validity of reading-achievement scores. The attitudes of teachers and students were limited by motivational factors and may have impacted student achievement in reading/literacy. The research and effectiveness of teaching methods are limited to reflect the opinions and attitudes of the teachers conducting the instruction and their level of teaching expertise. This research

was limited by the qualifications of teachers and their level of experience and may be varied from school to school. This research study was limited to ability levels of those students in the study. According to Morrow, Gambrell, and Pressley (2003), researchers must carefully consider "influences such as context, motivation, teaching methods, social interaction, and student interactions" (p. 1). Despite the limitations of this study, the results provide educators, instructional leaders, and policymakers with targeted literacy strategies to ensure that students become proficient readers. The findings of this study are applicable to the population of students in a mid-Atlantic district because the two selected schools were similar in size and demographics.

<p style="text-align:center">Scope</p>

The study analyzed data using a pretest and posttest of the WESTEST. The implications of the findings of this study should promote change in teaching methods for adolescent male students in literacy and brain-based learning, and their impact on middle-school literacy. As a result of this research study, the district staff should be able to develop research-based practices in order to eliminate the reading-achievement gap for adolescent male students in literacy.

<p style="text-align:center">Delimitations</p>

The specific parameters of this research study were limited to four language-arts classes in two middle schools in a mid-Atlantic school district. In School X, there were two heterogeneously grouped language-arts classes (experimental group) using text-to-self reading connections and guided reading, in the McDougal Littell reading basal series. In School Y, there were two heterogeneously grouped language-arts classes with guided

reading with the use of novels (control group). The sample was a convenience sample since the classes in both schools have been previously scheduled by the school administration. According to Creswell (2003), "a convenience sample makes it difficult to randomly assign individuals to groups, a hallmark of a true experiment" (p. 164). One delimitation in this study was the confinement to a single geographical area with a high percentage of predominately White, low-income families. This factor limited the study and might be a weakness of generalizability of the study with other general populations and school districts. A fact assumed to be true for this present study was that male students perform significantly below female students in reading comprehension. The delimitations noted by D. Campbell and Stanley (1963) will be discussed in chapter 3.

Significance of the Study

In the middle-school setting, educators acknowledge the pervasiveness of differences between male and female students in literacy activities. The research of Weaver-Hightower (2003) and Gurian and Stevens (2004) indicated that there is a disconnect between theory and practice concerning the needs of male and female students in literacy/reading in middle school. Since 1981, when the Department of Education began recording statistics, it has been noted that male students lag behind female students in most academic areas (Gurian & Stevens, 2004). Educators can assist male students in eliminating the achievement gap in middle school by introducing strategies to support learning styles to teach reading comprehension and written language skills (Biancarosa, 2007; King & Gurian, 2006; Mills, Martino, & Lingard, 2007). More male students than female students score below grade level in reading and do not make AYP in literacy

(Goldberg & Roswell, 2002). I believed that this study would help educators develop reading comprehension strategies to close the literacy gap between male and female students.

Merisuo-Storm (2006) and Gurian and Stevens (2004) argued that there has been a decline in male students' literacy performance. Merisuo-Storm stated that "due to their poorer reading and writing skills, males are less successful students than female students. Many previous studies have indicated that gender differences are strongly associated with males' and females' different reading attitudes" (pp. 114–115). Recent research by Merisuo-Storm (2006) and Wilhelm (2000) indicated that adolescent male students prefer non-fiction texts that connect to their area of interest. Text-to-self reading-connection strategies help students "connect their own life experiences to the text" (Harvey & Goudvis, 2000, p. 266). With this comprehension strategy, students use past experiences and prior knowledge to connect to the text. Harvey and Goudvis further stated that "strategic readers address their thinking in an inner conversation that helps them make sense of what they read" (p. 5). King and Gurian (2006) found that "researchers have identified more than 100 structural differences between the male and female brain" (p. 3). These differences include verbal/spatial and frontal lobe development, and natural rest states. These areas of research will be explored in chapter 2.

Middle-school literacy teachers need to

understand how they can develop content knowledge at the same time that they improve literacy; that, in fact, effective teaching in their subject areas will be boosted by complementary literacy instruction related to the texts (and the communication demands) characteristic of their subjects. (International Reading Association, 2007, p. 2)

Wong-Fillmore and Snow (2003) recommended teacher preparation and professional development to ensure that teachers know how to teach reading to all children. Wong-Fillmore and Snow have argued that teachers need in-depth expertise training and professional development in language development and acquisition as well as the ability to provide for individual differences. The NCLB Act also requires states to have highly qualified teachers (Brimley & Garfield, 2008; Onafowora, 2004), and according to Lewis (2006), under the NCLB Act, "highly qualified teachers" are defined as having certification in a content area.

This study will contribute to the existing body of knowledge that will address the different needs of adolescent male students by examining the effectiveness of text-to-self reading-connection instruction to measure reading-comprehension achievement scores of male students. The recent research in brain development and language supports the importance of teaching reading by incorporating brain research. Word recognition, syntactic processing, and comprehension are associated with literacy. In middle school there is a need for understanding how adolescent male students learn (Gurian & Stevens, 2005). The implications for social change are that this study has the potential to assist teachers in developing strategies for improvement of reading comprehension by adolescent male students. It has the potential to be beneficial for policymakers in staff development workshops and literacy coaching.

Summary

This quantitative study of the pretest–posttest, nonequivalent group design compared differences between an experimental group, who had guided reading with text-

to-self reading strategies, and a control group who received instruction in guided reading with the use of novels. An analysis of covariance (ANCOVA) was used to determine if there were differences in reading achievement between the experimental group and the control group. Data analysis was used to compare the statistical differences of reading comprehension scores for (a) all students in the experimental group with the control group; (b) male students in the experimental group with male students in the control group; (c) female students in the experimental group with female students in the control group; (d) male students in the experimental group with female students in the experimental group; and (e) male students in the control group with female students in the control group. The comparison of these two reading strategies (text-to-self reading connections with the McDougal Littell reading basal series versus reading with novels) for both male and female students may provide insight into the causes of the reading discrepancy between male and female students.

This chapter provided key points of this study, including an introduction, the purpose, definitions, assumptions, delimitations, and limitations were presented. This quantitative study compared the use of text-to-self reading-connection instruction to measure comprehension achievement scores as compared to guided reading instruction with the use of novels. The recent research in brain development and language support the importance of the scientific investigation of reading comprehension and equity for adolescent male students. This dissertation will has five sections. A review of the literature in chapter 2 investigated gender equity, reading comprehension, text-to-self instructional strategies for adolescent male students, the differences in the male and female brains, and their impact on middle-school literacy. Chapter 3 described the

methodology and approach to be used in the quantitative study. Chapter 4 provided the findings, and chapter 5 interpreted the findings and gave recommendations and conclusions for the text-to-self reading strategies in guided reading for adolescent male students. Recommendations for future research and the possibility for social change were discussed in chapter 5.

CHAPTER 2:

LITERATURE REVIEW

Introduction

The purpose of this study was to understand how adolescent male students in middle schools make personal connections in literacy in order to improve reading comprehension. Chapter 2 includes a review of the literature that focuses on theoretical philosophies, gender equity, comprehension strategies for male students, and differences in the male and female brain and their impact on middle-school literacy. The strategy used for researching the literature includes various searches compiled from multiple sources including the researcher's personal library on adolescent reading; teaching text-to-self reading connections; reading in middle school; differentiated instruction; brain development; staff development for teachers; gender equity for male students, and engaging adolescent male students in literacy. A broad search of libraries was conducted at Walden University Online and at other local universities. This search yielded articles, books, and other documents pertinent to this study.

The review of the literature included a collection of current articles for using ProQuest in content and methodology. The major strategy employed in the collection of research articles from the Walden University Online Library, included ERIC, EBSCO database, Education Research Complete, and SAGE. The key searches included brain-based learning, text-to-self connections, reading comprehension, gender equity, staff development, teacher development, sex fairness, adolescent literacy, and middle-school literacy.

The Walden Online Library was accessed to search for dissertations that related to reading comprehension and middle-school literacy. I consulted books related to teaching reading in middle school, books related to engaging male students in literacy, books for instructional strategies for teaching reading and writing for male students, and books related to strategies for adolescent literacy. Journals used in this review include *Educational Psychology*, *American Educational Research Journal*, *Review of Educational Research*, *Journal of Special Education*, *Reading Research Quarterly*, *The Reading Teacher, Journal of Adolescent and Adult Literacy, Reading Psychology*, and *Journal of Educational Psychology.*

The theoretical frameworks of Dewey (1916), Piaget (2001), and Vygotsky (1978) were discussed as they relate to middle-school literacy and adolescent male students. The literature review focused on gender equity for male students, strategies to help middle-school male students succeed with literacy, brain-based differences in learning between male and female students, and helping teachers understand how they can improve student literacy. Educators should have an in-depth understanding of literacy to meet the needs of diverse classrooms (International Reading Association, 2007; Merisuo-Storm, 2006; Wong-Fillmore & Snow, 2003).

Reading is a skill that is essential for the success of middle school and high school students to succeed in life (Salinger, 2003). According to Ness (2007), "many middle and high school students lack the strategies they need to comprehend the demanding content-area textbooks used in secondary classrooms. Their teachers lack the time and knowledge to help them develop those strategies" (p. 229). As students progress through the upper elementary grades to middle school, being able to comprehend expository texts is crucial

to understand complex concepts or technical vocabulary (Flynt & Cooter, 2005; Merisuo-Storm, 2006; Ness; Salinger; Santoro, Chard, Howard, & Baker, 2008). Middle-school students need interventions that help them build "on what they know about reading and learn more new skills than repetition of instructional strategies that are appropriate for earlier grades" (Salinger, 2003, p. 79). According to the National Education Association (2008), teenagers are not reading as well as previous reports had indicated: "Only one-third of high school seniors read proficiently, whereas in 1992, about 40 percent did. The reading gap between females and males is widening—a fact that correlates suggestively with the widening gender gap among college students" (p. 216). Fifty-six percent of undergraduates are women, and by 2012 the number is expected to be about 60%. Merisuo-Storm (2006) stated that, in the United States, male students are significantly less successful in school; male students are three to five times more likely to have a learning-disability placement in school. Male students score significantly lower on standardized measures in reading achievement, and they are 50% more likely to be retained for a year. Several research studies (Newkirk, 2000; Pirie, 2002; M. Smith & Wilhelm, 2006) have maintained that aligning curriculum practices, changing pedagogy practices, and appealing to males' interests will increase their literacy skills.

Theoretical Philosophies

Dewey's theoretical framework is based on the progressive educational theory that reflected his philosophy of pragmatism. Applying the theory of pragmatism may improve reading comprehension using text-to-self reading-connection strategies. Text-to-self reading connections help students relate meaning to their own lives (Duman, 2007).

"When we begin teaching connection-making in reading, we often share realistic fiction or a memoir, because these genres are likely to bring up thoughts and ideas that are close to the reader's own experience" (Harvey & Goudvis, 2000, p. 69). Franzak (2006) asserted that if students are encouraged to develop personal responses to reading, they may exhibit increased engagement and motivation. Rippa (1997) explained that Dewey rejected the old, rigid, subject-centered curriculum in favor of the child-centered curriculum in which the student learns through experience, not rote memorization of facts and figures (Webb, 2006). Dewey advocated for "learning by doing" and the problem-solving method. In Dewey's laboratory school, the classroom was considered a miniature society and learning was integrated into real-life experiences. At the center of the learning process was motivation, as well as focusing on the needs and interests of the child and their natural curiosity (Webb). Dewey asserted that thinking is the method of intelligent learning, and students learn how to think through experiential learning (Rippa).

Dewey's philosophy was to develop the full potential of each student; Dewey (1916) devised a different approach to learning that encouraged learning to be self-motivating and child-centered. Rippa (1997) indicated that Dewey developed a viable alternative that gave children the freedom to develop and understand themselves in the context of the world around them. It was a practical education based on experience, participation, and participatory exercises. Thus, Dewey focused on making sense of the lived experiences of the students (Reed & Johnson, 2000). Dewey stated that instructional activities have changed somewhat, a slight change in comparison to the development of meanings attached to activities. Dewey's theory can be used to make text-to-self reading

connections meaningful and engaging to students with student-centered instruction (Brooks & Brooks, 1993; Marzano, Pickering, & Pollock, 2001; Ryan & Anstey, 2003). The teaching of critical-thinking skills and the use of participatory laboratory skills enhance instruction. Dewey recognized that experiences are linked to previous learning (Reed & Johnson) and suggested that it is a unique ability to reflect on activities before acting.

This concept applies to reading for comprehension. Teachers should have a good knowledge of their students, their subject matter, and the situation to identify the most appropriate instructional strategies (M. Smith & Wilhelm, 2006). Incorporating lessons that emphasize different learning styles will help students be successful (Biancarosa, 2007; Goldberg & Roswell, 2002; King & Gurian, 2006; Mills et al., 2007). Teachers should connect key concepts and themes within and across the curriculum, as well as build a wide range of perspectives to extend the learning for all students (Costa & Garmston, 2002).

Dewey (1916) thought that educators erroneously inferred that their goals and instructional methods were appropriate for all children and concluded that learning should be interconnected and not isolated. Dewey's constructivist theory suggests that teachers should incorporate lessons that are child-centered, with a progressive or pragmatic view, while emphasizing the utility value and active engagement to give students opportunities to be successful (Reed & Johnson, 2000). All students should be provided authentic learning experiences. Reading activities should be connected to prior knowledge (Flynt & Cooter, 2005; Harvey & Goudvis, 2000; Marzano, 2004; Robb,

2000; Shapiro, 2004; Tovani, 2000). Ultimately, all students (males and females) should become life-long learners and active constructors of knowledge.

Piaget's (1896–1980) constructivist philosophy and theory in the area of developmental thinking (Piaget, 1972) became known as genetic epistemology (Boeree, 2000; Brooks & Brooks, 1993; R. Campbell, 2001; Piaget, 1972; Reed & Johnson, 2000). R. Campbell (2001) compared Piaget with Dewey (1916), stating that the constructivist theory of genetic epistemology is "about two things: what knowledge consists of, and the ways in which knowledge develops" (p. 2). Piaget is credited with defining four stages of cognitive development: (a) the sensorimotor period (ages 0–2); (b) preoperational period (ages 2–7); (c) the concrete operational stage (ages 7–11); and (d) the period of formal operations (age 11 through adulthood; Rippa, 1997).

Piaget's philosophy was that children learn through constructing, assimilating, and accommodating new knowledge into their schema (R. Campbell, 2001). The assimilation stage is the most basic type of structure, already available to infants in the sensorimotor action schema. This stage involves physical interaction with the environment and how it works (Funderstanding, 2007). In this stage of development, the infant explores the world through the senses. Piaget noticed that babies develop certain skills in order to interact with the environment (Boeree, 2000). For example, babies know how to grab a favorite rattle and thrust it into their mouth. When babies come across some other object, they learn to transfer their grab-and-thrust schema to the new object (Boeree). Children must develop a schema for replacing or accommodating the old schema into a new one; thus the child will develop a new schema. This is referred to as accommodation (Boeree). Adaptation is a combination of assimilation and

accommodation. Piaget defined this concept as "learning," and saw adaptation as a

fundamentally biological process (Boeree). "Assimilation is what is done to what has to

be learned so it can be learned, and accommodation is what the learner has to do within

himself in order to learn" (Ekwall & Shanker 1983, p. 343).

Rippa (1997) cited that children do not progress through the developmental stages

at the same rate. For example, in Piaget's second stage of development, the

preoperational stage is from ages 2 to 7, which prepares the child for concrete operations.

During the preoperational stage, the child learns to use language skills as well as to form

mental images. In this stage, children form an innate learning capacity (Davies & Elder,

2006). Parents and teachers must be cognizant that children in this stage cannot

conceptualize abstractly; they must have concrete physical situations (Funderstanding,

2007). Piaget's third stage of development is the concrete operational stage, from ages 7

to 11. The child begins to think abstractly during this developmental stage (Boeree, 2000;

Rippa, 1997). The child begins to use logic and think objectively (Rippa, 1997). Middle-

school students in this developmental stage can use problem-solving skills and can

manipulate symbols. At this stage, Piaget stated that students can begin to solve

mathematical equations and create logical structures (Boeree).

A child's cognitive development and formal operations become established in

middle school at the ages of 12 to 15 years (Piaget, 1972). Piaget (1972) stated that

important changes take place in cognitive functioning and development in adolescence

when a child has the ability to reason hypothetically and independently on concrete states

of affairs. In this fourth stage, children use hypothetical thinking and can think abstractly

(Boeree, 2000). This is the stage when most students attend middle school and are able to

draw conclusions from available information with abstract thinking. To solve problems, the child uses logical processes in which all possibilities are considered (Rippa, 1997). Cognitive thinking in this stage can be conceptualized with abstract thinking in the brain without performance of the action. Most students develop to the formal operational stage (Piaget, 1972).

Piaget's constructivist theory (Funderstanding, 2007) emphasized the importance of developing cognitive structures such as the permanence of objects, which take into account the role that fundamental objects play in literacy learning. Literacy teachers should look at developmental stages of learning to enhance their students' conceptual growth. According to Funderstanding (2007), "during all developmental stages, the child experiences his or her environment using whatever mental constructs he or she has developed so far" (p. 2). Middle-school teachers should be cognizant of Piaget's developmental theory in the critical role that a student's experiences play in conjunction and interaction with the surrounding environment. Thanasoulas (2009) suggested that there are contrasting points of view between Piaget and Dewey. "For Dewey, knowledge emerges only from situations in which learners have to draw them out of meaningful experiences. Piaget's constructivism is premised on his view of the psychological development of children" and discovery learning (p. 2). Teachers must develop appropriate curriculum and reading strategies for all students that enhance logical and conceptual growth (Funderstanding, 2007). In addition, children need mental maps and graphic organizers to create cognitive structures. Ekwall and Shanker (1983) used Piaget's theory to demonstrate the importance of developing mental imaging with word pairs. Students who used mental imaging were better able to use this technique. Ekwall

and Shanker found that better readers possess a greater innate ability to form mental images. They also point out that younger children cannot form concrete mental images as well as older children.

Reed and Johnson (2000) cited that the modern philosopher, Egan, connected Piaget's theory to literacy with the story-telling approach and teaching middle-school students for understanding. Egan's philosophy suggested that these principles proceed "from the concrete to the abstract, from simple to complex, from the known to the unknown, and active manipulation to symbolic conceptualization" (Reed & Johnson, p. 260).

Vygotsky (1978), a constructivist philosopher, developed the ZPD sociocultural theory, which introduced the concept of learning as occurring through social interaction with peers and adults (Lightbrown & Spada, 2006; Vygotsky; Wong-Fillmore & Snow, 2003). The Social Interactionist Model is shaped by culture and traditions (Lightbrown & Spada). Vygotsky was a child development psychologist who focused on interaction and scaffolding learning in language development based on the child's development (Roblyer & Edwards, 2000). Vygotsky observed interactions among children and also between children and adults in the Soviet Union in the 1920s and 1930s (Lightbrown & Spada). The ZPD presupposes that the learner cannot achieve independence without scaffolding (Davies & Elder, 2006). The support may be provided by peers or expert teachers. Davies and Elder concur that "the zone of proximal development is the domain of performance that a learner cannot yet achieve independently but is capable of achieving with the help of scaffolding" (p. 519).

According to research, second-language learners may not be able to produce language without scaffolding and social interaction. Scaffolding is a process in which a more knowledgeable (or expert) speaker helps a less knowledgeable (novice) learner by providing assistance (Lightbrown & Spada, 2006). Scaffolding produces immediate results and provides skills necessary for independent problem-solving (G. Caine & Caine, 2006; Funderstanding, 2008). Therefore, assignments should be differentiated to meet the individual needs of children (Lightbrown & Spada; Simon, 2008). Simon used scaffolding techniques to support reading comprehension by accessing texts with guided role-playing in order to explore opportunities for multiple and contradictory responses to text. In this context, the student becomes the expert. Assessment must also be considered in the ZPD and the methods must target the level of actual development and what they can do with help at their level of potential development (Funderstanding, 2008).

Vygotsky's theory makes the connection between cultural development with the past and educational development in the present (Reed & Johnson, 2000), Vygotsky's philosophy is that we make sense of the world by the use of mediating intellectual tools that in turn profoundly influence the kind of sense we make. Hawkins (2004) explored literacy practices and Instructional Technology with Vygotsky's as part of three components: (a) focus on meaning, (b) focus on language, and (c) focus on use. The present study relates to this previous research.

The social cognition learning model asserts that culture is the prime determinant of a child's development. Vygotsky (1978) asserted that human beings are the only species to have created culture, and every child develops in the context of culture (Pass, 2007). Davies and Elder (2006) asserted that Vygotsky's sociocultural theory is the basis

for social interaction and is the most important stimulus for all learning. The implications are that a child's learning and development are influenced by the cultural environment of the family and school environment. Therefore, there are differences between Piaget and Vygotsky. Pass stated that "Vygotsky's ideas for bringing the importance of the social context in learning appear to be antinomious to those of Piaget, who focused on individualization of learning" (p. 277). For Piaget, human inquiry is through the individual student who constructs knowledge through their actions on the environment.

