WALDEN UNIVERSITY
A higher degree. A higher purpose.

Walden University
ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies Collection

2017

Effects of Instructional Pedagogy on Eighth-Grade Reading Students

Barbara Ward
Walden University

Follow this and additional works at: https://scholarworks.waldenu.edu/dissertations

 Part of the Education Commons

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Education

This is to certify that the doctoral study by

Barbara Ward

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Ella Benson, Committee Chairperson, Education Faculty
Dr. Irene McAfee, Committee Member, Education Faculty
Dr. Michelle Brown, University Reviewer, Education Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Effects of Instructional Pedagogy on Eighth-Grade Students' Reading Achievement

by

Barbara Ward

MA, Cambridge College, 2002

BS, Savannah State University, 1992

Dissertation Submitted in Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2017

Abstract

Education is the foundation for the future, and a successful education begins with strong literacy skills. The 2013 National Assessment of Educational Progress reported that only 36% of eighth-grade students in the United States were classified as reading on a proficient level, and 22% of eighth-grade students were unable to read and comprehend text at the basic level. The purpose of this quantitative, quasi-experimental, post hoc analysis was to determine whether a difference existed in the change in test scores of the reading portion of the Criterion Referenced Competency Test from the 2011–2012 academic year to the 2012–2013 academic year for eighth-grade students who received differentiated instruction compared with those who received direct instruction. Using Vygotsky's constructivist learning theory as the framework, this study was built on existing research regarding adolescence and literacy, cooperative learning, scaffolding, direct instruction, and differentiated instruction. Archival CRCT data was collected for sixty-four students. 32 that were instructed with differentiated instruction and thirty-two that were instructed with direct instruction for the 2011–2012 and 2012–2013 academic years. A one-way ANOVA was conducted to determine which instructional pedagogy yielded higher academic results. Overall results revealed no significant difference in academic achievement when differentiated instructional pedagogy or direct instructional pedagogy was used for instruction. Implications for positive social change include providing research results to administrators at the local site to better inform pedagogical decisions at the school level. Recommendations to the local site include further research on other strategies to improve literacy achievement in secondary classrooms.

Effects of Instructional Pedagogy on Eighth-Grade Students' Reading Achievement

by

Barbara Ward

MA, Cambridge College, 2002

BS, Savannah State University, 1992

Dissertation Submitted in Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2017

Table of Contents

List of Tables

List of Figures

Section 1: Introduction to the Study

Background

The foundation of academic achievement is being able to read and write proficiently (Wilson & Trainin, 2007), and a successful education begins with strong literacy skills (Tyner, 2012). Goldman (2012) defined *literacy* as the ability to read, write, problem solve, make decisions, and acquire knowledge in one's personal life as well as in one's professional life. Literacy competency has been an ongoing global topic for years (Fritz, Cooner, & Stevenson, 2009).

The 2013 National Assessment of Educational Progress [NAEP] (2013) reported that only 36% of eighth-grade students in the United States were classified as reading on a proficient level, and 22% of eighth-grade readers were unable to read and comprehend text at the basic level (National Center for Education Statistics [NCES], 2013). Graham and Herbert (2010) stated that $16 billion is spent annually in the United States on remediation programs and classes at universities and businesses owing to students' lack of reading and writing skills.

The United States' educational system is creating readers who are not prepared for the literacy demands of the 21st century (Goldman, 2012). The statistics for Georgia's standardized test scores for college admission reflect the need for secondary instructors to focus on literacy. Deficiencies were evident in scores of the graduating classes of 2010. The average score of approximately 39,500 students who completed the reading portion of the American College Testing (ACT) assessment was 20.9, which was lower than the national average of 21.3 (Georgia Department of Education [GDOE], 2012). The average

score of approximately 66,000 students who completed the reading portion of the Scholastic Aptitude Test (SAT), was 488; the national average was 501 (GDOE, 2012).

According to Biancarosa and Snow (2006), the number of individuals who have literacy problems increase as students become older. For example, 70% of secondary students require some form of additional reading support with expository texts (Biancarosa & Snow, p. 8). Approximately 8 million primary- and secondary-grade students in the United States have difficulty with reading (Biancarosa & Snow, p. 8). In addition, statistics from the NAEP (2013) revealed that 69% of eighth-grade students did not meet the level of basic literacy competency of age-related reading materials on state standardized tests for that year (Lee, Grigg, & Donahue, 2007). Other statistics indicated that more than two-thirds of middle-school students lack the basic foundations of reading needed to obtain academic achievement (NAEP, 2013).