The implication of Vygotsky's theory is that children learn through social interactions (Purdy, 2008). S. Dahl (2001) described the acquisition of culture as the family and immediate social surroundings, and the social reality. "Interactions with surrounding culture and social agents, such as parents and more competent peers, contribute significantly to a child's intellectual development" (Pass, 2007, p. 2). Wong-Fillmore and Snow (2003) stated that teachers are important agents who help students function comfortably with culture as well as another language. Because students need social interactions, the curriculum should be designed to emphasize interactions between students and learning. For example, teachers may need to design cooperative learning activities to encourage social interactions with peers and teachers with literacy (Biancarosa, 2007; Purdy; Slavin et. al, 2007; D. Taylor & Lorimer, 2003).

Gender Equity for Adolescent Male Students

Concise summaries of the literature that help define the most important aspects of the text-to-self reading-connection strategies are included in this chapter. The research of gender equity is not a new topic (Taylor & Lorimer, 2003). The majority of research has

focused mainly on female and gender issues. Weaver-Hightower (2003) stated that beginning roughly in the mid-1990s, a distinct growing shift toward examining male students' education has occurred internationally in research on gender and schooling. For the past decade, there has been a larger gender gap between male and female students in academic achievement (Clark, Lee, Goodman & Yacco, 2008, p. 111). Weaver-Hightower argued that male students currently face a disadvantage, compared to female students in the educational system. Male students are falling behind female students in lower grades across school subjects as a group, and they exhibit higher dropout rates (Clark et al., 2008). Until recently, male students have had more opportunities than female students for education in the United States. In the early 1700s, a select group of from grammar schools attended Latin grammar schools. Female students were almost never admitted to these schools. After male students learned to read from their hornbook and the *New England Primer*, they worked as apprentices or attended writing and reading school (Rippa, 1997, p. 33). "Boys destined for college enrolled in the Latin grammar schools at the age of seven or eight. These schools were designed to prepare male students for entrance into Harvard College and, after that, for leadership in the church or colony" (Rippa, 1997, p. 33).

Blackburn (2003) found that recent research has shown male students' failure in school and the grim consequences of this failure. Blackburn quoted Brozo as stating that male students are often portrayed as disenfranchised, an identification that was found to be problematic because it ignores male students' need to control their school experiences (Blackburn). Part of the school experience may be attributed to cultural and psychological theories that emphasize the need for adolescent male students to assert

independence, especially in peer groups, and to establish their masculinity (Goldberg & Roswell, 2002; Kommer, 2006; D. Taylor & Lorimer, 2003). Taylor and Lorimer found that adolescent male students are strongly influenced by peers and demonstrate increased skills when a high school or college-age mentor spends time with them.

Blackbeard and Lindegger (2007) conducted a multimethod study within a qualitative study in South Africa that examined adolescent boys' male-identity positions in relation to the unconscious construction of masculinities. The participants of this study consisted of 29 male students aged 15 to 17 from one urban and one rural school located in Kwan Zulu-Natal, a male-only, affluent urban college. Blackbeard and Lindegger sought a theoretical approach to understand how adolescent male students aged 15 to 18 positioned themselves in dialogs relative to dominant norms of masculinity in microcultural contexts.

Blackbeard and Lindegger (2007) used data analysis in the form of research practice called autophotography, which involves issuing cameras to participants and asking them to select and photograph aspects from their social, cultural, and physical environment. The researchers also used a photoelicitation interview method, which involves using photographs to prompt interview responses to open-ended questions. This methodology was used to triangulate data consisting of 371 photographs, focus-group discussions, and individual interviews. Blackbeard and Lindegger stated that the visual research offered a number of benefits including opportunities for the participants to develop skills, personal and social competencies, and self-efficacy. Blackbeard and Lindegger stated:

> While such research methods carry the risk of being fairly intrusive, with adequate briefing of participants and appropriate informed consent processes, this method can assist adolescents in identifying needs and goals, and understanding contexts in which they live, and enhance self-awareness. (p. 32)

The findings of Blackbeard and Lindegger indicated that adolescent male students have identities that are located in sociocultural contexts and settings. School contexts, sports, academic activities, and male peer groups were important microcultural contexts that participants identified as places for forming and expressing one's identity as an adolescent. However, Blackbeard and Lindegger concluded that if auto-photography is used with empirical goals in mind, there is an inherent subjectivity of the process (p. 32).

As noted by Blackbeard and Lindegger (2007), the implications of this study are that any intervention to promote gender equity in schools needs to consider the challenge that micro-cultural contexts such as management styles, dominant discourses, or constitutive elements play, and ways in which educators and learners resist them. These findings suggested that educators and policymakers should be cognizant of normative practices that may empower male students to be actively engaged in their own learning. The authors suggested that schools employ a critical awareness and gender sensitivity in activities in all schools. Educators and policymakers need to challenge meanings of masculinity in a way that show awareness of the complexity and depth of identities. Kommer (2006) also found that gender identity is derived from peer acceptance in middle school. Therefore, male and female students have different interactions with each other when they are in the same gender group.

Dowson, McInerney, and Nelson (2006) studied the effects of school climate and sex differences on middle-school students' motivational goal orientations. Their

quantitative study included participants of 602 middle-school students in four schools located in the Liverpool Local Government Area. Students from Australia, with primarily English speaking backgrounds, were given the Goal Orientations and Learning Strategies Survey, a psychometrical instrument designed to measure a range of variables relevant to students' motivation and cognition in academic settings. The researchers used descriptive statistics to determine the effects of school and sex on three academic goals and five social goals. Dowson et al. found that "constructs such as future goal orientations have been shown to influence students' academic and social goals, which in turn have been shown to influence students' uptake of deep and surface learning styles" (p. 783). Dowson et al. stated that this study predicts student achievement and student engagement. The results of Dowson et al. suggested that students' goals, particularly social goals, are sensitive to the interacting effects of school climate and sex differences. The male students in this study had less interest and lower perceived ability than female students in English, psychology, and subjects involving the arts. The researchers found that, consistent with the literature, in creative/cooperative and low-achieving/struggling schools, female students reported greater adherence to social-affiliation goals. This result changes in high-achieving schools, in which male students reported greater affiliation goals than female students.

The implications of this study are that educators and policymakers should be aware of the effects of the school environment for both male and female students that promote mastery and performance orientations, competition, and social vitality (Dowson et al., 2006). The authors of this study concluded that male students in high-achieving schools reported stronger adherence to social goals. In contrast, male students in both

creative/cooperative and low-achieving schools, reported significantly lower social-goal orientations. P. Peterson and Fennema (1985) and Sanford (2005) found that engagement of male students was enhanced by social activities and cooperative-learning activities. The implications are that policymakers and educational leaders should have high expectations in reading and literacy to ensure that adolescent male students are performing well in middle school.

Blackburn (2003), in a review of research, concluded that teachers can instruct both male and female students without excluding either gender. Learning environments must be created to support both genders. Contrary to other research in gender-equity for adolescent male students, Weaver-Hightower (2003) cited that most of the disadvantages that males encounter are based on gaps in literacy tests. Weaver-Hightower also concluded the following:

> First, on most tests the gender gaps are small or insignificant. Second, complex factors of race, urbanity as opposed to rurality, and socioeconomic status make simple boy-versus-girl comparisons insufficient (Arnot & Gubb, 2001; Epstein et. al., 1998b; Lingard & Douglas, 1999). Some scholars (e.g., Cole, 1999) point out that the apparently lower scores of boys simply reflect the larger spread of boys' scores; although more boys are at the very bottom, boys are better represented in the top scores. (p. 485)

Mills et al. (2007) focused on the Australian Parliamentary Inquiry of an influential document, *Getting Boys' Education "Right*," in terms of the new gender framework for Australian schools. This report, *Getting Boys' Education "Right*," received support from all major political parties that inquired into and reported on the social, cultural, and educational factors affecting the education of male students in Australian schools, particularly in relation to their literacy needs and socialization skills in the early and middle years of schooling (Mills et al.). Strategies were recommended for

a broader scope or increased effectiveness of the curriculum. According to Mills et al.,

Getting Boys' Education "Right," recommended creating boy-friendly curricula,

assessment, and pedagogical practices in schools, and employing more male teachers.

Getting Boys' Education "Right," stated that boys need male role models due to the

absence of male role models in the family and in schools. The failure to be exposed to

male role models leads to boys' inability to develop the necessary emotional and

communicative literacies required in a changing labor market (Mills et al.).

D. Taylor and Lorimer (2003) stated that male students benefit from having

positive role models, which increases their academic achievement and increases their

self-confidence. More men are needed in teaching and the library profession (Giles,

2008). Male teachers can serve as role models for students with examples of alternative

forms of masculinity, and thereby, redirect the negative attitudes of male students about

education and school (Driessen, 2007). Mills et al. (2007) summed up the reasons for

lack of male teachers in primary schools as:

> *Boys Getting it Right* expresses concerns with the lack of male teachers in primary
> schools and suggests the reasons for this include the status of teaching, salaries,
> career opportunities and child protective issues. Elsewhere, we have been critical
> of the focus on these kinds of reasons alone for explaining a lack of male teachers
> (Mills et al., 2004), as they often do not take into account the "glass elevator"
> effect for male teachers in promotion away from the classroom (Williams, 1993),
> the ways in which men are often privileged in early childhood education (King,
> 1998, 2000), the masculinized nature of school structures and practices (Skelton,
> 2002) and the feminist struggles to get child protection issues into the educational
> agenda. (p. 17)

Mills et al. suggested that teacher qualifications are more important than the gender of the

teacher. Goldberg and Roswell (2002) suggested that it is time to get past theories and

truisms, because adolescent male students have a disadvantage when the majority of teachers are women, as they appear to relate better to male teachers.

Educators acknowledge that schools are important formal places of learning that are embedded in social and cultural processes that produce identities that affect adolescent male students (Blackbeard & Lindegger, 2007). Mills et al. (2007) stated there is a problem with the logic of the underpinning of the role-model theory. They espoused that the gap in this report:

> mentions the limited range of masculinities propagated by the media, but fails to recognize the investment that men and many schools have in maintaining such a system of gender, with homophobia often functioning as a gate-keeping mechanism of an oppressive normalization in boys' and men's lives. (p. 18)

Mills et al. concluded the report with findings that current schools in Australia work not only against male students, but female students as well. The researchers stated that their findings implied that female students are favored over male students due to pedagogical practices, assessment, and curriculum content. Their report advocated an approach to gender equity that is committed to the individual needs of both male and female students. The report asserted that a focus on male students' education does not necessarily translate into neglecting the educational needs of female students.

Martino and Frank (2006) conducted a qualitative study of 2 male teachers in a single-sex high school in Australia that focused on issues of masculinity that impact their pedagogical practices and relationships with male students. This research explored the impact of gendered subjectivities on male teachers' pedagogical practices, particularly at the secondary level. Martino and Frank advocated the need for effective role modeling to ameliorate the apparent feminizing of schooling on male students' educational and social

development. "Thus, the male teacher as a role model is invested with particular

masculinizing capacity considered necessary to counteract the feminization and

emasculating effects of schooling on boys' failing masculinities" (Martino & Frank,

p. 19). The interviews with the male teachers at the Grammar School provided insights

into pedagogical practices with the following themes:

> 1.   The imperative to establish a "normal" masculinity to enable the development of positive relationships with boys that were considered to be essential in executing pedagogical practices. (Berrill & Martino, 2002)
>
> 2.   The impact of teacher knowledge (Shulman, 1987; Darling-Hammond, 1997; McMeniman et. al., 2000) about boys that involved the perpetuation or rather negotiation of certain essentializing discourses about boys' interests, behavior and how they learn.
>
> 3.   The significance of male teachers' construction of schoolboy masculinities in terms of insights it provides into their own gendered subjectivity. (Martino & Frank, 2006, p. 21)

Martino and Frank (2006) concluded that male teachers cannot be too heavy-

handed with the discipline of adolescent male students. The implication, as one teacher

stated in an interview, is that male students react positively to the consistent use of

power. Martino and Frank caution against adopting simplistic tips for teachers'

approaches to addressing educational needs of male students. In addition, the broader

issue of teaching as a feminized profession needs to be addressed (Martino & Frank;

Williams, 1993). The implications and conclusions of this research of male teachers'

pedagogical practices with male students in a single-sex school highlights the need to

address issues of sexuality and gender as an integral part of ongoing professional

development for teachers in preservice teacher-education courses (Martino & Frank). The

gap in the research warrants a deeper investigation of male teachers and their

construction of self-perceptions and the curriculum in gender-specific terms.

S. Jones and Dindia (2004) used two types of theoretical theories to explain sex

inequity in classrooms as social–psychological in nature: cognitive process theories and

development theories. "Cognitive process theories focus on expectancies and propose

that perceivers communicate expectations through behavior, which subsequently changes

the behavior of the receiver" (p. 456). S Jones and Dindia used Rosenthal and Jacobson's

perspective, which emphasized that teachers have formed initial expectations of students,

who then behave in ways that confirm these expectations. In this quantitative study, S.

Jones and Dindia carefully examined 127 empirical studies conducted between 1970 and

2000. They retained 32 studies for the meta-analysis. This is consistent with previous

research by Chesterfield and Enge (1998), which suggested that teachers have more

overall reactions and negative interactions with male students than female students. S.

Jones and Dindia stated that the gender of a teacher seems to influence sex equity.

> Jones and Wheatley (1990) found that female professors reprimanded male
> students more than female students, whereas male professors reprimand male and
> female students equally. These studies suggest that teacher sex may influence
> teacher–student interactions. (p. 448)

S. Jones and Dindia (2004) used procedures for the meta-analysis to code

positive, negative, and total interactions. The student interactions were analyzed with

Kenny's META-ANALYSIS, which calculated the effect size with d. The result of meta-

analysis for negative teacher-initiated interactions generated the effect size p, which is

less than .05; the effect size was heterogeneous. The result suggested that moderating

factors other than sampling error influence the sampling distribution. S. Jones and Dindia

stated that too few studies have provided sufficient data for analysis of data of male teachers to male students, male teachers to female students, female teachers to male students, and female teachers to female students. S. Jones and Dindia concluded that sex differences in teacher–student interactions are small to moderate and are moderated by additional factors. Thus, male students are the recipients of total negative interactions with teachers, and this finding should not be exaggerated.

Driessen (2007) concluded that there are no differences in the gender of the teacher on student achievement, behavior, or attitudes of male and female students. Male students generally perform better than female students in some aspects of education (e.g., mathematics and science), while female students perform better than male students in other aspects (e.g., language and behavior). Driessen used the feminist theoretical framework that male students have educational deficits due to the high percentage of female teachers. The purpose of the study was to determine if the increasing number of female teachers is leading to the lack of male role models, which may have negative consequences for the achievement of male students. Some countries such as the United States, England, and Australia are now advocating hiring more male teachers to address the underachievement of male students.

Driessen's (2007) quantitative study examined the differences between 251 male and female teachers in Dutch primary schools for a 4-year period and 5,181 eighth-grade students in 163 schools. Driessen explained:

> A final point is that although the present study shows no empirical support for the assumption of detrimental effects due to the feminization of education, there may be emancipatory motives to pursue a more generally balanced distribution of male and female personnel. This should, however, apply to all functions and not just to teaching or educational support personnel but also to head teachers and

management personnel. That is, a call for both men in teaching and more women in management should perhaps be made. (p. 200)

Driessen expressed that few studies have been conducted in the Netherlands on the consequences of the feminization of education. The purpose of the Driessen study was to fill the gap by answering specific questions regarding the distribution of male and female teachers in the primary schools, competencies of male versus female teachers, and characteristics for male and female teachers.

Driessen (2007 investigated the differences between male and female teachers regarding educational experience and teachers' individual background. The researchers calculated differences of competencies of male and female teachers in this study. The results showed few differences between the behavior and attitudes of students. The only difference was the educational experiences of male teachers. Similar to Academic Questions (National Education Association, 2008), female students scored slightly higher in language, and male students scored slightly higher in mathematics. The data show that only clear significant differences exist for a sense of well-being, judged by the students themselves. Work attitude and social behavior were judged by their teachers with female students consistently scoring higher than male students (Driessen). The male teachers in this study had approximately 4 more years of teaching experience than the women. The research design and analyses attempt to explain differences between male and female students in terms of differences among their teachers. Driessen concluded that the teacher's gender did not influence minority and nonminority students, nor students from both lower and higher social–economic milieus. This study found no empirical evidence that present policy in changing the feminization of teachers is warranted. More male

teachers will not necessarily lead to better achievement and/or more favorable attitudes and behavior on the part of male or female students.

Clark et al. (2008) conducted a quantitative and qualitative methodology to answer questions about male student underachievement and gender differences between male and female students in educational achievement. The researchers interviewed 15 school-level educators—5 teachers, 5 counselors, 5 administrators—of two schools that differed in student demographics. One school was predominately African American with 92% on free or reduced lunch, a national indicator of low socioeconomic status. The other school was a more diverse group with regard to race and ethnicity, and 36% of the students were in the free or reduced price lunch program. The results of the qualitative study had common themes. Most of the interviewees were aware of an achievement gap between male and female students, and they stated that it was more apparent from the third grade up. All of the teachers indicated that more male than female students struggled with class completion, organizational skills, and academics. Clark et al. (2008) stated:

> some of the commonalities mentioned by the middle school educators were that girls tended to do higher quality work in class and earn better grades as a group, that girls displayed more organizational skills necessary for classroom success leading to higher quality assignments, and that girls seem to have more control over their behavior. (pp. 118–119)

The researchers used quantitative data analysis to examine school indicators, gender, and race/ethnicity with 25,962 students (12,788 male students and 13,174 female students) in 24 elementary schools, 7 middle schools, and 6 high schools (Clark et al., 2008). The variable for the main predicator, investigated was gender. Other predictor variables used by the researchers were race and ethnicity. Clark et al. (2008) stated that in

examining gender differences by race and ethnicity on high school students'

performance, the number of White, Hispanic, and African American participants was

sufficient for analyses, but the number of Asian American and multiracial participants

was not large enough to perform separate analyses. The criterion variables included the

students' grade-point average, number of discipline referrals, and 15-plus unexcused

absences. Since elementary-school students do not have grades calculated with grade-

point averages, only middle- and high school students were considered in this study.

Student data were collected in 2006, using the district database. Chi-square analyses and

cross-tabulations were performed to answer questions regarding underachievement of

male students. The researchers used data analyses to conduct the Statistical Program for

Social Sciences (SPSS). The study found significant differences with female students

achieving at a higher level in middle and high school in all racial and ethnic groups, as

measured by their earning grade-point averages greater than 3.0. Clark et al. (2008) found

significantly more male students had discipline referrals than female students. No

significant differences were found in the 15-plus unexcused absences by race and

ethnicity for male and female students.

In order to address the issue of male underachievement and attainment, Clark et

al. (2008) stated:

> an increased awareness of the issue as a societal and systemic problem is an
> important step. Educators may need to examine their expectations and perceptions
> of both boys and girls with regard to school achievement and how we can foster
> positive attitudes and high but realistic expectations for all students. (p. 127)

The implications are that educators need to consider learning styles to structure lessons

that capitalize on motivation and interest for all students (Clark et al., 2008; King &

Gurian, 2006; Wilhelm, 2008). Clark et al. (2008) felt their study mirrors the national data regarding the gender gap between male and female students (Clark, Oakley, & Adams, 2006; King & Gurian, 2006; M. Smith & Wilhelm, 2006; Tyre, 2006; Weaver-Hightower, 2003). Clark et al. (2008) stated that analyzing data disaggregated by gender can enable district and school-level educators to make important decisions regarding staff development, school mission statements, school-improvement plans, and allocation of resources. The researchers recommended further research on parental expectations for both male and female students, and interventions that take into account gender in order to positively affect the academic achievement and educational achievement of youth. Kommer (2006) recommended educators begin exploring various gender-friendly strategies in classrooms to help adolescent male students succeed. A balance should be maintained between competitive and cooperative activities. Kommer and King and Gurian suggested consideration of providing movement with energy release activities and providing a positive environment that is gender neutral. Other strategies included building of character education lessons, providing effective note-taking strategies, providing gender role-models, direct instruction, and teaching students to be media literate.

Literacy Learning for Adolescent Males

Researchers acknowledge the pervasiveness of differences between male and female students in literacy activities. Male students generally do not perform as well as female students in reading comprehension (Blackburn, 2003; Goldberg & Roswell, 2002; J. Jones & Cartwright-Fiorelli, 2003; S. Jones & Dindia, 2004; King & Gurian, 2006;

Merisuo-Storm, 2006; Newkirk, 2000; Scott, 1986; M. Smith & Wilhelm, 2006; D.

Taylor & Lorimer, 2003; Weaver-Hightower, 2003; Wilhelm, 2002). Driessen (2007)

concluded that male students have a consistent gap between performance and reading

proficiency. Female students have consistently outperformed male students in reading

and written language (Driessen; Goldberg & Roswell; Newkirk; Weaver-Hightower). The

gap in literacy widens from third grade to eighth grade between male and female

students. Adolescent male students need opportunities to read text that is meaningful to

them (Tovani, 2000; Wilhelm, 2002). Certain text types (like nonfiction), and features of

texts (visuals), tend to engage male students by encouraging them to use these features

and to make connections with the world (Wilhelm, 2002). Wilhelm (2002) stated:

> Certain text features are more applicable and easily connected to the lives of the
> students, and that's the reason boys tend to enjoy the texts with these features.
> The ability to see oneself and one's concerns in a text, and to take the substance
> of one's reading to the world were significant contributors to engagement. (p. 16)

The text-to-self reading connections help adolescent male students relate meaning

to their own lives as well as make connections with the text (D. Fisher & Frey, 2008;

Ford & Opitz, 2008; Ryan & Anstey, 2003; Tovani, 2000). In the past 10 years, the

research of Harvey and Goudvis (2000) has yielded positive results in improved reading

scores when students used text-to-self connections reading strategies. These reading

strategies help students connect their own life experiences to the text (Harvey &

Goudvis). With this comprehension strategy, students use past experiences and prior

knowledge to make connections to the text. Other text connections used for

comprehension include text-to-text connections and text-to-world connections (Ford &

Opitz; Harvey & Goudvis). Tovani (2000) stated that "good readers know that using

knowledge to make a connection will help them better understand their reading" (p. 52). King and Gurian (2006) and Merisuo-Storm (2006) suggested that male students make significant progress when they have meaningful, purposeful, and real-life connections. Once male students become interested and excited about reading, they may be challenged to read more challenging texts (Blackburn, 2003; M. Smith & Wilhelm, 2006; Wilhelm, 2002). Students who are given choices such as challenging tasks and collaborative learning structures increase their motivation to read and comprehend texts (Snow, 2002).

The reading theories surrounding gender equity suggest that male students need more active and participatory activities so that reading and writing during seat-based activities will appeal to middle-school male students (Goldberg & Roswell, 2002; Mills et al., 2007). Wilhelm (2002) stated, "It's not the text so much as the situation that determines why and how boys engage with reading" (p. 16). Wilhelm (2002) cited that male students need texts that are challenging and filled with weird and wonderful facts as well as challenging their previous ideas about the world. Wilhelm (2002) emphasized the importance of the socialization of male students, developing a clear purpose, and giving immediate feedback with literacy activities.

King and Gurian (2006) conducted a study at Douglass Elementary School in Boulder, Colorado with 470 subjects to address the gap in literacy between male and female students in 2005. The reading scores of male students on the 2005 Colorado State Program at Douglass attained significantly lower points lower than those for female students. The difference reflected a 13-point gap overall. King and Gurian used research-based strategies from recent brain research regarding gender and learning styles. As a result of the "boy-friendly teaching strategies," teachers were able to close the reading

and writing gap for male students in 1 year. The reading and written language scores of female students also improved. They stated that on the Colorado State Assessment Program, Douglass Elementary students experienced an overall improvement, which was the highest achievement gain of any school in the Boulder Valley District. For the first time at Douglass Elementary School, the trend was reversed with male students achieving a 24.4% gain in reading and written language, and female students made a 19% gain. Special-education students experienced a 50-point gain, the largest gain for this population.

King and Gurian (2006) stated that the staff at Douglass Elementary identified brain research that accounted for the differences between male and female students and the implications for creating boy-friendly classrooms. The teachers in this study developed classrooms that were conducive to male students' learning styles. For example, Douglass school staff realized:

> teachers tended to view the natural assets that boys bring to learning, such as impulsivity, single-task focus, spatial-kinesthetic learning, and physical aggression as problems. By alternating strategies to accommodate these more typical male assets, Douglass helped its students succeed. (p. 57)

Consistent with previous research (Caskey & Ruben, 2003; Jensen, 2000; King & Gurian; Mandigo, Holt, Anderson, & Sheppard, 2008), teachers increased experiential and kinesthetic learning opportunities to accentuate males' neurological strengths and to provide for physical movement. Literacy skills were taught through spatial–visual representations to bridge the gap between what students are thinking and what they're able to put down on paper (King & Gurian). For example, students create storyboards with pictures that graphically depict a story line. The pictures on the storyboard prompt

the brain to remember relevant words, which are needed for first-stage brainstorming (King & Gurian). Students are then able to complete the writing assignment. Douglass Elementary School developed policies to assist students with homework. Teachers have also used single-gender learning environments at Douglass to give students choices with reading material. Additionally, the staff and teachers sought out male role models for male students. King and Gurian advocated letting male students choose topics that appeal to them. King and Gurian concluded, "When it comes to fulfilling the kinds of assignments that we call 'literacy', boys are often out of their chairs rather than in them" (p. 58). Male students should be to able complete reading assignments that establish authentic purpose and are meaningful.

Sanford (2005) conducted a qualitative research project that examined literacy practices of male and female students and developed an understanding of how students' out-of-school reading experiences influence future learning. The methodology included two classrooms in a suburban middle school in Canada with informal interviews with 2 teachers and 6 male students regarding perceptions of literacy and gender. The findings of this study concluded that the family influenced practices and interests in literacy as well as gendered literacy expectations by teachers. Male students and female students have different interests and attitudes in reading and written language both at home and at school. Sanford stated that female students liked to write about their friends, pets, and families; male students tended to write about fantasy and adventure. Male students need to engage in literacy activities involving the virtual world of technology (Sanford). Nippold, Duthie, and Larsen (2005) found that male students preferred playing video games and sports. Gurian and Stevens (2005) recommended that male students read from

more graphic visuals such as comic books and newspapers. Nippold, Duthie, and Larsen (2005) found that male students were more likely to report that they spent no time reading for pleasure. Sanford (2005) stated that an important goal for teachers is to examine expectations they may have with "hidden and deep-rooted gendered assumptions as they engage with students" (p. 314). Sanford further stated that "We need to take more than a passing glance at the gendered issues in classrooms and ensure that surface measures of success do not mask inconsistencies in education where girls are again left behind" (p. 314). Sanford stated that there is a gap in research and practice between issues of gender relating to new and alternative technological, digital, and visual literacies. Teachers should be aware of these inconsistencies in order to prepare students for the ongoing changes of the 21st century.

Mills et al. (2007) quoted the House of Representative Standing Committee on Educational Training, which supports taking into account gender preferences of male students. Educational needs were described in terms of quality teaching and the use of learning styles to address male students' specific differences. Mills et al. stated:

> (a) boys more explicit teaching than girls, and tend to prefer active hands-on methods of instruction; (b) structured programs are better for boys because they need to know what is expected and they like to be shown the steps along the way to achieve success; (c)while girls more readily respond to content, boys respond more to their relationship with teachers; (d) activities help boys establish rapport with their teachers; and (e) boys respond better to teachers who are attuned to boys' sense of justice and fairness and who are consistent with the application of rules. (p. 14)

Blackburn (2003) in reviewing books abut gender equity, concurred with Mills et al., adults must model engaged reading. J. Jones and Cartwright-Fiorelli (2003) suggested that adolescents will read nonfiction stories and informational texts, such as comic books

and graphic novels. They stated that male students like to read about hobbies, sports, and things they do, or want to do. Prior research by Scott (1986) stated that neither comprehension nor interest was diminished by the use of sex-fair materials (p. 105).

Merisuo-Storm (2006) conducted a study of 145 fourth-grade students (67 male students and 78 female students) in Finland to explore attitudes in reading and written language. The goals were to find out what texts students would choose to read; materials they found; and to find out whether female and male students enjoyed reading different texts. This quantitative study used Mckenna and Kear's Elementary Reading Attitude Survey and Kear et al.'s Writing Survey. This quantitative study found that after 2 years in school, there was no significant difference between female students' and male students' reading skills, but the female students scored significantly higher ($t = -3.10$, $p = .002$) than the male students. The fourth-grade female students enjoyed reading more than the male students in this study.

As a result of this study, Merisuo-Storm (2006) recommended that educators provide male students with reading material that is considered interesting to them and is considered "masculine" (p. 123). Merisuo-Storm quoted the research of Bronzo (2002).

> In the USA, boys are significantly less successful in school than girls; boys are three to five times more likely to have learning disabilities placement in school, boys score significantly lower on standardized measures in reading achievement; and they are 50 per cent more likely to be kept down a year. (p. 112)

The results of this study suggested that one of the main goals for the teaching of literacy is to awaken male students' interest in reading and creating interests in reading both at home and at school. Merisuo-Storm and Harper and Pelletier (2008) stated that the implications of gender and literacy studies indicate that early reading is important for the

success of reading ability/literacy skills of male students in later grades. Prior research by Soderman, Chhikara, Hsiu-Ching, and Kuo (1999) found that reading scores of female students were significantly higher than those of male students.

Newkirk (2000) summarized the research on gender differences of male students. Adolescent male students enjoyed reading and writing about narratives that are more closely aligned to interests in storytelling, film, TV, video games, and graphics. They also ranked humor higher than do female students. Male students needed choices with reading and writing activities (Blackburn, 2003; Goldberg & Roswell, 2002; Newkirk; M. Smith & Wilhelm, 2006). Newkirk postulated that in literacy classes, male students should have opportunities to collaborate with other students and to make sense of individual experiences.

Strategies for Teaching Reading Comprehension

During the past 30 years, there have been extensive public debates on how to best teach reading to middle-school students. Graves and Liang (2008) concluded that "comprehension instruction is a vital part of the literacy curriculum and ought to receive a great deal of emphasis, particularly in the middle grades" (p. 44). Slavin et al. (2007) stated that "middle school is not too late to accelerate the reading achievement of young adolescents" (p. 24). Tannenbaum et al. (2006) stated that one of the most important skills learned by middle-school students is the ability to read and comprehend informational texts. According to Tannenbaum et al. (2006), "Comprehension of the information in text, or the author's meaning, is the ultimate reason for reading" (p. 381). Wilson (2004) stated that adolescent students with reading problems are likely to have

problems that are comprehension-based. A majority of struggling readers have decoding

difficulties. Some education researchers propose instruction with sound–letter

relationships (phonics), while others emphasize immersion in guided reading for reading

comprehension (balanced reading). Often, these two methods of teaching reading are at

odds with each other (Xue & Meisels, 2004). Xue and Meisels examined the evidence of

the balanced-literacy approach for children learning to read. Several studies by K. Dahl

and Freppon (1995) and Graham and Harris (1993) showed that engaging children in

literature and writing in whole-language classrooms, aids in their understanding of the

nature of reading and writing. Students were more likely to read for meaning rather than

simply identifying words. The premise is that all students should have the ability to

construct meaning (D. Fisher & Frey, 2008; Ford & Opitz, 2008; Harvey & Goudvis,

2000; Iaquinta, 2006; Moats, 2003; Tovani, 2000). Students should be able to read a

variety of texts with a variety of purposes by third grade (Goldberg & Roswell, 2002).

The present study will examine text-to-self reading connection strategies in

guided reading as part of the McDougal Littell reading basal series. The guided-reading

strategies include reciprocal teaching structures (Willis, 2008). These strategies in

McDougal Littell include:

> (a) predictions: the student predicts what will happen and how the story might
> end; (b) visualizations: the student visualizes images of characters, settings, and
> events to help understand the plot of the story; (c) connections: the student
> connects personally with the text with prior knowledge with text-to-self reading
> strategies; (d) questioning: the student asks questions about the text while reading
> in order to analyze events and the characters' feelings; (e) clarification: the
> student reviews and rereads the text for understanding; and (f) evaluation: the
> student develops opinions and ideas about the text after reading. (McDougal
> Littell, 2002, p. C1)

These strategies can be taught effectively with direct-teaching methods (McDougal Littell). Research has found that the most useful reading-comprehension skills can be learned best through active dialogue, teacher modeling, explicit teaching, and guided practice (Graves & Liang, 2008; McDougal Littell, 2002, p. 15; Whitehead, 2002).

Allington and Cunningham (1996), Arnold and Colburn (2005), and Dickson, Simmons, and Kame'enui (1998) stated that students learn best by using reciprocal teaching strategies. Students learn best by discussion and sharing of ideas and opinions. Teacher-led discussions help students formulate opinions when appropriate and improve long-term memory and recall (Arnold & Colburn; Moore, Alvermann, & Hinchman, 2000). Researchers stated that years of research on reciprocal teaching have demonstrated that students make large gains in a short amount of time. Questioning is an activity teachers can use to establish a purpose for reading (Purdy, 2008; Salinger, 2003). Reciprocal teaching is an interactive strategy using four substrategies: summarizing, clarifying, questioning, and predicting (Thomson & Nixey, 2005). It is effective when students teach their peers to engage in dialogue (Fielding & Pearson, 1994, p. 65). This strategy is an interactive strategy where the teacher and students take turns being the teacher and modeling the four strategies after they silently read a meaningful chunk of text. It is a strategy that can be used with other subjects such as science and social studies. Ness (2007) stated that students who are taught comprehension strategies such as "predicting, questioning, and summarizing improve their comprehension scores on both experimenter-constructed tests and standardized tests" (p. 229).

Tolman (2005) stated that "while vocabulary and comprehension are truly the ultimate goals of reading, the teaching of phonemic awareness, phonics, and fluency are

steps that must be in place to meet the ultimate goal of comprehension" (p. 16). There is a strong correlation between success in learning to read and the ability to segment words and match sounds to the appropriate letters or letter patterns (Gaskins, 2004). Students need opportunities to read text that make sense to them. Tolman stated that student motivation in reading is of utmost importance. Students' reading difficulties usually extend across the curriculum.

Students can construct meaning through guided reading to aid in instruction with reading comprehension (Cunningham & Allington, 2007). Ford and Opitz (2008) suggested that "reading for meaning is the primary goal of guided reading" (p. 310). Students need guidance in higher-level thinking activities through discussions and making connections with text. Guided reading instruction usually means that the teacher gives instruction to a small group of students on their reading level (Cunningham & Allington). With this type of instruction, middle-school students can be provided with direct instruction in order to improve reading comprehension as they read different kinds of text (Cunningham & Allington). Salinger (2003) stated that "struggling readers in upper primary grades need systematic, explicit instruction as much as students in earlier grades, and often they do not receive the instruction they need" (p. 81).

Burns (2007) found that the students in a treatment group were more likely to read at the instructional level and demonstrated progress in the curriculum that significantly exceeded a control group who received guided reading activities. The researchers used a quantitative study to examine the effect of preteaching unknown words to 29 third-grade children identified as having learning disabilities to facilitate an instructional level in a third-grade curriculum. The study also examined the potential implications for

implementing response intervention. There were 20 students in the treatment group, and 25 students in the control group. The study was conducted for 15 weeks. Students who were identified as having learning disabilities in basic reading skills participated in the study. Each student participated in specialized reading instruction that consisted of teaching decoding, phonetic skills, and guided-reading strategies from the third-grade basal. Students in the treatment group were taught unknown words from their general-education reading curriculum three times a week for 12 weeks. An analysis of covariance (ANCOVA) was used to measure variables. The correlation between the number of passages read at the instructional level and reading progress in the curriculum was .80, which suggested a statistically significant and strong relationship (Burns). The findings are consistent with previous research of (Moats, 2003; Robb, 2000; Tolman, 2005, Willis, 2008) that suggested that reading fluency is essential for reading comprehension. Burns examined only fluency in his research and stated future studies may need to be conducted to examine reading comprehension as well.

Contrary to studies completed by Burns (2007), Iaquinta (2006) found guided reading to be beneficial in reinforcing comprehension, problem-solving, and decoding skills for elementary students. Guided reading can help students develop understanding of the text, to self-correct, and to use self-monitoring skills (Iaquinta). Although this study was conducted in the early grades, the implications are the same for middle-school students. Iaquinta stated that the most critical element of guided reading is the skillful teaching that helps young readers learn the effective strategies they need to become independent learners.

Ford and Opitz (2008) conducted a study using 1,500 teachers in kindergarten through second grades to examine their understanding and practices related to guided reading. Teachers were asked to complete a pedagogically focused survey on guided reading. The findings of Ford and Opitz indicated that teachers in this study were inconsistent in their use of leveled texts and understanding of guided reading. Skidmore, Parent, and Arnfield (2003) also found that guided reading is mostly dominated with teacher dialogue, where the teacher controls questioning and normally controls turn-taking by nominating the next speaker. Ford and Opitz argued that older students also require small groups with guided-reading instruction. The teachers in this study indicated that the purpose of guided reading was to use explicit instruction and modeling, rather than scaffolding instruction. Ford and Opitz concluded that "because teachers implement reading practices in many different contexts with many different learners, it may be more useful for school district personnel to develop and administer a similar survey locally and interpret the results" (p. 324).

There are students in the upper elementary and middle schools who are reading below grade level. Iaquinta (2006) stated:

> It is estimated that one in three children experiences significant difficulties in learning to read. Research conducted during the past two decades has produced extensive results demonstrating that children who get off to a poor start in reading, rarely catch up. (p. 413)

Slavin et al. (2008) found that clear, well-evaluated programs capable of enabling middle and high school students with poor reading skills to meet the demand of complex texts are needed. These skills ensure that these students not only succeed in their high school coursework, but also graduate ready for college and work-related reading tasks. After

reviewing achievement outcomes of effective reading programs, Slavin et al. (2008)

concluded what matters for student achievement are approaches that fundamentally

change what teachers and students do every day, such as engaging in cooperative

learning. Slavin et al. (2007) reported:

> more research and development of reading programs for secondary students is
> clearly needed, but we already know enough to take action, to use what we know
> now to improve reading outcomes for students with reading difficulties in their
> critical secondary years. (p. 309)

Methods for teaching reading comprehension are effective for middle-school students

through a balanced approach to teaching reading, including the addition of direct

instruction in reading comprehension, word attack strategies, and teaching phonetic rules

(Liuzzo, 1998; Moats, 2003). The balanced literacy, or the four-block model, is another

method to teach guided reading for 30-40 minutes daily (Cunningham & Allington,

2007). The McDougal Littell reading program also provides lessons in reading

comprehension for all books and uses fast-paced, structured lessons. Teachers are given

on-going coaching and mentoring (McDougal Littell, 2002).

Marzano (2004) concluded that a student's prior knowledge or background

knowledge is the most important factor for learning new content. Researchers and

theorists refer to what a person already knows about a topic as background knowledge.

Marzano (2004) further stated "numerous studies have confirmed the relationship

between background knowledge and achievement. Our ability to process and store

information dictates whether our experiences parlay into background knowledge"

(pp. 1–2). Ryan and Anstey (2003) concluded students naturally focus on prior

knowledge and experience to make sense of the world, and our current teaching practices reinforce this use of reading resources.

Shepard (2005) suggested teachers focus on student knowledge and application by eliciting relevant information connected to previous experiences. Teachers are advised to access prior knowledge before teaching a new concept (Graves & Liang, 2008; Lim, Reiser & Olina, 2009; Moore et al., 2000; Robb, 2000; Salinger, 2003). Robb stated that encouraging the transfer of knowledge strengthens the construction of new understandings when reading and comprehending a text.

> Students' background knowledge is both declarative and procedural. Declarative knowledge is what students already know about the topic they will read. Procedural knowledge includes the specific skills and strategies that will help students comprehend, such as reminders of what they know about reading for clues to discern cause and effect relationships. (Salinger, 2003, p. 83)

Lim et al. (2009) recommended that teachers provide effective instructional strategies for promoting learning and transfer of learning. Teachers should also take into "account the learner's prior knowledge in a domain" to enhance students' understanding of concepts (p. 65). Self-motivating skills are important to metacognition and the transfer of skills. Hunt, Touzel, and Wiseman (1999) determined that teachers have the greater responsibility of making their lessons interesting and motivating to the degree that students feel excited about learning and are connected to it. Effective teachers assist students with the application of the transfer of new learning with meaningful activities associated with prior learning and using similarities or associations. Ainley, Hidi, and Berndoff (2002) found the contribution of prior knowledge to topic interest varied substantially across different texts. There was a strong correlation between general individual interest in learning and topic interest. They stated, "Even though our measure

of prior knowledge was limited, it allowed us to assess something of the relationship between prior knowledge and topic interest" (p. 557). Previous research has not considered prior knowledge a variable when determining the effects of interest on learning (Ainley et al.).

Reed and Johnson (2000) stated that Egan suggested that history and literature in middle school should be taught in Vygotsky's social context and should include the major events of the people or period being studied. Egan explained students learn literacy skills depending on prior knowledge of various underlying, abstract concepts (Reed & Johnson). Egan advocated teaching literacy through story rhythms, metaphors, analogs, objectives, and storytelling with affective meaning (Reed & Johnson). Students learn to read with cooperative learning activities, which allow students to be noisy, active, and social in the pursuit of academic excellence (Slavin et al., 2007; Vygotsky, 1978). D. Fisher and Frey (2008) wrote, "Consistent with the apprentice/expert depiction, as well as Vygotsky's Zone of Proximal Development, the gradual release of responsibility model acknowledges the role of the teacher in guiding students to independent practice or application" (p. 18). Slavin et al. (2007) and Vygotsky (1978) concurred with this theory.

Ryan and Anstey (2003) conducted a case study that examined the methods teachers used to assist students to make reading meaningful in terms of their sociocultural characteristics and their knowledge and experiences as readers. The researchers formed a small case study with a group of sixth-grade students from the UK that explored backgrounds, cultures, and countries that might influence the interpretation of the book, *The Rabbits*. Ryan and Anstey discovered that reading does not occur in a vacuum. They stated that "all literacy practices are a reflection of the socio-cultural processes and

knowledge of the learner, and are not static, but dynamic and ever-changing" (p. 11).

Consistent with the prior research of Harvey and Goudvis (2000), Ivey and Fisher (2006),

Robb (2000), Ryan and Anstey, and Tovani (2000), readers make connections based on

life experiences that provide them with resources as readers. Ryan and Anstey affirmed:

> the readers may draw on different domains of their identity to make meaning.
> "Domains are structured, patterned contexts within which literacy is used and
> learned" (Barton & Hamilton, 2000, p. 11). Cope and Kalantzis (2000), identify
> these different domains or identities collectively as Discourse Worlds, and
> suggest that students draw on two in particular to make meaning, their Lifeworld
> and their School-Based World. (p. 11)

The findings of Ryan and Anstey suggested that knowledge and identity influence

students in their ability to make meaning of texts as they develop as strategic readers.

In summary, teachers must be aware that middle-school students are in the

concrete operational stage of development and beginning the formal operational stage

(Rippa, 1997). The implications are that adolescents are in the latter stage of the

development of solving problems and manipulating symbols as well as performing

operations in the context of concrete situations. Adolescents are also beginning the

formal operational stage of learning from the concrete to more abstract operations, known

as hypothetical thinking (Boeree, 2000). The implications are students will be able to use

inferences in reading stories as well as reasoning abstractly. Because there are strong

correlations between language development and cognitive development, educators should

teach literacy through literature circles and traditional storytelling (Lightbrown & Spada,

2006; Reed & Johnson, 2000). Middle-school students can improve their literacy skills

with activation of prior knowledge of various underlying, abstract concepts (Reed &

Johnson, p. 260). Egan advocated teaching literacy through story rhythms, metaphors,

analogs, objectives, and storytelling with effective meaning (Reed & Johnson).

Storytelling, as well as other speech skills, are connected to the ability to communicate in

reading and written language (Myers & Botting, 2008).

<div align="center">Summary of Brain-Based Learning</div>

Brain research in recent years has contributed great insights into areas of the brain

related to specific learning and reading comprehension. Educators and parents should be

aware of the neurological differences between male and female students (Gurian &

Stevens, 2005; Jensen, 2000; King & Gurian, 2006; Sax, 2005). Jensen (2000) stated:

> Gender issues are extremely complex. The variations within gender groups are as
> great as those found between genders. This idea does not negate the fact,
> however, that in general a variety of social and biological differences between
> men and women exist and impact learning. (p. 91)

Female students generally outperform male students in literacy activities involving

fluency or word generation and use of verbal memory (Jensen, 2000; King & Gurian,

2006). This may be due to differences between the male and female brains (Gurian &

Stevens, 2005; Jensen, 2000; Kommer, 2006; Sax, 2005). Jensen found that "these

structural differences may account for behavioral, developmental, and cognitive

processing differences between males and females" (p. 93). Jensen stated that female

students have lesser known bundles of interhemispheric fibers, called the anterior

commissure. This may allow female students to have an advantage over male students

with both verbal and nonverbal information. Some male students are generally 1 to 2

years behind female students in language skills (Jensen, 2000). Scherer (2002) quoted

Levine (2002) in an interview.

The girls seem way ahead of the boys in elementary school in language processing. As school becomes increasingly verbal and linguistically dense, the girls develop more of an advantage. The boys have better spatial abilities, which are useful in kindergarten and 1st grade but become increasingly irrelevant to the curriculum as you proceed through school. To a great extent, you can thrive without spatial abilities in school. You can't thrive without language abilities in school. (pp. 9–10)

King and Gurian (2006) stated that one difference between males' and females' brains is that male brains have more cortical areas dedicated to spatial–mechanical functioning in general. Kommer (2006) and Sax (2005) found in their studies on males' and females' brains, an indication that females' brains are better able to read facial expressions and also have a better sense of hearing than males' brains. Gurian and Stevens (2005) stated that females' brains have stronger neural connectors in their temporal lobes than males' brains. These stronger connectors appear to facilitate more detailed sensorimemory storage for better listening, especially for tones of voice. Therefore, female students seem to be more proficient readers than male students (Gurian & Stevens 2005; Kommer; Sax). Deacon (1997) wrote:

The right hemisphere of the brain is responsible for nonsymbiotic functions, and is competitive with word processing and phonological analysis. It is the processing of prosodic features of speech. Prosodic features are rhythmic and pitch changes that we generally use to convey emotional tone, to direct the listener's attention to the more or less significant elements in a sentence, and in general, to indicate how aroused we are about the contents of speech. (p. 313)

In the late 1800s, Paul Broca, a French neurosurgeon, maintained that the localization of language functions that play a primary role in speech production is primarily located in the left hemisphere. His research was based on premortem and postmortem observations on a series of patients. Wilson (2004) stated all students generally learn to read using the left frontal part of the brain, or Broca's Area, the

parietotemporal region, and the occipitotemporal region of the brain (Perfetti & Bolger, 2004). Willis (2008) found that "comprehension, retention, and use of information obtained through reading appear to be associated with the prefrontal lobe activation and storage in neurons of the neocortex" (p. 11). Harper and Pelletier (2008) studied gender and language-group differences in students' performance in early literacy. The results of this study showed language differences in kindergarten students; however, there were no significant differences between male students' and female students' reading scores on the Test of Early Reading Ability (TERA-2 and TERA-3). Harper and Pelletier stated that future research should examine gender differences using the TERA as a tool to provide data that will confirm or negate the role of gender in children's ability to infer meaning from print.

Recent research in brain development and language supports the importance of teaching reading and incorporating brain research with perceptual processing, word recognition, syntactic processing, and comprehension associated with literacy in middle schools. Gurian and Stevens (2004) stated in their research on gender and education that there is a disconnection between teaching practice for biological differences in the male and female brains. The implications of neurological science and reading-disabilities research are that early intervention is effective in preventing reading failure for all students (Shaywitz & Shaywitz, 2004). Shaywitz and Shaywitz stated that the ability to learn to read requires students to take advantage of what nature provided: a biological module for language. Students also need opportunities to practice reading, reading comprehension, writing, and listening to stories (Coelho, 2004; Hawkins, 2004; Shaywitz & Shaywitz).

Moats (2003) stated that reading proficiency depends on (a) phonological awareness; (b) knowing what words mean; (c) constructing meaning; (d) connecting the text to prior knowledge; (e) monitoring comprehension; and (f) replacing lack of comprehension. Figure 1 illustrates the areas of the brain responsible for reading proficiency.

Gurian and Stevens (2005) found that Positron emission tomography scans and Magnetic resonance imaging show differences between male and female brains. King and Gurian (2006) stated that when teachers are unaware of these brain differences, they often misdiagnose normal male students as having learning disabilities. There are differences in the frontal lobe during development between male and female brains. This area is responsible for the decision-making process as well as word production, reading, and writing. Female students may develop this area of the brain earlier than male students. Gurian and Stevens (2004) cited that male students have less serotonin and less oxytocin than female students, which can increase impulsive risk behavior.

Areas of the Brain
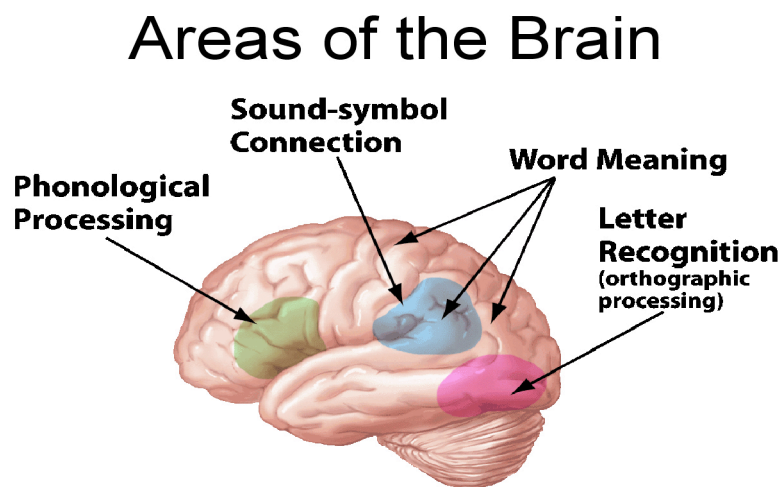
Figure 1. From LETRS module 1: The challenge of learning to read.
Note. From *Language Essential for Teachers of Reading and Spelling, Module 1*, by L. Moats, 2003, Longmont, CO: Sopris West. Copyright 2003 by Sopris West Educational

Services. Reprinted with permission from Sopris West Educational Services. LETRS *Module 1: The Challenge of Learning to Read, Module 1: The Challenge of Learning to Read,* by Louisa Moats@2005 (see Appendix A).

Healy (1990) posited the left hemisphere of the brain works by arranging things in an orderly manner, analyzing, and sequencing sentences and grammar. Jensen (2000) stated that a well-functioning brain should use both hemispheres at the same time to match the abilities of each hemisphere. Researchers generally believe that the right hemisphere works with wholes, not parts. It is involved with language processing, word meanings, and content words. The left hemisphere of the brain is primarily responsible for language comprehension; the order of words and their relationships (syntax); fine distinctions of sounds (phonology); the order of sounds in words; and some types of word meanings such as function words (Jensen, 2000).

Jensen (1998) advised teachers to expose students to more challenging vocabulary and foreign languages by the age of 12. Synaptic pruning and neuronal loss make the acquisition of second languages more difficult during puberty. Nash (1997) and Kennedy (2006) also cited that there is a window of opportunity for developing language in young children. Nash stated, "The ability to learn a second language is highest between birth and the age of six, then undergoes a steady and inexorable decline" (p. 56) Sharma and Nash (2009) stated "The most optimal period for central auditory development is during the first 3.5 years of life. There is some variability in the data between the ages of 3.5 to 7 years" (p. 14).

Deacon (1997) discovered language functions extend to all the major lobes of the neocortex, including the parietal area (tactile), the temporal area (auditory), and the frontal cortex (planning, working memory, and attention) of the left hemisphere.

O'Malley, Reynolds, Stolz, and Besner (2008) revealed reading aloud requires central attention with word recognition. Sousa (1998) wrote, "Talking activates the brain's frontal lobe, which is necessary for understanding, meaning, and memory" (p. 24). Brookshire (1992) and Kennedy (2006) concluded that children can comprehend speech or spoken messages through the primary auditory cortex and pass it on to the Wernicke's area, where a child's prior knowledge is incorporated and meanings are elicited into the analysis of the message for semantic content. This research relates directly to the need for text-to-self reading connections in reading comprehension.

R. Caine and Caine (1990) have developed 12 principles of brain-based learning. Principle 1 states, The Brain Is a Parallel Processor. An adolescent's brain can function simultaneously with thoughts and emotions with activity shifting several times during a class period (R. Caine & Caine, 1990; Jensen, 2000; Lombardi, 2008). The implications of Principle 1 are that teachers should use different methodologies and learning styles to accommodate the downshifting of the brain (R. Caine & Caine, 1990; Lombardi).

Principle 2 is Learning Engages the Entire Physiology. This principle involves educating the whole child (Dewey, 1916). Student learning is influenced by the whole body and learning is either inhibited or advanced by classroom experiences (G. Caine & Caine, 2006; R. Caine & Caine, 1990; Kommer, 2006; Sylwester, 1994). For example, teachers must provide students with engaging learning activities (G. Caine & Caine, 2006; R. Caine & Caine, 1990; Jensen, 2000; Kommer; Sylwester). R. Caine and Caine (1990) cited stress and threat affect the brain, and it is influenced by peace, challenge, boredom, and contentment. Gurian and Stevens (2004) recommended that teachers make lessons experiential and kinesthetic. They found that male students' "language will be

richer in vocabulary and more expansive when they are engaged in a task" (p. 25). The

implications of Principle 2 are that learning is developmental and there may be a

difference in maturation of adolescent students in any given classroom (Piaget, 1972).

Principle 3 states, The Search for Meaning is Innate (G. Caine & Caine, 2006; R.

Caine & Caine, 1990; Jensen, 2000; Lombardi, 2008). The brain naturally searches for

purpose and relevance (G. Caine & Caine, 2006; Jensen, 2000; Lombardi). Jensen (2000)

stated:

> The brain is designed to seek meaning. Until we provide learners with the
> resources (time, context, other learners, materials, opportunities) to discover
> meaning in what we ask them to learn, we will continue to produce robots and
> underachievers. Correspondingly, until we provide more meaningful forms of
> assessment, educators will have little incentive to pursue teaching for deep
> meaning. Students will simply skim a few facts off the top, pass the test, and call
> it education. (p. 279)

Meaning can be constructed through social learning (Vygotsky, 1978). Students make

connections when information is embedded into socially interactive learning connections.

(Bruer, 1999). Lombardi suggested that Principle 3 be taught with discovery and

cooperative learning in contexts to promote understanding and enhancing memory.

Principle 4 is The Search for Meaning Occurs Through Patterns (R. Caine &

Caine, 1990; Jensen, 2000). When the brain encounters a new idea, it searches for prior

knowledge and experiences similar to the new concept (Lombardi, 2008). The

implications for Principle 4 are that teachers should influence patterning in the form of

critical thinking and problem solving. For example, learners must be able to create

meaningful and personally relevant patterns (R. Caine & Caine, 1990). Emotion,

experiences, and learning of meaningful information strengthen useful connections in and

result in cortical pyramidal cell branching (Kennedy, 2006).

Principle 5 states, Emotions are Critical to Patterning (G. Caine & Caine, 2006; R. Caine & Caine, 1990). It implies that emotions and cognition cannot be separated, and emotions are crucial to memory. Jensen (2000) concluded teachers who smile, use humor, have a joyful demeanor, and take pleasure in their work generally have high-performing learners. Kennedy (2006) suggested emotion, experiences, and learning meaningful connections also help students with language acquisition. The implications of Principle 5 are that teachers must be aware of students' feelings and emotions and their impact on learning (G. Caine & Caine, 2006; Jensen, 2000; Sousa, 1998). The attitudes and feelings of students will also determine future learning (R. Caine & Caine, 1990). Teachers must ensure that the emotional climate of the classroom is supportive with acceptance and mutual respect between students and adults by using praise and positive reinforcement with students (G. Caine & Caine, 2006; Jensen, 2000; Sousa). There is a gap in the research literature in the area of creating meaningful experiences for students to enhance their learning (Jensen, 2000; Kennedy, 2006; King & Gurian, 2006; Lombardi, 2008; Sousa).

Principle 6 states, Every Brain Simultaneously Perceives and Creates Parts and Wholes (R. Caine & Caine, 1990). Successful instructors engage learners in tasks that require both sides of the brain, both analytical and creative, to engage students. For example, they might use art to teach a mathematics lesson or music to teach physics (Lombardi, 2008). Teachers must also be cognizant of other principles of brain-based learning (Caskey & Ruben, 2003). These authentic experiences and practices are compatible with adolescent learning styles and can use activities that include

sensorimotor activities such as learning laboratories, role-playing, and debating (Caskey & Ruben; Duman, 2007).

Principle 7 states, Learning Involves Both Focused and Peripheral Attention (R. Caine & Caine, 1990; Duman, 2007). The brain absorbs direct information from the peripheral surroundings (Duman; Jensen, 2000; King & Gurian, 2006; Lombardi, 2008). The implications are that teacher demeanor, processing time, reflection, contextual learning, real-life activities, and interdisciplinary courses can contribute to attention, perception, and learning through unconscious processes (Lombardi).

Principle 8 states, Learning Always Involves Conscious Processes (R. Caine & Caine, 1990). R. Caine and Caine (1990) suggested a great deal of effort put into teaching and studying is wasted because students do not adequately process their experiences. For example, some students may learn more through a group project of cooperative learning or through a social experience (Duman, 2007; Jensen, 2000; Vygotsky, 1978; Wilson, 2004). The implication is that in order to bring conscious learning to the classroom, students may need reflection and metacognition through questioning and the application of acquired knowledge (Lombardi, 2008).

Principle 9 states, We Have Two Types of Memory: A Spatial Memory System and a Set for Rote Learning (R. Caine & Caine, 1990). R. Caine and Caine (1990) stated that we have a natural spatial memory system. They explained it does not need rehearsal and allows for "instant memory of experiences" (p. 68). R. Caine and Caine (1990) wrote:

> The more information and skills are separated from prior knowledge and actual experience, the more we depend on rote memory and repetition. These systems

operate according to the information processing model of memory which suggests that all new information must be worked on before it is stored. (p. 68)

Principle 10 states, The Brain Understands and Remembers Best When Facts and Skills Are Embedded in Natural Spatial Memory (R. Caine & Caine, 1990). New dendrites and brain connections are formed when a student learns something new (Jensen, 2000; Willis, 2008). R. Caine and Caine (1990) posited, the implications for education involve the fact that spatial memory is generally best invoked through experiential learning. For example, teachers should use classroom demonstrations, projects, and visual imagery of certain experiences such as stories and drama.

Principle 11 states, Learning Is Enhanced by Challenge and Inhibited by Threat (G. Caine & Caine, 2006; R. Caine & Caine, 1990; Duman, 2007). The brain downshifts when it perceives a threat, and the brain learns optimally when appropriately challenged. The implication of Principle 11 is that learning tasks must be adjusted to each student's ability and learning style (Gregorc, 1979; Jensen, 2000). Therefore, teachers must create a state of relaxed alertness in students.

Principle 12 states, that Every Brain is Unique (R. Caine & Caine, 1990). The implication for teachers is that learning should be multisensory with auditory, visual, and tactile preferences (G. Caine & Caine, 1997; Gregorc, 1979).

The cerebellum is the area of the brain "involved with reading" that uses kinesthetic learning. Armstrong (2004) suggested students can learn to read with music (musical learning) through song lyrics and the rhythm of words. Armstrong further recommended "sustained silent reading should include a special room for music-smart readers who need to chant what they are reading" (p. 80). The emotional part

(interpersonal learning) of reading is often ignored. Kennedy (2006) cited that "the brain stores information based on functionality and meaningfulness. Emotions drive attention" (p. 479). To provide research- based instruction, teachers must appeal to the "emotional brain" so that students can make personal connections to the text. The limbic system processes word stimuli just as it does all other stimuli (Armstrong).

<div align="center">Conclusion</div>

This chapter provided an overview of the literature focusing on gender equity, comprehension strategies for male students, and differences in the male and female brains and their impact on middle-school literacy. This literature review identified the achievement gap between male and female students in literacy (Clark et al., 2008; Driessen, 2007; Goldberg & Roswell, 2002; King & Gurian, 2006; Kommer, 2006; Newkirk, 2000; Weaver-Hightower, 2003). Instructional leaders and policymakers can provide in-service training and staff development for teachers at the local-school level to assist males with instructional interventions and address the disparity between male and female students. Educators should incorporate lessons emphasizing both text-to-self reading-connection strategies for reading comprehension and brain-based strategies, so that students will have opportunities to be successful. In order to meet these challenges, teachers may need in-depth expertise training and professional development in literacy and guided reading (Ash, 2007; A. Fisher, 2008; Ford & Opitz, 2008; International Reading Association, 2007). Students, particularly male students, must have meaningful, child-centered, and experiential activities (constructivist's theory; Dewey, 1916; A. Fisher, 2008; Gardner, 2006; Goldberg & Roswell; Gurian & Stevens, 2004; Jensen,

2000). Clark et al. (2008) stated that "educators may need to examine their expectations and perceptions of both boys and girls with regard to their school achievement and communication about how we can foster positive attitudes and high but realistic expectations for all students" (Clark et al., 2008, p. 127; King & Gurian; M. Smith & Wilhelm, 2006; Tyre, 2006; Weaver-Hightower). This can be accomplished through staff development and staff in-service programs in the development of reading skills for adolescent male students.

Based on the importance of reading comprehension and reading for meaning, reading skills are crucial to the academic achievement of students in the middle levels (Wilson, 2004). Many students are unprepared to comprehend the content areas of science, social studies, and mathematics, which require strong reading ability and written-language skills (Salinger, 2003; Wilson). Middle-school students who lack strong comprehension skills may not have the exposure to advanced vocabulary skills and content skills to take academically challenging coursework (Slavin et al., 2008).

Researchers and educators should continue to evaluate the implications of neuroscience research and language development to determine the best language practices for children so that the gap can be closed between research and practice (Armstrong, Kennedy, & Coggins, 2002; Kommer, 2006). By implication, brain research confirms what we already know from language development and educational research. Educators must become experts with their students' learning needs, and they must provide opportunities for students to use both hemispheres of the brain. Learning tasks must be adjusted to accommodate each student's learning style (Kennedy, 2006; Lombardi, 2008). Students will create powerful brain synapses if they are provided

stimulating environments conducive to learning (R. Caine & Caine, 1990; Jensen, 2000; Kommer). Children learn best if they are immersed in complex experiences and are given opportunities to process language using the right and left hemispheres of the brain (Gurian & Stevens, 2005; Jensen, 2000). Educators must be aware that language is processed in all the major lobes, including the parietal lobe and the frontal cortex. Recent findings also indicate that the functions of specific regions of the brain are not fixed at birth, but are shaped by learning and experience.

The present study examined text-to-self reading-connection strategies in guided reading as part of the McDougal Littell reading basal series. The guided-reading strategies included reciprocal teaching structures and reinforcement in reading-comprehension skills (Burns, 2007; Iaquinta, 2006; Willis, 2008). Based on the current literature review, there is a gap in the method that teachers use in the implementation of guided reading and practices with different contexts in the elementary grades (A. Fisher, 2008; Ford & Opitz, 2008; Skidmore et al., 2003). Slavin et al. (2008) found there is a strong correlation between students' academic performance of reading ability and success in the workplace. These skills are dependent on reading difficult texts, which include context-dependent vocabulary, context development, and graphic information. Salinger (2003) suggested middle-school students must be active and purposeful users of text. Students need to know how to extract meaning from what they read; connect what they read to what they know; and expand on ideas presented in text. Therefore, students should be able to make connections based on life experiences and to use them as resources for comprehension of reading (Harvey & Goudvis, 2000; Ivey & Fisher, 2006; Robb, 2000; Ryan & Anstey, 2003; Tovani, 2000). The present study may extend the

existing literature that addresses the gap in research in the area of creating meaningful experiences for students to enhance their learning in text-to-self reading connections. In order to teach literacy skills to adolescent students, teachers must be prepared to meet the developmental needs of middle-school students (Hall, Sabey, & McClellan, 2005; Robb; Slavin et al., 2008).

The impetus of this study is that educators and instructional leaders can meet the needs of all students with gender equity, with comprehension strategies for male students, and can understand the impact of the differences in the male and female brains in middle-school literacy. In order to meet these challenges, Wong-Fillmore and Snow (2003) have argued that teachers need in-depth expert training and professional expertise and development in language development and acquisition. They also need to develop an ability to provide for individual differences (Rosemary & Feldman, 2009; Tolman, 2005). In addition, Kommer (2006) stated that teachers need to understand gender differences between male students and female students (Gurian & Stevens, 2005; Kommer). Thus, educators and policymakers need to understand how to design classroom environments to optimize constructivist student learning.

The focus of this chapter was an overview based upon the literature review that male students need opportunities to read texts that make sense to them across the curriculum (Ivey & Fisher, 2006; King & Gurian, 2006; Wilhelm, 2002). Allington (2002) stated that students need more guided reading and independent practice in reading to become proficient readers. Therefore, reading should be taught in content areas as science, social studies, and mathematics across the curriculum in order to improve reading comprehension. Allington (2004) concluded that "some students may need

expert, intensive intervention for sustained periods of time—possibly throughout their

entire school careers-if they are to attain and maintain on—level reading proficiencies"

(p. 24).

CHAPTER 3:

RESEARCH METHOD

Introduction

Chapter 3 begins with a description of the research design, research questions, and

the justification for the design. The researcher outlines the research design and approach,

the population and sample, the sample size, and the study participants. The methodology

section describes the instrumentation and materials.

This chapter presents the research method that was used to investigate the

effectiveness of text-to-self reading-connection instruction in literacy using guided-

reading instruction in middle school, Grade 6. This study measured comprehension-

achievement scores of male students compared to those of female students in language

classes with text-to-self- reading-connection strategies, using the McDougal Littell basal

series balanced-literacy approach compared with guided reading using novels. Wilson

(2004) stated that "reading skills are crucial to the academic achievement of students at

the middle and high school levels" (p. 1). More male students than female students have

lower scores in reading achievement as measured by the WESTEST, conducted in the

mid-Atlantic district during the 2007–2008 school year (State Department of Education,

2008d).

Research Design and Approach

The quantitative research approach for this study was a pretest–posttest,

quasiexperimental design. Wiersma and Jurs (2005) described quasiexperimental

research as involving "an experimental variable with intact groups, or at least with groups that have not been formed through random selection or random assignment; single subjects, not randomly selected, may also be involved" (p. 491). The pretest–posttest, nonequivalent control group was chosen to represent two groups, an experimental and a control group (Wiersma & Jurs). Wiersma and Jurs cited that "the pretest-posttest, nonequivalent control group aids in checking the extent of group similarity, and the pretest scores may be used for statistical control for generating gain scores" (p. 134). The quasiexperimental approach attempted to answer questions with cause and effect with a manipulated variable and its influence on assessment in ex post facto analyses using equivalent groups (Wiersma & Jurs). I chose an ex post facto analysis design in order to consider the "after-the-fact" archival data, or the natural setting, composed of classes previously scheduled by the school administration (Wiersma & Jurs). In ex post facto analyses, the researcher does not manipulate variables but considers variables in the natural setting. This study utilized classes and teachers already determined by school administrators and current reading programs already established.

The independent variable in this study was the experimental variable. Students in two sixth-grade language arts classes participated in text-to-self reading strategies were compared to students in two sixth-grade language arts classes participating in guided reading with the use of novels. The dependent variable was reading comprehension in both the experimental and control groups, as measured by the sixth-grade WESTEST scale scores. The study conducted a factorial ANCOVA with the sixth-grade WESTEST reading using z-scores as the dependent variable and the fifth-grade WESTEST reading using z-scores as the covariate. There were two independent variables, each consisting of

two levels. The first independent variable was reading strategies of text-to-self and novel reading. The second independent variable was gender. The ANCOVA tested the main effects of reading strategy and gender as well as the interaction of these two variables.

The state WESTEST was administered at the end of each school year. This study used fifth-grade results for 2007–2008, and sixth-grade results for 2008–2009. All fifth-grade students in this district received balanced-literacy instruction in reading with the county-adopted basal, the Scott Foresman reading series. The Scott Foresman reading series consisted of reading comprehension, critical reading, fluency, phonemic awareness, vocabulary, and written language (Baughman, 2005). The sixth-grade students in the experimental group received instruction in text-to-self reading strategies with guided reading with the district's basal series, McDougal Littell reading series. Sixth-grade teachers in the experimental group were required to use the McDougal Littell basal reading series with fidelity to their model using text-to-self reading connection strategies. The control group received guided reading instruction with selected novels.

The two schools, School X and School Y, were selected because both schools are similar in size and demographics. This study used a convenience sample because the classes in both schools have been previously scheduled by the school administration. The four sixth-grade teachers in this study had at least five years of experience and were considered to be highly qualified. Fifty percent had master's degrees and were certified in reading and language arts in middle school (D. Hanshaw, personal communication, July 24, 2009). According to the State Department of Education (2009a), "the NCLB's definition of highly qualified requires teachers to be fully certified and be able to demonstrate subject competence in one of four federally approved methods that include

testing, advanced credential, academic major or performance evaluation" (p. 1). All of the fifth-grade teachers of the students in this study were highly qualified, with 90% of the teachers having master's degrees and an average of 15.7 years of teaching experience (D. Hanshaw, personal communication, July 24, 2009). Additionally, all of the fifth-grade teachers were certified in elementary education. The system requires all elementary and middle-school teachers to earn 18 hours of staff development in their content areas each year.

I considered using a qualitative methodology with a phenomenological approach, which includes interviewing up to 10 people (Creswell, 1998). The goal of the phenomenologist, according to Creswell (1998), is "to reduce the textual (what) and structural (how) meanings of experiences to a brief description that typifies the experiences of all the participants in a study" (p. 235). This methodology was rejected because of the inability to answer the research questions with outcomes and causes. Quantitative data can be measured with emphasis on "facts, relationships, and causes. Quantitative researchers place a great value on outcomes and products" (Wiersma & Jurs, 2005, p. 14). According to Creswell (2003), qualitative data measure "multiple meanings of individual experiences, meanings socially and historically constructed with an intent of developing a theory or pattern" (p. 18). This study explored the impact of text-to-self reading-connection instruction to measure reading comprehension. The research in this study compared reading comprehension scores between male students and female students who used the text-to-self-reading strategies in guided reading and those who did not. A quantitative analysis was the best method for this study. The research design and approach were derived logically from the stated problem. The quasiexperimental,

pretest–posttest, nonequivalent control design is illustrated in Table 1 (Wiersma & Jurs, p. 135).

<div align="center">Setting and Sample</div>

The research study was conducted during the 2008–2009 academic year. The total student population for the district was 4,114. The pupil/teacher ratio was 13.4, and the average class size is 20.4. The participants consisted of two rural middle schools located in a district of the mid-Atlantic region with a population of 302 students in School X and 573 in School Y. Both middle schools in the present study had similar demographics. Approximately 57% of the total population of School X received free or reduced-price meals; 99% of the students were White; 24% of the students received special-education services. In School Y, approximately 52% of the total population received free or reduced-priced meals; 98% of the students were White; and 20% of the students received special-education services. Both middle schools in the present study had no students receiving services for Limited English Proficiency (LEP; State Department of Education, 2008c). The target population consisted of two sixth-grade language-arts/reading classes in School X, a lower-socioeconomic middle school in a mid-Atlantic state. The experimental group consisted of 48 students in two language arts classes; 26 were heterogeneously grouped sixth-grade students in Teacher A's language-arts/reading class. Fifteen of those students were male, 12 were female, and 6 of the 27 students were students receiving special-education services. Four of the special-education students were male and 2 were female. The second class consisted of 25 heterogeneously mixed sixth-grade students enrolled in Teacher B's language-arts/reading class. Ten of those students

were male, 15 were female, and 9 of the 25 were students who received special-education services: 5 male, and 4 female students.

Table 1

Diagram of Pretest–Posttest, Nonequivalent Control Group Design with Two Experimental and Control Groups

Fifth grade 2007–2008	Sixth grade 2008–2009
Group 1 experimental	Group 1 experimental
End of year WESTEST used as pretest 2008	End of the year WESTEST used as posttest 2009
Text-to-self reading	
Group 2 (control)	Group 2 (control)
End of year WESTEST used as pretest 2008	End of year WESTEST used as posttest 2009
Novels	

Note. From *Research Methods in Education,* by J. Wiersma & S. Jurs, 2005, Boston: Pearson.

The control group of this study consisted of two language-arts/reading classes in School Y, a lower socioeconomic middle school in a mid-Atlantic state. There were 44 heterogeneously grouped students in two language arts classes. Teacher C's class consisted of 22 students; 16 students were male, 6 were female, and 10 of the 22 students received special-education services. Six special-education students were male, and 4 were female. There were 26 heterogeneously grouped students in Teacher D's class; 11 were males, 15 were females. Nine of the 26 were students who received special-education services, 5 were male and 4 were female. All four classes in School X and Y were inclusion classrooms with a special-education teacher serving the needs of students with disabilities. Students in this study who were classified with learning disabilities must, by definition, be functioning intellectually in the average range (RESA IV, 2008).

In their chapter on inferential statistics, Wiersma and Jurs (2005), suggested sample sizes of 30 per group is appropriate for comparing group means, such as ANCOVA, or an ANOVA. In the proposed study, there were 48 students in the experimental group and 44 in the control group. A power analysis was conducted and revealed that with a significance level of .05 and a large effect size of .5, the minimum number of participants of 24, was met (Wiersma & Jurs). The GPower computer program generated this analysis; therefore, the proposed sample size is sufficient for this study (Faul, 2008). For statistical significance, reading instruction strategies for middle-school students can be a large effect size of 0.60 (Lipsey & Wilson, 1993).

The sampling size was a convenience sample because the classes in both schools had been previously scheduled by the school administration. Creswell (2003) concluded, "A convenience sample makes it difficult to randomly assign individuals to groups, a hallmark of a true experiment" (p. 164). The principals in both schools randomly scheduled students with a computer matrix at the beginning of the school year. Students with disabilities were scheduled according to their Individual Education Plan. The role of special education in both schools was to support students with individual education objectives and modifications. These students were at least one to two years below grade level in reading comprehension. There were varying levels of reading comprehension of the participants in this study. In this quasiexperiment, the control and experimental groups received the same amount of guided reading instruction in the double block of reading and language classes with 45 minutes for each class in School X and School Y. Additionally, students in both schools were scheduled for a 45 minute flex class. I used an analysis of covariance because this statistical test controls for differences in pretest

abilities that can be found in a sample such as students with learning difficulties or gifted and talented students. Additional information on this topic can be found in the in the data-analysis portion of this chapter.

The method for teaching all classes in language arts/reading was guided reading with comprehension strategies. The philosophy of the school district exemplified the use of guided reading with direct instruction in order to improve the effectiveness of students' basic reading skills (Cunningham & Allington, 2007; Fountas & Pinnell, 2001; McDougal Littell, 2002). Guided reading includes small, flexible group instruction based on each student's reading level. It focuses on strategies used before, during, and after reading. Minilessons on explicit decoding and comprehension skills were provided during guided reading. Guided writing included the use of minilessons with opportunities for flexible grouping (Fountas & Pinnell). Guided reading was used by the teacher for students—whole group, small group, or individual—to guide them through an activity designed to help them apply their word identification and/or comprehension strategies (Cunningham & Allington). Students in the two middle schools were scheduled for a double block of language arts combined with reading for a 90-minute block of time. Additionally, students in both schools were scheduled for a daily 45-minute flex class. Students received extra assistance from the reading/language-arts teacher in the flex class with reading, written language, or other assignments. Teachers in each team alternated the flex classes at the end of each quarter. In this school district, students in the two middle schools received a daily total of 135 minutes of reading and written-language instruction. The two middle-school principals in this district scheduled a 90-minute block

for reading/language arts and a 45-minute flex class to assist students in added reinforcement and interventions in reading/written language.

Experimental Group: School X

The experimental group in this study consisted of two sixth-grade language-arts classes in a small, middle school located in a mid-Atlantic state. This study examined the results for teaching strategies of text-to-self reading connections, using the McDougal Littell basal series with guided reading and reading comprehension using novels. Teachers in both language-arts classrooms used the text-to-self reading-connection strategies for approximately one year. The text-to-self reading connections were included in each guided reading lesson. The text-to-self reading connection occurs when the student connects reading to past experiences and prior knowledge and highlights a sentence, making connections to other texts. Text-to-world occurs when the student makes connections with a person or event in the text (Harvey & Goudvis, 2000).

The McDougal Littell consisted of explicit instructions to teachers for modeling reciprocal teaching strategies (guided reading), vocabulary development, and comprehension strategies. Guided reading includes a daily small, flexible group instruction according to the student's instructional level, which focuses on strategies before, during, and after reading. The McDougal Littell basal reading series includes minilessons on reading strategies, and vocabulary skills that are used during guided reading (McDougal Littell, 2002, p. 47). Guided writing includes the use of minilessons with opportunities for flexible grouping (Fountas & Pinnell, 2001, p. 13). The prereading strategies include previewing the text, building background, and setting the purpose for

reading (McDougal Littell, 2002, p. 34). Students are encouraged while reading to check for understanding, to use active reading strategies, to integrate new concepts with existing knowledge, and to make connections to their own life and experiences (McDougal Littell, 2002, p. 34). Additionally, in the "after reading" strategy, students summarize "what has been read, evaluate the ideas, and make applications of the ideas" (McDougal Littell, 2002, p. 34). Teachers used direct instruction, modeling, guided practice, demonstration, and differentiation of instruction using the McDougal Littell reading basal. Scripted lessons were included for each story in the McDougal Littell (2006) teacher's manual that includes strategies for teaching reading and making connections with the text. Reading connections (text-to-self reading connections) were included in the lesson plans. There were graphic organizers to aid in teaching reading, in reading comprehension, and in making connections (F. Amick, personal communication, January 8, 2009).

The system required all elementary and middle-school language teachers to earn 18 hours of staff-development credit in their content areas each year. As part of the staff development, the two teachers in the experimental group were required to participate in a 1-day training session on teaching the McDougal Littell Reading and Language Arts Program provided by McDougal Littell reading/language art experts in the teaching of reading-comprehension strategies. Teachers received instruction on using the McDougal Littell Reading Toolkit in order to teach guided reading with reading comprehension, vocabulary skills, and making connections (text-to-self reading strategies) to engage readers. Ongoing staff development using the McDougal Littell reading program was provided by the principal in weekly team meetings. The principal reviewed and approved weekly lesson plans (F. Amick, personal communication, October 7, 2009).

Teachers were required to take 6 hours of online continuing education on pedagogical practices with emphasis in teaching reading and written language (F. Amick, personal communication, October 7, 2009). Teachers in both middle schools participated in bimonthly Instructional Staff Enrichment and staff development that focused on curriculum issues related to teaching reading and written language in the content areas. Language-arts teachers in both middle schools were also required to meet daily with other language arts/reading teachers on their teams to plan and differentiate lessons. Additionally, the middle-school teachers in both schools were required to meet weekly with the principal to analyze student data and review individual student progress (F. Amick, personal communication, October 7, 2009).

Teachers in the experimental group had previously reviewed and continued to have access to the McDougal Littell Reading Toolkit (F. Amick, personal communication, October 7, 2009). The McDougal Littell Toolkit offers a rationale and overview of research and staff development for teaching in the McDougal Littell Reading and Language Arts Program. The Toolkit gave detailed information on teaching guided reading with direct instruction, ongoing assessment, and details on how to make connections across the curriculum (McDougal Littell, 2002). Basic comprehension tools, graphic organizers, building vocabulary, and standardized test preparation were available in the McDougal Littell Reading Toolkit (McDougal Littell, 2002). Proof that the intervention for the McDougal Littell Reading Language Arts Program was used appropriately, was confirmed by the principal's daily observations, weekly team meetings, and evaluations of teacher's performance (F. Amick, personal communication, January 8, 2009).

Control Group: School Y

The control groups consisted of two traditional sixth-grade language-arts classes in a small middle school in a mid-Atlantic state. The method for teaching literacy was guided reading, including reading comprehension, writing, vocabulary development, and reading of novels (Cunningham & Allington, 2007). The students in both language-arts classes chose their own vocabulary words for word study and were instructed with grade-level novels on their instructional level according to their reading ability. Students were scheduled for a 90-minute double block of language arts. Additionally, students were scheduled for a daily 45-minute flex class advisory period, and 45 minutes for social studies. Students in Teacher C's social studies and language-arts classes received assistance in the flex class with reading, written language, and mathematics assignments. Teacher D's students received assistance with written language in their flex class.

Instrumentation and Materials

The standardized end-of-year test, the State School Assessment (WESTEST), was administered at the end of the year and was used to compare reading-comprehension scores. The WESTEST is a criterion-referenced test that is aligned to the content standards and objectives in reading, language arts, mathematics, science, and social studies in Grades 3 through 8 and Grade 10 (State Department of Education, 2008a). The WESTEST measures reading and language arts in comprehension, vocabulary development, gaining information, performing tasks, and reading for literary experience (State Department of Education, 2008a). For the purpose of this study, the reading/language-arts scale score was used.

According to the State Department of Education (2008a), the five levels of student achievement have been defined for the WESTEST: Distinguished, Above Mastery, Mastery, Partial Mastery, and Novice. A general description of each of these levels is listed below (State Department of Education, 2008a).

Distinguished: Student demonstrates knowledge, comprehension, application, analysis, synthesis, and evaluation of skills, which exceed the standard.

Above Mastery: Student demonstrates knowledge, comprehension, application, and analysis of skills, which exceed the standard.

Mastery: Student demonstrates knowledge, comprehension, and application of skills, which meet the standard.

Partial Mastery: Student demonstrates knowledge and recall of skills toward meeting the standard.

Novice: Student does not demonstrate knowledge and recall of skills needed to meet the standard. (pp. 6–7)

An overall global score for reading/language arts was used to represent the five levels of student achievement as illustrated in Table 2.

Table 2

Diagram of Performance Level Results for WESTEST in Reading/Language Arts

Sixth grade	Fifth grade
Distinguished	
Scale score range: 705–810	Scale score range: 701–800
Above mastery	
Scale score range: 681–704	Scale score range: 676–700
Mastery	
Scale score range: 644–680	Scale score range: 640–675
Partial mastery	
Scale score range: 607–643	Scale score range: 601–639
Novice	
Scale score range: 505–606	Scale score range: 495–600

Note. Adapted from *Westest 2,* by West Virginia Educational Standards Test 2, 2009, retrieved January 31, 2010 from http://wvde.state.wv.us/oaa/pdf/sample%20westest2 %20reports/StudentReport.3.4.09.pdf

Reliability

Reliability refers to replicability, consistency of methods, conditions, and results (Wiersma & Jurs, 2005, p. 9). The State Technical Report Supplement (2008) reported that the WESTEST has reliability with the internal construction of the test (State Department of Education, 2008e). This report suggests that an interpretation of a test score be carefully considered. According to the State Department of Education (2008e), the WESTEST is statistically valid and reliable. The WESTEST had been previously developed and standardized for reliability and validity with the State Department of Education (2008e). The developers of the WESTEST, CTB McGraw-Hill and the State Department of Education have proven reliability and validity (CTB McGraw-Hill, 1997). The State Technical Report Supplement 2008 from the State Department (2008e) stated that all reliability coefficients (Cronbach's alpha) were higher than .90 (p. 5). According

to The State Technical Report Supplement (State Department of Education 2008e), "The WESTEST's internal consistency reliability coefficients indicated that tests with constructed-response and selected-response questions can be quite reliable. These coefficients are computed on all the students tested in each year the WESTEST has been operational" (State Department of Education, 2008e). The reliability coefficient refers to a test characteristic, accuracy of measurement, and is a concept usually applied to individual scores. The internal consistency coefficients describe test characteristics, the Standard Error of Measurement based on Item Response Theory. This provides evidence for reliability on the WESTEST (State Department of Education, 2008e). "The [Item Response Theory]-based Standard Error of Measurement indicates the expected standard deviation of observed scores if an examinee were tested repeatedly under unchanged conditions" (State Department of Education, 2008e, p. 6). According to The State Technical Report Supplement (2008e,) State Department of Education, the WESTEST has test–retest reliability.

Previous studies conducted by St. John (2009) and O'Byrne, Securro, Jones, and Cadle (2006) used the WESTEST as a dependent variable to measure student achievement. St. John compared the relationship between teachers' perceptions and their principals' leadership style, measured by the Leader Behavior Analysis II and student achievement in mathematics and reading as measured by the WESTEST. The results of this study indicated that there was not a significant difference between leadership styles of principals and student achievement. O'Byrne et. al. also used the WESTEST to measure the dependent variables, reading and language arts, science, and social studies to

investigate the impact of Merit literacy software. The results of this study showed

improvement in reading and written language skills for low-achieving students.

According to Paine (2008), the reliability of the accountability system

determinations are ensured through the following:

> uniform averaging of scale scores across grade levels within the school and [Local Education Agency] to produce a single school or LEA score. Multiple year averages are used to determine reading/language arts and mathematics proficient levels of performance for rating public schools. Two years of data (2003–04 and 2004–05 WESTEST and [the state Alternate Performance Task Assessment) were used as the baseline for determining a starting point. [This state] established the trajectory of intermediate goals and all annual objectives beginning in 2005–2006 and extending through 2013–14. Statistical tests were used to support the minimum "n" decision. (p. 48)

Validity

Validity refers to the extent to which an instrument measures what it was

designed to measure (Field, 2009). The State Technical Report Supplement reported

evidence for validity in the purpose and interpretation-of-scores of the WESTEST (State

Department of Education, 2008e, p. 4). The report stated that the purpose of the

WESTEST is to demonstrate student ability in mathematics, reading/language arts,

science, and social studies in a mid-Atlantic state. The State Technical Report

Supplement concluded the following:

> It is intended by the developers of the WESTEST that WESTEST scores be interpreted to mean that students who have higher scores on the WESTEST subject area tests have acquired more knowledge and skills taught in the mid-Atlantic classroom in those subjects. (State Department of Education, 2008e, p. 4)

The state department contracted with Dr. Norman Webb of the Wisconsin Center

for Education Research to conduct an independent and external alignment study for the

2004 WESTEST and 2008 WESTEST 2, which provided evidence of content validity

(Council of Chief State School Officers, 2009). According to the Norm-Referenced Tests in State Assessment, the state department also contracted with CTB McGraw-Hill with selected "[norm-referenced test] items which aligned to the [Curriculum Standard Objectives] with anchor items on the WESTEST" (Council of Chief State School Officers, p. 6). Thom (2006) cited, "The scale on which the WESTEST scores are reported is based on a standardized achievement test (*TerraNova)* which makes it possible to report national percentile scores in addition to the criterion-referenced scale scores of the WESTEST" (p. 54).

<div align="center">Threats to Internal and External Validity</div>

There are threats to internal and external validity that were considered for the present study. D. Campbell and Stanley (1963) and Wiersma and Jurs (2005) in their description of the quasiexperimental design, listed eight threats to internal validity. These included history, maturation, testing, instrumentation, statistical regression, experimental mortality, and selection-maturation interaction (Wiersma & Jurs). D. Campbell and Stanley (1963) concluded that if these variables are "not controlled in the experimental design, it might produce the effect of the experimental stimulus" (p. 8). Areas of weakness that may influence the present study with internal validity included selection, mortality, and interaction of selection and maturation (D. Campbell & Stanley, 1963; Wiersma & Jurs, 2005).

In order to address external validity and generalizability of the study, conclusions of this study were reviewed carefully. Wiersma and Jurs (2005) stated that "external validity deals with the issue of whether or not independent researchers can replicate

studies in the same or similar settings" (p. 9). The results of this study may be generalized to middle schools with similar populations and similar reading programs in the mid-Atlantic state in Grade 6.

<div align="center">Role of the Researcher</div>

The role of the researcher was to analyze the data from the two schools. The researcher obtained the WESTEST data from the assistant superintendent of schools for both schools participating in this study. Additionally, I was responsible for setting up the research design and approach, setting and sample, data collection, analysis, and taking measures to protect participants' rights with the school system. To protect student identity, no names or district identification numbers were requested or supplied by the school district.

<div align="center">Data Collection and Analysis</div>

The present study used an ANCOVA to compare the pretest and posttest WESTEST scale scores to determine if differences in reading achievement existed among reading programs and genders. The test items were not the same for each grade. The standardized scores (scale scores) were not vertically equated and were not compared in a pretest and posttest design. Because of this, the fifth-grade (pretest) and the sixth-grade (posttest) scale scores were converted into z-scores in order to standardize the scale scores; thus, facilitating comparisons between the groups. The researcher collected and analyzed data. The researcher (a) obtained permission from the district to conduct the study; (b) requested that files contain a record for each student, including school code, teacher code, gender, Grade 5 WESTEST scale score, and Grade 6 WESTEST scale

score; (c) collected data in an Excel file format; (d) imported data into SPSS Version 17

for coding and analysis; (e) generated *z*-scores for the Grade 5 and Grade 6 WESTEST

scale scores; (f) generated descriptive statistics for the two schools and programs; (g)

generated histograms and normality tests to ensure data meet the parametric assumptions

for the ANCOVA; and (h) ran an ANCOVA for each of the research questions.

In addition to the assumption of normality, ANCOVA also requires

(a) independence of covariate and treatment effect, and (b) homogeneity of regression

slopes (Field, 2009). In the first assumption, it is important that the covariate (Grade 5

WESTEST scores) is not confounded nor highly related to the main effects (reading or

gender). When this happens, "the covariate will reduce (statistically speaking) the

experimental effect because it explains some of the variance that would otherwise be

attributable to the experiment" (Field, p. 397). Field recommended conducting a *t*-test,

using the covariate as the dependent variable and levels of the effects as the independent

variables. Therefore, two *t*-tests were conducted using the Grade 5 WESTEST scores as

the dependent variables for both tests. The first *t*-test compared the two types of reading

strategies, and the second *t*-test compared the two gender categories. If the tests are

statistically insignificant ($p > .05$), then this assumption will be met.

The second assumption, homogeneity of regression slopes, assumes that the

relationship between the dependent variable and the covariate are similar for each of the

levels of effects (Field, 2009). Therefore, the Tests of Between-Subject Effects *F*-test of

the interaction between reading strategies and Grade 5 WESTEST scores should not be

significant (p > .05). Similarly, the Between-Subject Effect *F*-test of the interaction

between genders and the Grade 5 WESTEST scores should not be significant ($p > .05$). If

either one of these two assumptions is violated, a repeated-measures mixed design would

have used (Field).

The study was guided by five research questions with a statement of hypotheses:

Question 1. Is there a statistically significant group mean difference in reading-

comprehension posttest scores between students who participate in the use of text-to-self

reading-connection strategies in guided reading using the McDougal Littell Reading

(2002) basal series and students who use the guided-reading approach using novels?

Null hypothesis 1. There is no statistically significant group mean difference in

reading-comprehension posttest scores between students who participate in the use of

text-to-self reading connection strategies in guided reading using the McDougal Littell

Reading basal series and students who use the guided-reading approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in

reading-comprehension posttest scores, while controlling for pretest scores between

students who participate in the use of text-to-self reading connection strategies in guided

reading using the McDougal Littell Reading basal series and students who use the

guided-reading approach using novels.

Question 2. Is there a statistically significant group mean difference in reading-

comprehension posttest scores, while controlling for pretest scores between male students

who participate in the use of text-to-self reading connection strategies in guided reading

using the McDougal Littell Reading basal series and male students who use the guided-

reading approach using novels?

Null hypothesis 2: There is no statistically significant group mean difference in

reading-comprehension posttest scores between male students who participate in the use

of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading basal series and male students who use the guided-reading approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between male students who participate in the use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading basal series and male students who use the guided-reading approach using novels.

Question 3. Is there a statistically significant group mean difference in reading-comprehension posttest scores between female students who participate in the use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading basal series and female students who use the guided-reading approach using novels?

Null hypothesis 3. There is no statistically significant group mean difference in reading-comprehension posttest scores between female students who participate in the use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading basal series and female students who use the guided-reading approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between female students who participate in the use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading basal series and female students who use the guided-reading approach using novels.

Question 4. Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series?

Null hypothesis 4. There is no statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series.

Question 5. Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels?

Null hypothesis 5. There is no statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels.

ANCOVA was used because it is the best statistical procedure for pretest–posttest comparisons of more than two groups (Field, 2009). The ANCOVA is an extension of

analysis of variance methods that compares the means of two or more groups. The

ANCOVA allows the researcher to include covariates or variables that may be related to

the dependent variable. In this study the covariate was the Grade 5 WESTEST score and

the dependent variable will be the Grade 6 WESTEST score. The Grade 5 score was the

baseline score from which growth was measured using the Grade 6 score.

I used the .05 level of statistically significant differences to accept or reject the

null hypotheses. This level was selected because it is an acceptable level for educational

research (Wiersma & Jurs, 2005).

Effect sizes were calculated for each statistical test. The effect size is normally

used to make a judgment as to whether the difference between the means is not only

statistically significant, but educationally significant (Thompson, 2002). It can be

possible to obtain statistical significance ($p < .05$) by having large sample sizes or other

factors. The effect size provides an objective measure and another indication that there

truly is an effect of the text-to-self reading strategies. The partial eta squared was used to

estimate the effect size with the ANCOVA. This statistic was generated for the main

effects and the covariate. The equation that was used is

$$\text{Partial } \eta^2 = \frac{SS_{\text{effect}}}{SS_{\text{Effect}} + SS_{\text{Residual}}}$$

I used Cohen's (1992) guidelines for interpreting effect size: $r = .10$ is a small

effect; $r = .30$ is a medium effect; and $r = .50$ is a large effect. Hopkins (2002) cited that

"the usual interpretation of this statement is that anything that is greater than 0.5 is large,

0.50-0.3 is moderate, and 0.3-0.1 is small" (p. 1). According to Lipsey and Wilson

(1993), reading instruction strategies for elementary and secondary students can be large

with a statistical significance of 0.60. Garson (2009) posited that Cohen's correlation $r =$

$d/[(d^2 + 4)^{.5}]$. Garson stated that

> the larger the d (which may exceed 1.0), the larger the treatment effect or effect of a factor. Cohen considered d=.2 to correspond to a small effect, .4 to a medium effect, and .8 or higher to a large effect. (p. 36)

Therefore, I used a .05 level of significance (alpha equals .05) in the present study

(Garson; Hopkins; Lipsey & Wilson).

The researcher presented the R^2, also known as shared variance, for the

ANCOVA analysis. According to Field (2009), when R^2 is multiplied by 100, it

represents the percentage of the variation in the outcome variable (sixth-grade scores)

that can be explained by the fifth grade scores. It provided an overall indication of the fit

of the regression part of the ANCOVA analysis. Higher R^2 values indicate higher

associations between the fifth grade and the sixth grade scores.

In summary, the *p*-value of the statistical tests and the effect size were used in

determining which hypothesis to retain, the null or the alternative. The statistical

computer program SPSS version 17 was used to conduct the ANCOVA, determine

statistical significance, and calculate effect size for each research question. SPSS was

used to generate descriptive statistics such as frequencies, histograms, means, and

standard deviations.

<center>Participants Rights and Ethical Considerations</center>

After the approval of the dissertation proposal by the research committee and

Walden University's Institutional Review Board, the researcher requested permission

from the district's superintendent of schools to conduct this research study. I considered

all risks and benefits to the participants and stakeholders associated with this study. The text-connection strategies were part of the guided-reading curriculum of the McDougal Littell basal reading series. Teachers already used personal connections to engage students' learning using prior knowledge in their daily instruction. The benefits associated with text-to-self reading-connection strategies were that students will be able to use reading-comprehension strategies to assess prior understanding and knowledge. Text-to-self reading connections help students relate meaning to their own lives. There were no conflicts of interest for the researcher with the participants or stakeholders.

Precautions were taken to protect all students. I protected the anonymity of the participants. Students were assigned numbers that were matched on the pretest and post-posttest responses on the WESTEST. No identifiers were obtained for this study. I will share any generalizations from the present study with staff, school administrators, and reading specialists in the schools.

Summary

This chapter provided an overview of the quantitative research design and approach using a pretest–posttest, quasiexperimental design and the specific research questions guiding the study. Chapter 3 described a two-way ANCOVA using a factorial design to determine if there were a significant main effect for text-to-self and novel reading independent variable (group), and a significant main effect for the second independent variable (gender), or a significant interaction between the two variables. The setting and sample of two middle schools in the mid-Atlantic state, the instrumentation and materials of the WESTEST, and data collection and analysis were described. This

chapter concluded with the protection of participants' rights, and the justification for the methodology. Chapter 4 presents the findings and conclusions for each research question. Finally, chapter 5 presents the interpretations and analysis of research findings and addresses the implications and recommendations for social action, and suggestions for future research.

CHAPTER 4:

RESULTS

Introduction

This chapter is structured around the research questions, research hypotheses,

research tools, data collection and analyses, and the findings. The data-collection analysis

includes tables and figures, a summary of the findings, and a conclusion. The purpose of

this study was to evaluate the effectiveness of text-to-self reading instruction and to

measure comprehension achievement (scores) of male and female students in sixth-grade

reading and language-arts classes with and without text-to-self reading instruction.

Details of Treatment

This study employed a quantitative methodology using a pretest–posttest,

quasiexperimental design and a two-way factorial ANCOVA to compute the statistical

differences between the reading comprehension means and gender of the experimental

and control groups of students. The four groups in both schools had been previously

selected by the assistant superintendent and scheduled by the principals. Both middle

schools had similar demographics. The experimental group consisted of 48 students in

two language arts classes. There were 44 students in two language arts classes in the

control group. The present study used archival data (ex post facto analyses) of the state

standardized WESTEST to compare end-of-year fifth-grade reading/language results for

2007–2008, and end-of-year sixth-grade results for 2008–2009. Text-to-self reading

connections were taught directly in two experimental classrooms in conjunction with the

McDougal Littell Reading basal series. The students' scores were compared to students in a control group who were taught in two classrooms using a balanced-literacy approach with guided reading, self-selected reading, and vocabulary development with novels. The scores of both male students and females students in the experimental and control groups were compared.

Teachers in the experimental group reviewed and had access to the McDougal Littell Reading Toolkit (F. Amick, personal communication, October 7, 2009). The McDougal Littell Toolkit offered a rationale and overview of research and staff development for teaching the McDougal Littell Reading and Language Arts Program. The Toolkit gave detailed information on teaching guided reading with direct instruction using scripted lessons, ongoing assessment, and details on how to make connections across the curriculum (McDougal Littell, 2002). Basic comprehension tools, graphic organizers, building vocabulary, and standardized test preparation were available in the McDougal Littell Reading Toolkit (McDougal Littell, 2002).

Programs were identical for both groups, with the exception of text-to-self reading connection strategies in the experimental group compared to self-selected novels in the control group. The experimental group in this study consisted of two sixth-grade language-arts classes that used text-to-self-strategies to help students make personal connections with the text based on their own experiences. Students in both groups were scheduled for a double block of language arts combined with reading for a 90-minute block of time. Students in both schools were scheduled for a daily 45-minute flex class. Students received extra assistance from the reading/language-arts teacher in the flex class with reading, written language, or other assignments. The four sixth-grade teachers in this

study had at least five years of experience, and fifty percent had master's degrees with certification in reading and language arts in middle school. Ongoing staff development was provided by the principals in weekly team meetings that included the review of lesson planning and the assessment of student work samples in both schools, as required by the school district.

The researcher was not present to observe the daily instruction; therefore, this might have been a possible limitation. Because the present study used archival data (ex post facto analyses), a possible limitation was that observational data by the researcher of the teachers' instruction could not be part of this study. Other instructional variables which may have been limitations included student motivation and teachers' methods of teaching. Based on the state requirements for teacher and principal certification, the teachers' years of experience, and the principal's observations and planning workshops; observational data by the researcher, would have had little or no impact on the findings of this study. Principals reported that teachers taught the appropriate reading strategy in the experimental and the control groups. The principals in this study were considered reliable sources of the fidelity for the implementation of the literacy programs. Possible competing explanations for the results obtained in this study would not apply because of (a) reliability of teachers' honesty on the implementation of literacy programs; (b) weekly team meeting with principals; (c) weekly observations by principals of teachers' implementation; and (d) staff enrichment and development for reading and written language.

Descriptive statistics on gender and number of students for the two schools and programs are presented in Table 3.

Table 3

Number of Participants in the Study Sample by Gender and Program

		Gender		Total
		Male	Female	
Reading program	Text-to-self reading	25	23	48
	Control group	24	20	44
Total		49	43	92

Assumptions of ANCOVA

A two-way factorial ANCOVA was used to test statistical procedures for the pretest–posttest comparisons of the two groups using SPSS software. According to Pallant (2007), "the scores of the pre-test are treated as the covariate to 'control' for pre-existing differences between the groups. Preliminary checks of the data were conducted to test the ANCOVA assumptions of (a) normality, (b) linearity, (c) homogeneity of variances, (d) homogeneity of regression slopes, and (e) reliable measurement of the covariate (Pallant, 2007).

Normality. Histograms were generated for the study to examine the assumption of normality. Histograms resemble a symmetrical bell-shaped curve when a distribution is normal. The histogram in Figure 2 depicts the fifth-grade z-scores, and it does not resemble a symmetrical curve; therefore, it is not normally distributed. Conversely, the histogram of the sixth-grade z-scores did resemble a symmetrical bell-shaped curve. The Kolmogorov-Smirnov (KS) test indicate that the fifth-grade scores were not normally distributed (KS) = .110, df = 92, p = .008) and the sixth-grade scores were normally

distributed (KS = .071, *df* = 92, *p* = .200. The nonnormality of the fifth-grade scores does

not violate the assumption of the ANCOVA method, because the fifth-grade scores are

the covariate. To summarize, the assumptions of the ANCOVA were met with the

exception of the fifth-grade *z*-scores according to the KS test. This violation was minimal

since the fifth grade z-scores were the covariate and not the dependent variable.
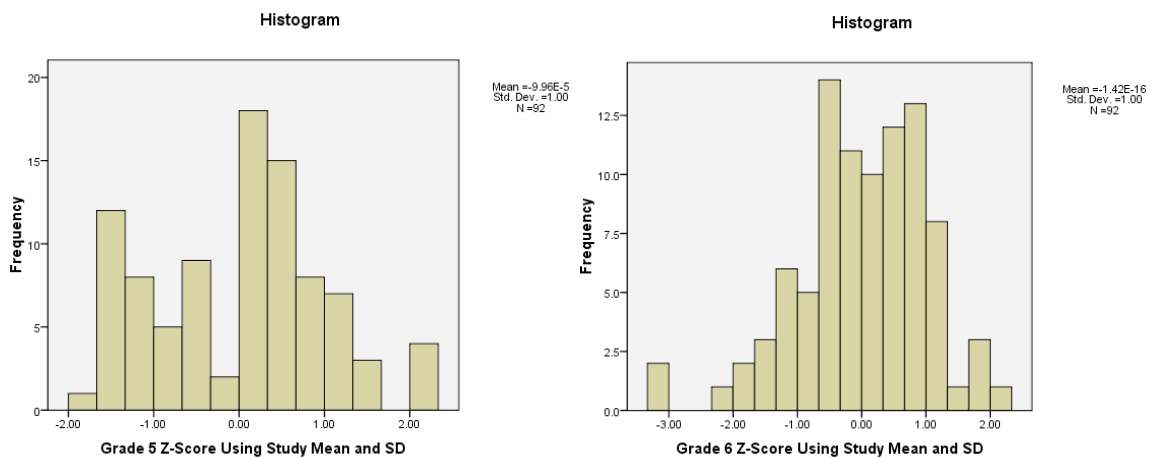
Figure 2. Histograms for fifth-grade and sixth-grade students.

*Lin*earity. Linearity is a relationship "between two variables such that a straight

line can be fitted to the points of the scattergram; the scatter of points will cluster

elliptically around a straight line rather than some type of curve" (Wiersma & Jurs, 2005,

p. 489). The scatter plot of the covariate and the dependent variables in Figure 3 depict a

linear trend in the data. The Pearson correlation coefficient was .664 and was statistically

significant (*p* < .001). Figure 3 shows a modest degree of linearity between the variables;

therefore, this assumption of the ANCOVA was met.

Homogeneity of Variance. The two-way ANCOVA with the Levene's Test of

Equality of Error Variance was used to check that the assumption of equality of variance

was met (Pallant, 2007). According to Pallant, the significant value should be greater than .05. Pallant asserted that if "this value is smaller than .05 (and therefore significant), this means your variances are not equal and that you have violated the assumption" (p. 308). In this study, the assumption was met. The significance was .102, which is greater than .05.
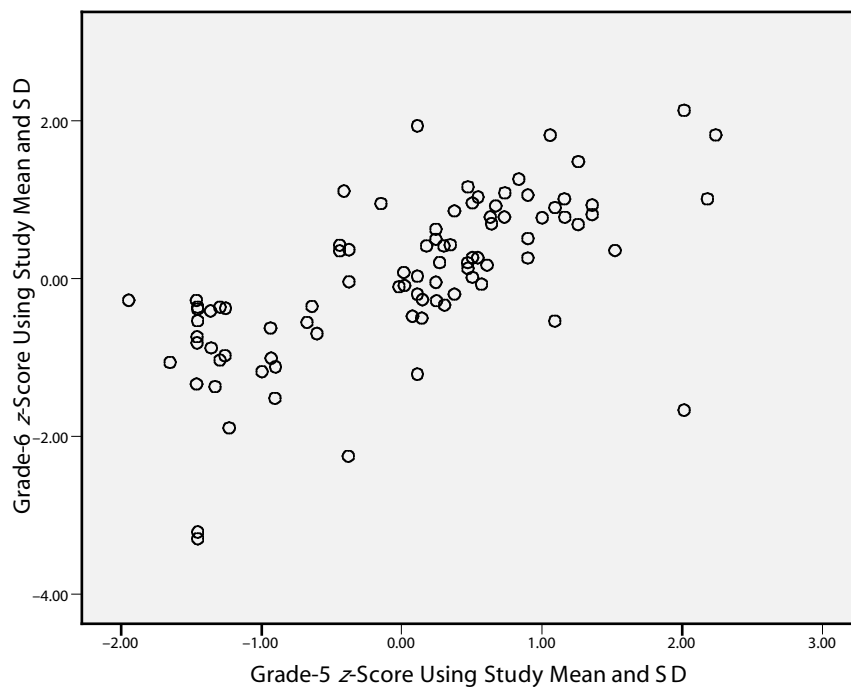
Figure 3. Scatter plot using fifth-grade and sixth-grade *z*-scores.

Homogeneity of Regression Slopes. Field (2009) recommended a *t*-test for the fixed factors using the covariate as the dependent variable. There was no significant difference on the covariate fifth-grade *z*-scores between male students and female students ($t = 1.493$, $df = 90$, $p = .139$). This assumption was met for the gender variable. Similarly, there were no significant differences on the covariate fifth-grade *z*-scores between reading programs ($t = .564$, $df = 90$, $p = .574$). The means and standard deviations that were used in these t-tests were presented in Tables 4 and 5.

Table 4

Means and Standard Deviations of Fifth Grade Students by Gender

	Gender	*N*	Mean	Std. Deviation	Std. Error Mean
Grade 5 *z*-Score Using Study Mean and SD	Male	49	-.1449	1.05924	.15132
	Female	43	.1649	.91215	.13910

Table 5

Means and Standard Deviations of Fifth Grade Students by Reading Program

	Reading program	*N*	Mean	Std. Deviation	Std. Error Mean
Grade 5 *z*-score using study mean and SD	Text-to-self reading	48	.0564	.92698	.13380
	Control group	44	-.0617	1.08147	.16304

Research Findings

Analysis of Hypothesis for Research Question 1

Question 1. Is there a statistically significant group mean difference in reading-comprehension posttest scores between students who participate in the use of text-to-self reading-connection strategies in guided reading using the McDougal Littell Reading (2002) basal series and students who use the guided-reading approach using novels?

Null hypothesis 1. There is no statistically significant group mean difference in reading-comprehension posttest scores between students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading basal series and students who use the guided-reading approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading basal series and students who use the guided-reading approach using novels.

An ANCOVA was used to analyze the reading strategy main effect. The independent variable was reading strategy, with two levels, guided reading using text-to-self instruction and guided reading using novels. The dependent variable was the posttest score on the WESTEST Grade 6 Reading Scale *z*-Score. The pretest score on the WESTEST Grade 5 Reading Scale *z*-Score was the covariate. The results were significant $F(1, 90) = 10.071$, $p = .002$. The effect size, measured by eta-squared was .104, indicating that 10 percent of the variance in the dependent variable was accounted for by reading strategy, after controlling for WESTEST scores. The means and standard deviations and statistics are presented in Table 6. The results of the analysis support rejecting the null hypothesis of no difference, and accepting the alternative hypothesis of a statistically significant difference favoring the text-to self reading program.

Table 6

Text-to-Self and Control Group Means and Standard Deviations and F test for Sixth-Grade

Group	Mean	Std. Dev	Statistic
Text-to-self	.2560	.89971	$F(1, 90)= 10.071$, $p = .002$,
Control	-.2793	1.0851	Partial eta squared = .104

Analysis of Hypothesis for Research Question 2

Question 2. Is there a statistically significant group mean difference in reading-comprehension posttest scores between male students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading basal series and male students who use the guided-reading approach using novels?

Null hypothesis 2: There is no statistically significant group mean difference in reading-comprehension posttest scores between male students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading basal series and male students who use the guided-reading approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between male students who participate in the use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading basal series and male students who use the guided-reading approach using novels.

An ANCOVA was used to analyze the reading strategy main effect for male students. The independent variable was reading strategy, with two levels, guided reading using text-to-self instruction and guided reading using novels. The dependent variable was the posttest score on the WESTEST Grade 6 Reading Scale *z*-Score. The pretest score on the WESTEST Grade 5 Reading Scale *z*-Score was the covariate. The results were significant, $F(1, 46) = 1.104$, $p = .299$. The effect size, measured by eta-squared was .023, indicating that 2 percent of the variance in the dependent variable was accounted for by

reading strategy, after controlling for the WESTEST Grade 5 Reading Scale *z*-Score. The

means and standard deviations and statistics are presented in Table 7. The data show that

there was no statistically significant difference in the means between the male students in

the experimental and control groups. Therefore, the null hypothesis was accepted.

Table 7

Male Students' Text-to-Self and Control Group Means and Standard Deviations and F Test for the ANCOVA

Group	Mean	Std. Dev.	Statistic
Text-to-self males	.0593	.9414	$F(1, 46) = 1.104$, $p = .299$,
Control group males	-.5731	.157	Partial eta squared = .023

Analysis of Hypothesis for Research Question 3

Question 3. Is there a statistically significant group mean difference in reading-

comprehension posttest scores between female students who participate in the use of text-

to-self reading connection strategies in the guided reading using the McDougal Littell

Reading basal series and female students who use the guided-reading approach using

novels?

Null hypothesis 3. There is no statistically significant group mean difference in

reading-comprehension posttest scores between female students who participate in the

use of text-to-self reading connection strategies in the guided reading using the

McDougal Littell Reading basal series and female students who use the guided-reading

approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in

reading-comprehension posttest scores between female students who participate in the

use of text-to-self reading connection strategies in the guided reading using the McDougal Littell Reading basal series and female students who use the guided-reading approach using novels.

An ANCOVA was used to analyze the reading strategy main effect for female students. The independent variable was reading strategy, with two levels, guided reading using text-to-self instruction and guided reading using novels. The dependent variable was the posttest score on the WESTEST Grade 6 Reading Scale z-Score. The pretest score on the WESTEST Grade 5 Reading Scale z-Score was the covariate. The results were significant, $F(1, 40) = 20.484$, $p = .001$) The effect size, measured by eta-squared was .339, indicating that 34 percent of the variance in the dependent variable was accounted for by reading strategy, after controlling for WESTEST Grade 5 Reading Scale z-Score. The means and standard deviations are presented in Table 8. The data displayed in Table 8 show that the null hypothesis should be rejected and the alternative hypothesis should be accepted. The female students in the text-to-self group had a statistically significant higher mean than the female students in the control group. The alternative hypothesis was accepted.

Table 8
Female Students' Text-to-Self and Control Group Means and Standard Deviations and F Test for the ANCOVA

Group	Mean	Std. Dev.	Statistic
Text-to-self females	.4698	.81904	$F (1, 40)= 20.484$, $p = .001$
Control group females	-.0733	.76239	Partial eta squared $= .339$

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Analysis of Hypothesis for Research Question 4

Question 4. Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series?

Null hypothesis 4. There is no statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading connection strategies in guided reading using the McDougal Littell Reading (2002) basal series.

An ANCOVA was used to analyze the gender effect of male and female students in the text-to-self reading connection strategies instructional group. The independent variable was gender, with two levels, male and female. The dependent variable was the posttest score on the WESTEST Grade 6 Reading Scale z-Score. The pretest score on the WESTEST Grade 5 Reading Scale z-Score was the covariate. The results were significant, $F(1, 44) = 7.024$, $p = .011$) The effect size, measured by eta-squared was .135, indicating that nearly 14 percent of the variance in the dependent variable was accounted for by reading strategy, after controlling for WESTEST Grade 5 Reading Scale z-Score. The means and standard deviations are presented in Table 9. The data displayed in Table 9 show that the null hypothesis should be rejected and the alternative hypothesis

should be accepted. There was a statistically significant difference in the mean score of male students and female students. The female students had a statistically significant higher mean than the male students in the text-to-self group.

Table 9

Female and Male Students' Text-to Self Group Means and Standard Deviations and F Test for the ANCOVA

Group	Mean	Std. Dev.	Statistic
Text-to-self males	.0593	.9414	$F(1, 44) = 7.024$, $p = .011$,
Text-to-self females	.4698	.81904	Partial eta squared = .135

Analysis of Hypothesis for Research Question 5

Question 5. Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels?

Null hypothesis 5. There is no statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels.

Alternative hypothesis: There is a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels.

An ANCOVA was used to analyze the gender effect of male and female students in the control group using the guided reading approach with novels. The independent variable was gender, with two levels, male and female. The dependent variable was the posttest score on the WESTEST Grade 6 Reading Scale *z*-Score. The pretest score on the

WESTEST Grade 5 Reading Scale z-Score was the covariate. The results were

significant, $F(1, 41) = 070, p = .793$). The effect size, measured by eta-squared was .002,

indicating that less than one percent of the variance in the dependent variable was

accounted for by reading strategy, after controlling for the WESTEST Grade 5 Reading

Scale z-Score. The means and standard deviations are presented in Table 10. The data

displayed in Table 10 show that the null hypothesis should be accepted. There was no

statistically significant difference between the male and female students in the control

group.

Table 10

Female and Male Students' Control Group Means and Standard Deviations and F Test for the ANCOVA

Group	Mean	Std. Dev.	Statistic
Control males	-.5731	.157	$F(1, 41) = .070, p = .793,$
Control females	-.0733	.76239	Partial eta squared = .002

Summary of Findings

The present study used a two-way factorial ANCOVA to compare the pretest and

posttest WESTEST scale scores to determine if differences in reading achievement

existed among reading programs and genders. The fifth-grade (pretest) and the sixth-

grade (posttest) scale scores were converted into z-scores in order to standardize the scale

scores; thus, facilitating comparisons between the groups. The assumptions of the

ANCOVA were met with the exception of the fifth-grade z-scores according to the

Kolmogorov-Smirnov (KS) tests. This violation was minimal since the fifth grade z-

scores were the covariate and not the dependent variable.

Programs were identical for both groups with the exception of text-to-self reading connection strategies in the experimental group compared to self-selected novels in the control group. The results of this study, using ANCOVA, show that the text-to-self reading group had a statistically significant higher mean than the control group. The results of the ANCOVA also show that sixth-grade female students in the text-to-self reading program had statistically significant higher levels of reading comprehension than the male students.

Male and female students responded differently to the reading programs. There was a significant difference for female students in the text-to-self reading in sixth-grade reading and language-arts classes with guided-reading instruction and those in the control group using guided reading with novels. All students made gains in the experimental group of text-to-self reading instruction as compared to the control group using novels. The female students in the text-to-self reading program had a higher mean than the male students in text-to-self reading instruction. There was no statistically significant difference between male students in the text-to-self group and the control group. Female students in the text-to-self reading program had a higher mean than the female students in the control group. The female students in the control group using guided reading and novels had a slightly higher mean than the male students, but it was not statistically significant. The alternative or null Hypotheses are displayed in Table 11 and show the findings that were accepted or rejected.

Table 11

Results of Hypotheses

RQ	Groups	Findings	Hypothesis Accepted
1	Text-to-self vs. control	$F(1, 90) = 10.071, p = .002$, Partial eta squared = .104	Alternative
2	Text-to-self males vs. Control group males	$F(1, 46) = 1.104, p = .299$, Partial eta squared = .023	Null
3	Text-to-self females vs. control group females	$F(1, 40) = 20.484, p < .001$, Partial eta squared = .339	Alternative
4	Text-to-self males vs. text-to-self females	$F(1, 44) = 7.024, p < .011$, Partial eta squared = .135	Alternative
5	Control males vs. control females	$F(1, 41) = .070, p < .793$, Partial eta squared = .002	Null

Conclusion

The purpose of this chapter was to evaluate the effectiveness of text-to-self reading instruction and to measure comprehension achievement (scores) of male students in sixth-grade reading and language-arts classes with and without text-to-self reading instruction. Results for Hypothesis 1 indicated that there was a significant difference between the text-to-self reading group and the control group. Results for Hypothesis 2 indicated there was not a significant difference between male students in the text-to-self reading group and the control group. Results for Hypothesis 3 showed there was a significant difference between female students in the text-to-self reading group and the control group. Results for Hypothesis 4 indicated there was a significant difference between male and female students in the text-to-self group. Results for Hypothesis 5 indicated there was not a significant difference between male and female students for guided reading using novels in the control group. The data seem to indicate that text-to-

self-reading strategies help students make connections with their texts. Additionally, this chapter described the findings and data analysis of the research. Chapter 5 presents the conclusions, interpretation of findings, implications for social change, recommendations for further actions, recommendations for further study, and a summary.

CHAPTER 5:

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

The purpose of this quantitative study was to evaluate the effectiveness of text-to-self reading instruction and to measure comprehension achievement (scores) of male students in sixth-grade reading and language-arts classes with and without text-to-self reading instruction using archival data (ex post facto analyses) of the state standardized WESTEST. The study compared end-of-year fifth-grade reading/language arts results for 2007–2008 and end-of-year sixth-grade results for 2008–2009.

Students in two sixth-grade language arts classes participating in text-to-self reading strategies used the McDougal Littell reading basal series were compared to students in two sixth-grade language arts classes participating in guided reading with the use of novels. The theoretical framework used in this study was the constructivist approach of Dewey's pragmatist philosophy, Piaget's developmental theory, and Vygotsky's theory of Zone of Proximal Development and sociocultural theory. These constructivists introduced the concept of learning using reading comprehension and guided-reading strategies.

Summary of Findings

Question 1

Is there a statistically significant group mean difference in reading-comprehension posttest scores between students who participate in the use of text-to-self reading-

connection strategies in guided reading using the McDougal Littell Reading (2002) basal

series and students who use the guided-reading approach using novels?

The results of this study could indicate that text-to-self-reading strategies help

students make connections with texts based on their own experiences, thus making

connections with their own lives (Harvey & Goudvis, 2000), which aids in the activation

of prior knowledge and meaningful frameworks in order to comprehend texts (Levin &

Presley, 1981; Ryan & Anstey, 2003; Tovani, 2000). The study found that the results of

the ANCOVA, using pretest data as the covariate, showed that the text-to-self reading

group had a statistically significant higher mean than the control group $F[(1, 90) =$

$10.071, p = .002$, Partial eta squared $= .104]$.

Question 2

Is there a statistically significant group mean difference in reading-comprehension

posttest scores between male students who participate in the use of text-to-self reading-

connection strategies in guided reading using the McDougal Littell Reading basal series

and male students who use the guided-reading approach using novels?

The findings of this study show that the male students in the text-to-self group had

a higher mean than the control group, but the difference was not statistically significant

$F[(1, 46) = 1.104, p = .299$, Partial eta squared $= .023]$. I expected the male students in

the text-to-self experimental group to make significant gains compared to those in the

control group. Research has shown that female students generally outperform male

students in literacy activities involving fluency or word generation and use of verbal

memory (Jensen, 2000; King & Gurian, 2006). This may be due to differences between

the male and female brains (Gurian & Stevens, 2005; Jensen, 2000; Kommer, 2006; Sax, 2005).

Question 3

Is there a statistically significant group mean difference in reading-comprehension posttest scores between female students who participate in the use of text-to-self reading-connection strategies in the guided reading using the McDougal Littell Reading basal series and female students who use the guided-reading approach using novels?

The findings of this study showed that female students in the text-to-self group had a higher mean than the control group, which was statistically significant $F[(1, 40) = 20.484, p < .001$, Partial eta squared $= .339]$. This study seems to indicate that the text-to-self strategies used in the experimental group were beneficial for female students.

Question 4

Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who participate in the use of text-to-self reading- connection strategies in guided reading using the McDougal Littell Reading (2002) basal series?

Results of this study indicated there was a statistically significant difference between male and female students. The female students had a higher mean than the male students $F[(1, 44) = 7.024, p < .011$, Partial eta squared $= .135]$. Consistent with the previous research (Clark et al., 2008; Driessen, 2007; Goldberg & Roswell, 2002; King & Gurian, 2006; Kommer, 2006; Newkirk, 2000; Weaver-Hightower, 2003), this study indicates there is an achievement gap between male and female students in literacy. This

study supports the research of Clark et al. (2008), King and Gurian (2006), and Wilhelm (2008). Educators may need to consider learning styles to structure lessons that capitalize on motivation and interest for all students using different techniques (R. Caine & Caine, 1990; Lombardi, 2008).

Adolescent male students need kinesthetic movement with energy-release activities and need a positive environment that is gender neutral (Kommer, 2006). Female students generally outperform male students in literacy activities involving fluency or word generation and use of verbal memory (Jensen, 2000; King & Gurian, 2006). This may be due to differences between the male and female brains (Gurian & Stevens, 2005; Jensen, 2000; Kommer; Sax, 2005). Therefore, educators should be aware of the differences in the male and female brains and their impact on middle-school literacy.

Question 5

Is there a statistically significant group mean difference in reading-comprehension posttest scores between male and female students who use the guided-reading approach using novels?

There was no statistically significant difference between male and female students in the control group $F[(1, 41) = .070, p < .793$, Partial eta squared $= .002$]. The female students had a slightly higher mean than the male students, but it was not statistically significant. This lack of growth for both male and female students could indicate that more techniques and strategies need to be implemented for students using novels and guided reading. The research suggests that the text-to-self techniques appear to be equally effective for males and female students.

Study Placement in the Research

The findings of this study add support to previous research on the use of text connection strategies (Harvey & Goudvis, 2000; Levin & Presley, 1981; Ryan & Anstey, 2003; Tovani, 2000). Additionally, these findings suggest that students need to activate prior knowledge by using reading connections and experiences in order to create meaningful frameworks to comprehend texts. This study demonstrated that students in the text-to-self reading group benefited from using reciprocal teaching structures that include making personal connections, predictions, questioning, and evaluations (McDougal Littell, 2002; Willis, 2008).

Text-to-self-reading strategies help students make connections with the text based on their own experiences and aid in the activation of prior knowledge (Harvey & Goudvis, 2000). Meaningful frameworks are established in order to comprehend texts (Levin & Presley, 1981; Ryan & Anstey, 2003; Tovani, 2000). A review of the literature showed that students make progress when they have meaningful, purposeful, and real-life connections (King & Gurian, 2006; Merisuo-Storm, 2006). Consistent with the research of Blackburn (2003), M. Smith and Wilhelm (2006), Snow (2002), and Wilhelm (2002), students who are given choices such as challenging tasks and collaborative learning structures increase their motivation to read and comprehend texts.

A review of the literature showed neurological differences between males' and females' brains that have contributed great insights into areas of the brain related to specific learning and reading comprehension (Gurian & Stevens, 2005; Jensen, 2000; King & Gurian, 2006; Sax, 2005). Educators should be aware that learning tasks should be adjusted to accommodate each student's learning style (Gregorc, 1979; Jensen, 2000;

Kommer, 2006). Students learn best when provided opportunities for the use of both hemispheres of the brain (Jensen, 2000; Kommer). Previous studies have been conducted with guided-reading strategies used in the present study that include reciprocal teaching structures and reinforcement in reading-comprehension skills (Cunningham & Allington, 2007; Ford & Opitz, 2008; Iaquinta, 2006; McDougal Littell, 2002; Willis, 2008). Based on these concepts and the results of research, I concluded that text-to-self reading strategies using the McDougal Littell reading basal series and guided reading benefit adolescent students, especially female students. The male students in the text-to-self group in this study had a higher mean than male students in guided reading using novels; however, this difference was not significant.

<div align="center">Implications for Social Change</div>

There are several implications for social change in the present study. The social implications are (a) This study could serve as a basis to assist teachers and policymakers in the development of programs for the improvement of reading comprehension and literacy for secondary students; (b) Teachers need to be provided with strategies to address the gap in research and practice in reading comprehension and literacy for adolescent students; (c) Teacher training and undergraduate and graduate programs need to incorporate strategies for increased reading comprehension and an increased understanding of gender differences in brain-based learning; (d) Educational interventions for adolescent students need to be implemented because many secondary students, especially male students, have withdrawn from school due to inadequate literacy skills; (e) These students contributed to a populace inadequately educated to

function effectively in society; and (f) They do not have the reading capability to decode their textbooks or to comprehend the content in secondary education. Consistent with previous research, this study indicated that male students continue to lag significantly behind female students in literacy, and they have greater difficulty with reading.

Because male students in this study did not experience significant growth in either group, social implications are that educators need to be aware of male students' different methods of learning and comprehension in order to alter their teaching strategies to and close gaps in reading and writing. The implications are that if students are well-prepared with targeted literacy instruction, they will be better able to meet the demands of college and the work force (International Reading Association, 2007).

Recommendations for Action

The literature review and this study suggest that middle-school male adolescent students face a disadvantage in reading comprehension compared to female students in the educational system; therefore, equipping middle schools with literacy coaches and teacher mentors will, to some extent, address this problem. Poor reading skills impact student achievement and the ability to succeed in postsecondary school. This study has the potential to benefit teachers in developing strategies for improvement of reading comprehension of adolescent male and female students. Based on this study, a recommendation is that those who determine policy must provide staff-development workshops and literacy coaching.

The implications are that policymakers and district administrators can provide in-service training and staff development for explicit literacy and comprehension strategies

to help secondary students succeed in school. Previous research that teachers who increased experiential and kinesthetic learning opportunities to accentuate males' neurological strengths and to provide for physical movement, found these techniques to be effective. Sousa (1998) cited that administrators should "maintain ongoing staff development that will help teachers update their knowledge base that includes brain research" (p. 28).

Because findings from this study indicate that adolescent male students did not make significant gains in reading comprehension, literacy coaches may be used to address poor literacy skills connected to reading comprehension by middle school male students. Literacy coaches could use brain-based research strategies to assist teachers in content area instruction. Reflection on educational practices in the delivery of literacy instruction is an integral component of literacy coaching (Garmston, 1987; Ness, 2007). Teachers' professional development should include ongoing training to facilitate use of literacy strategies. The research of Blamey, Meyer, and Walpole (2008); Cassidy and Cassidy (2008); the International Reading Association (2007); D. Peterson, Taylor, Burnham, and Schock (2009); and Ness (2007) found that literacy coaching can improve teachers' instruction with staff development in reading, writing, and communication skills. Literacy coaches can help language-arts teachers and content-area teachers with reading strategies that aid in reading comprehension for secondary students (International Reading Association, 2007). Cassidy and Cassidy (2008) defined coaching as follows:

> a literacy coach or reading coach that is a reading professional that focuses on providing staff development in reading/language arts to teachers. Literacy coaches or reading coaches do this by modeling appropriate strategies, observing in classrooms, conferring with teachers, and conducting staff development seminars. (p. 3)

In order for successful literacy programs to be effective, principals need to be involved with defined roles and responsibilities. Literacy coaches must be teacher-leaders (International Reading Association, 2007; Taylor, Moxley, Chanter, & Boulware, 2007). Garmston, Linder, and Whitaker (1993) cited that "cognitive coaching can help teachers expand their repertoire of teaching styles, exploring untapped resources within themselves" (p. 57). Garmston (1987) stated that "coaching assumes feedback given in a nonthreatening and supportive climate and can improve teaching performance" (p. 20). Teacher mentees can benefit from observing veteran teachers as well as having regular face-to-face meetings (Flynn & Nolan, 2008). According to Rosemary and Feldman (2009), "the coach continues to provide feedback on comprehension instruction, discusses problems of implementation, and helps the teachers assess student learning using both formal and informal assessments" (p. 3). Blamey et al. (2008) concluded that "mentors and coaching networks provide much needed ongoing support" (p. 323). Principals and policymakers must provide ongoing staff development for optimal results.

In order to disseminate the results of this study, I will share these findings with the superintendent and assistant superintendent of the district in which the study was conducted. The research findings of the study may be shared with teachers in workshops and with parents in Parent–Teacher Association meetings related to reading comprehension and brain-based strategies to assist adolescent male and female students. In addition, I intend to submit proposals to professional organizations to present the findings. I will attempt to disseminate results through scholarly journals and local newspapers.

In addition, the results of this study could impact teacher training and professional development in graduate and undergraduate programs that incorporate strategies for increased reading comprehension and increased understanding of gender differences in brain-based learning. In addressing literacy, Wong-Fillmore and Snow (2003) recommended teacher preparation and professional development in order for teachers to meet the needs of children from different cultural, social, and linguistic backgrounds. Undergraduate preparation in the teaching of middle-school literacy should include guided reading, and making connections with the activation of prior knowledge that includes reciprocal teaching structures and reinforcement in reading-comprehension skills as well as use of brain-based strategies.

Another implication of this study involves the use and training of mentor teachers. The present study indicates that teachers need support and staff development with reading/literacy strategies for adolescent students. Teachers, especially beginning teachers, should be given guidance with a master mentor in scaffolding and curriculum development, advice with lesson planning, encouragement, and feedback (Birkeland & Johnson, 2003; Flynn & Nolan, 2008; T. Smith & Ingersoll, 2004). A setting designed for learning requires the "involvement of a more knowledgeable and skilled person who can assist the learning of another through deliberate and supportive interactions" (Rosemary & Feldman, 2009, p. 1; Vygotsky, 1978).

Policymakers and administrators need to ensure that beginning teachers receive strong support with direct, explicit instruction in order to be successful with middle-school literacy (Biancarosa, 2007; Johnson & Birkeland, 2003). The school division in this study already has a teacher mentoring program in place; therefore, the researcher

recommends that this practice continue. Further recommendations include pairing a new

teacher with a master teacher to ensure that beginning teachers of literacy succeed

(Boreen & Niday, 2000). Allen et al. defined mentoring as a "dynamic, reciprocal

relationship in a work environment between an advanced career incumbent (mentor) and

a beginner (protégé) aimed in promoting the career development of both" (p. 177).

Beginning teachers benefit from lesson planning in both long- and short-term planning

with a mentor (Boreen & Niday). Lumpkin (2010) recommended that beginning teachers

have the support of a mentor for the first two years of employment in order "to support

teachers in providing instructional guidance, especially in areas where a new teacher is

struggling" (p. 73). Boreen and Niday concluded:

> Preservice teachers would have felt more of a personal link if each could have had
> one-on-one correspondence with their own veteran teacher. While this would
> require us to find a large number of veteran teachers willing to participate, it
> would likely engender success. (p. 10)

In order to facilitate a successful mentoring program, administrators should

schedule common planning time in the mentor teacher's and beginning teacher's

schedule for collaboration and planning (Hargreaves, 1994; T. Smith & Ingersoll, 2004).

Another important component of this type of professional development is providing

meaningful in-service opportunities, providing time to complete paperwork, and

providing adequate technology and materials for teachers (Flynn & Nolan, 2008;

Hargreaves).

Mentors should be trained to serve as instructional coaches, to model lessons, to

give feedback, and to provide strategies for classroom management (Garmston, 1987).

The implications are that principals and administrators at the central office level must

provide staff development for beginning teachers to formalize mentoring and coaching

with experienced colleagues so that they can deliver effective literacy instruction for

middle-school students (International Reading Association, 2007). Finally, Arnau, Kahrs,

and Kruskamp (2004) concluded that peer coaching or mentoring is a "differentiated

form of instructional supervision" (p. 2).

<center>Recommendations for Further Study</center>

This study focused on text-to-self reading-instruction strategies using guided

reading with the McDougal Littell Reading basal series and guided reading with the use

of novels. Although this study focused on a small sample, this could be replicated using a

larger population and different demographics. Teachers need to use strategies in the

implementation of guided reading and practices with different contexts to improve

reading comprehension. Few studies were found in support of literacy and guided reading

in middle school. Although studies were conducted in early grades, the implications are

the same for middle-school students. Based on the current literature review, there are

different methods that elementary teachers use in the implementation of guided reading

and practices with different contexts in the elementary grades (A. Fisher, 2008; Ford &

Opitz; Skidmore et al., 2003).

Teachers have different perceptions of guided reading and its purpose as well as

the best method for grouping students. Elementary and middle school teachers'

understanding in their use of leveled texts and understanding of guided reading needs to

be explored, and the purpose of guided reading needs to be clearly defined. Middle

school students benefit from small groups with guided-reading instruction. Ford and

Opitz (2008) found that teachers indicated lack of understanding of the purpose of guided reading. Skidmore et al. (2003) found that more research is needed in guided reading with the "dynamics of teacher–pupil dialogue in a small group, closing frame discussions of literary texts, and the educational effects of different patterns of interaction for the development of pupils' power of comprehension" (p. 47). It is recommended that a study be conducted with guided reading in middle and high schools using a more diverse population. Further research could be conducted to compare text-to-self- connection strategies and guided reading in a qualitative study with surveys and observational data. Additionally, research could be conducted to investigate the causality of the difference in scores between reading comprehension among male and female adolescent students.

Blamey et al. (2008) stated that "future research could expand understandings of the roles of secondary literacy coaches found in their study through triangulation of self-report data, observation, and participant interviews" (p. 323). While research has been conducted on the elementary level, few studies have addressed literacy coaching at the secondary level (Blamey et al.). Blamey et al. also posited that "important questions remain regarding the appropriateness of the coaching model for the secondary setting and the balance between literacy and content expertise a secondary coach should possess" (p. 323). Few research studies have been conducted for literacy coaching and its impact on student achievement (Blamey et al.; International Reading Association, 2007). Another recommendation is that literacy coaches be trained to assist teachers with reading and literacy in middle and high schools.

Based on these findings, questions for further study could include the following: (a) How do teachers group students for guided reading and literacy instruction for all

adolescent students? (b) What is the definition and purpose of guided reading? (c) How should guided reading be used in secondary schools? (d) What is the process of guided reading and how should it be taught? (e) What is the most efficient method of training coaches in literacy in secondary schools? (f) What are possible causes of the lack of significant growth for the male students in reading/literacy in reading comprehension?

Summary

This study justifies the need for teaching reading comprehension strategies to adolescent students as evidenced by the following findings: (a) The text-to-self reading group did better than the control group; (b) Male students improved slightly over the control group while using the text-to-self strategies; (c) Female students improved more than male students while using the text-to-self strategy; and (5) Both male and female students had a lack of growth in the control group. The present study supported the importance of text-to-self reading-connection instruction with reading comprehension. Participants in this study, especially female students, made significant gains in reading comprehension with the use of text-to-self reading-connection instruction with reading comprehension using the McDougal Littell Reading basal series.

Policymakers and teachers should consider constructivist strategies of learning using reading comprehension and guided-reading strategies in literacy. An effective education needs to be based on experience, participation, and kinesthetic learning opportunities to accentuate males' neurological strengths and to provide for movement in learning activities. Constructivist theorists have found that children learn through the schema that describes cognitive development as the gradual acquisition of knowledge

through experience (Reed & Johnson, 2000). Teachers must be aware that middle-school students are at the concrete operational stage of development and beginning the formal operational stage in their learning (Rippa, 1997). At this stage, students may be able to use inferences as well as abstract reasoning in literacy activities.

In addition, research has found that there are structural differences in the brain that may account for behavioral, developmental, and cognitive processing differences between male and female students. Female students have lesser known bundles of interhemispheric fibers, called the anterior commissure. This may allow female students to have an advantage over male students with both verbal and nonverbal information. Some male students are 1 to 2 years behind female students in language skills (Jensen, 2000). As research indicates, there are implications that principals and district administrators need to provide meaningful staff-development opportunities and teacher mentoring/coaching so that teachers can address diverse student needs in academic literacy. Teacher mentors and literacy coaches can provide teachers with support to capitalize on the motivation and interest of all students.

Adolescent male and female students can make progress when they have meaningful, purposeful, and real-life connections in their reading programs (King & Gurian, 2006; Merisuo-Storm, 2006). Harvey and Goudvis asserted that "good readers make connections between the texts they read and their own lives" (p. 3). When male students begin to use prior knowledge with the content of their texts, the achievement gap in literacy between male and female students could be narrowed in middle school. Using the text-to-self reading-connection instruction for reading comprehension, students can activate prior knowledge with reading-connections and personal experiences. Adolescent

students will be able to mediate meaningful frameworks to comprehend texts and to become proficient readers. All students must be able to extract meaning from the text, connect learning to previous experience, and expand upon ideas present in the text in order to be successful in middle school (Harvey & Goudvis, 2000; Ivey & Fisher, 2006; Robb, 2000; Ryan & Anstey, 2003; Tovani, 2000). Instructional leaders must examine their own perceptions of both male and female students with regard to students' school achievement and communication, fostering positive attitudes and high expectations for all students. Educators, instructional leaders, and policymakers can ensure that all students become literate by providing targeted literacy instruction to meet the demands of college and the work force.

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APPENDIX A: PERMISSION TO USE FIGURE OF BRAIN

Dear Cathy,

Thank you for your interest in Sopris West. I received your request for permission to use the "Areas of the Brain" diagram on Page 21, and our "Four Part Processing Systems" diagram on page 24, in LETRS: *Module 1: The Challenge of Learning to Read.* We would like to grant you permission to use the selected pages in both electronic and print formats, for no charge.

In exchange for using an excerpt, we ask that you use the following wording for reference:
Reprinted with permission from Sopris West Educational Services. LETRS *Module 1: The Challenge of Learning to Read,* by Louisa Moats ⌊ 2005.

Thank you,

Editorial Assistant
Supplemental Programs
Cambium Learning Sopris West
4093 Specialty Place, Longmont, CO 80504
o: (800) 547-6747 x265
f: (303) 776-5934

www.sopriswest.com

Cambium Learning is the leading educational company
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APPENDIX B:

REQUEST FOR PERMISSION TO USE DATA

Nicholas County Schools
Assistant Superintendent/Curriculum
400 Old Main Drive
Summersville, West Virginia 26651

Dear Sir,

I am writing to request permission to conduct a study using 2007-2008 and 2008-2009 WESTEST data (archived data) from four language arts classes at two middle schools in your district. I am a doctoral student at Walden University. The title of my dissertation is The Effect of Text-to-Self Reading Strategies on Reading Comprehension. The purpose of this study is to evaluate the effectiveness of text-to-self reading instruction and to measure comprehension achievement (scores) of male students in sixth-grade reading and language-arts classes with and without text-to-self instruction using guided reading. The research has shown that there is a disconnect between teaching and practice concerning the needs of male and female students in literacy/reading in middle school. Educators can assist males in eliminating the achievement gap in middle school by introducing strategies to support learning styles to teach reading comprehension and written language skills.

The experimental group, consisting of two sixth-grade language arts classes, used text-to-self reading connection strategies in guided reading using the McDougal Littell reading basal series in one middle school. The control group in the other middle school, consisting of two sixth-grade language arts classes, used the guided reading approach using novels.

The focus will be on differences in reading comprehension scores between males and females, using guided reading with text-to-self reading connections and in using guided reading of novels. The study will use a quantitative methodology using scores of a pretest for the WESTEST end-of-year fifth-grade students' reading/language arts for 2007–2008, and reading/language arts of the WESTEST posttest for end-of-year sixth-grade students for 2008-2009. The study will use a factorial ANCOVA to determine the statistical differences between the test scores of students in the two reading programs and also to determine if there are any differences between males and females.

This study has the potential to benefit teachers in developing strategies for improvement of reading comprehension of adolescent males and has the potential to be beneficial for those who determine policy in staff development workshops and literacy coaching. Research has shown that strategies that help males also help females. After approval has been granted from the researcher's committee and Institutional Review Board, data will be collected and analyzed for the doctoral dissertation.

Precautions will be taken to protect the identity of all students and teachers, and there will no impact on the participants. Participants are predetermined by class placement and current reading programs already established in your district. Students will be assigned numbers for the study, and therefore, no identifiers will be obtained for this study. Because archived data are used for the entire study, the following information will not be required for participants: (a) expected duration of subjects' participation; (b) that participation is voluntary; (c) that refusing or discontinuing participation involves no penalty; (d) no compensation was given for participation; (e) no foreseeable risks or discomforts; and (f) no need for informed consent forms. I will share information from

the present study with the superintendent/assistant superintendent, and with Walden University.

I am asking for your school district to provide me a comma-delimited or Excel file with the following variables for students who were in the study in the two selected middle schools. The variables needed are program codes for the fifth-graders either in text-to-self or novel reading programs and the WESTEST reading scale scores (2007-2008) and students' gender. Also, program codes are needed for those same students as sixth-graders in either text-to-self or novel reading programs and the WESTEST reading scale scores (2008-2009) and students' gender.

If you have questions, you may contact the me at 540-760-5346 or email, cutrightrl@aol.com. Your participation in this research study is voluntary. The researcher will not have contact with research participants and has no conflicts of interest. My dissertation chairman, Dr. Peter Hoffman-Kipp, can be contacted at Peter.Hoffman-Kipp@email.waldenu.edu or Walden University at IRB@waldenu.edu. Thank you in advance for your assistance.

Sincerely,

Cathy Legg Cutright
Ph.D. Candidate, Walden University
540-760-5346 (Cell Phone)

CURRICULUM VITAE

Cathy Legg Cutright
cutrightrl@aol.com

Education

2010	Candidate for Doctor of Philosophy – Educational Leadership, K-12, Walden University, Minneapolis, Minnesota.
2003	Certificate of Advanced Study (CASE) with emphasis in Instructional Leadership and School Administration, College of Notre Dame of Maryland, Baltimore
1986	Master of Arts, Specific Learning Disabilities, Marshall University Graduate School, Institute, West Virginia
1979	Bachelor of Arts, English, 7–12, West Virginia University Institute of Technology, Montgomery, West Virginia

Employment Background

2008–Present	Full-time student to complete Ph.D., Walden University.
2006–2008	School Administration, Vice-Principal in St. Mary's County Public Schools
2004–2006	School Administration, Instructional Specialist in Charles County Public Schools
2001–2005	Adjunct Graduate Instructor, College of Notre Dame of Maryland, Baltimore
2003–2004	School Administration, Leadership Intern at Margaret Brent Middle School
1998–2003	Special Education Teacher, St. Mary's County Public Schools
1985–1998	Special Education Teacher and Chairperson, Nicholas County Schools
1990–1998	Special Education Teacher, Stafford County Schools
1988–1990	Chairperson and Special Education Teacher, Hanover County Public Schools

Summer 1986 Reading Teacher, West Virginia University Institute of Technology,
Summer Session, Upward Bound

1980–1985 Language Arts Teacher, Middle and High School, Nicholas County
Schools

Licenses and Certifications: All 2008

Commonwealth of Virginia:
Postgraduate Professional License
Elementary and Middle School Principal
English
Specific Learning Disabilities, K–12
Middle Education Grades, 4–8

Maryland:
Educator Certificate
Advanced Professional Certificate
Administrator I/II
English, 7–12
Generic Special Education, 1–8

Honors and Professional Affiliations

July 2009 Initiated into International Honor Society in Education Kappa Delta
Pi (Alpha Epsilon Chapter, Walden University, Charter Member)

May 1994 Initiated into Phi Delta Kappa

Member of Association for Supervision and Curriculum

Presentations: Regional

July 2006, 2007 Coordinated teacher-mentor program at Leonardtown Middle
School

April–June 2007 Facilitated professional study group for aspiring leaders,
Leonardtown Middle School

August 2006 Conducted staff development for teacher portfolio assessment,
Leonardtown Middle School

March 1996 Presented at Phi Delta Kappa's Conflict Mediation Conference,
Trained middle-school mediators to present role-plays of student
mediations

March 1996	Co-presented in staff development seminar, Serving Students With Disabilities: A Collaborative Model. Educated and informed teachers and paraprofessionals on critical issues for the successful implementation of collaborative teaching.

Presentations: State

October 1995	Presented at Fifth Annual Symposium, Old Dominion University, Conflict Mediation
November 1994	Co-presented at the Fifth Annual Resource/Collaborative Teaching Symposium, Inclusion Through Collaboration, at William & Mary

Community Service

2001–2002	Phi Delta Kappa, vice-president, Rappahannock chapter
1995–1997	Rappahannock Speakers Club, Fredericksburg Chapter. Secretary, Chairperson for Speech Contest. Coordinated joint contest for Rappahannock Speakers Club and the Dahlgren Club
1996–1997	Chairperson for Nominations Committee, International Training in Communication (ITC). Chaired Committee for 1996–97 offices. Mentored other members of ITC. Chairperson of entertainment for the 31st Annual Blue Ridge Conference.
1998	Preceptor Alpha Chi sorority, Chairperson for Service Committee. Coordinated support for needy families (Christmas Projects) with King Social Services. Served as secretary, vice president, and president.

Community Service in my church included:

2002–2004	Participated in fund-raising church pre-school projects for church school
2004	Team Captain, Relay for Life
2002–2003	Sunday School Superintendent