Research-based evidence in literacy is needed to assist in identifying effective practices in language and education for secondary students (New & Cochran, 2007). Students are entering elementary and secondary schools with different levels of learning success, and are being diagnosed with educational disabilities (C. Tomlinson, 2008). In instances where students' first language is not English, learning to read is more difficult. Teachers in secondary schools have a responsibility to provide the necessary resources for students to meet the state standards (Sturtevant, 2010), and obtain reading knowledge and comprehension skills before transitioning to college or embarking on a career (Biancarosa & Snow, 2006).

Teachers continue to instruct students in the traditional manner of lecturing and providing worksheets, but the challenge is to provide appropriate instruction to support students' success (Edwards, Carr, & Siegel, 2006). Devising an educational program that promotes learning and builds on higher-order thinking for all students is possible (Childe, Sands, & Pope, 2009; Edwards et al., 2006).

Various researchers believed that when students are presented with a variety of enhanced, innovative lessons in a specific content area, their academic performance progresses (Gavin, Casa, Carroll, & Sheffield, 2007; Little, Feng, Van Tassel-Baska, Rogers, & Avery, 2007; Reis et al., 2007; Reis, Eckert, McCoach, Jacobs, & Coyne, 2008). An educational program that enforces literacy mastery for secondary students cannot be the same for all students because students learn in different ways (Sturtevant, 2010). Differentiated instruction and direct instruction are research-based instructional strategies that possibly could eliminate the literacy epidemic.

Differentiated instruction is an educational principle that provides students with the ability to amass facts and obtain knowledge (regardless of their prior knowledge or current skill level) when instructors focus on their reading levels and learning styles (Paris & Paris, 2009; Staff Development for Educators [SDE], 2011). The goal of differentiated instruction is to amplify the learning potential of each student by consolidating student-centered instruction and differentiated instructional strategies that provide students with the ability to achieve academic success (Tomlinson, 2001; 2003). In addition, differentiated instructional design targets the varying levels of intelligence of students to ensure lessons are geared toward their individual learning styles through

instructional resources, activities, class expectations, cooperative groups, and assessments (Paris & Paris, 2009).

Alternatively, *direct instruction* is a behaviorist method, which implies that if a teacher has expertise in one area, and presents this expertise to students in an organized and precise way, then students will learn (Kousar, 2010). New and Cochran (2007) defined *direct instruction* as being a theory and a model of teaching practices that proffer to impel learning through precise teaching of the basic skills, which then can be derived to higher-order process (p. 289). Direct instruction includes the teaching of complex skills and focuses on the effectiveness of the lessons, as well as monitoring the progress of students (White, Houchins, Viel-Ruma, & Dever, 2014, p. 570). Direct instruction programs are researched and tested to ensure that the best practices are provided to students and that they induce students' learning by demonstrating more than conventional programs (Stockard, 2010).

Problem Statement

The problem researched in this study involved the low literacy levels of eighth-grade students at a middle school in northwest Georgia. Specifically, for 3 consecutive academic years, eighth-grade students' reading scores had declined on the Criterion Referenced Competency Test (CRCT). The 2008–2009 CRCT results revealed that 36% of eighth-grade students did not meet the CRCT standards for reading (GDOE, 2012). In addition, the 2009–2010 CRCT test results showed that 46% of eighth-grade students did not meet the CRCT standards for reading. Test results of the 2010–2011 CRCT disclosed

that 52% of eighth-grade students did not meet the score required by CRCT standards for reading (GDOE, 2012).

When conducting this study, I found minimal literature pertaining to the reading achievement of eighth-grade students. This lack of literature is a problem that affects not only educators at large, but outside stakeholders who contribute to the educational society; it affects communities on a global level. Consequently, I have embarked on a journey to augment the literature, which will have a considerable effect on positive social change by offering an educational program that caters to the specific learning level of every student.

To achieve academic goals and become independent thinkers, students must comprehend information in school and in life. However, teachers are instructing students with information geared toward the state standardized tests, rather than for long-term retention (Mokhtar, Majid, & Foo, 2008). My goal for this study was to determine which instructional pedagogy would improve academic achievement, differentiated instructional pedagogy or direct instructional pedagogy.

Nature of the Study

This study uses a quasi-experimental design examining archival CRCT data for analyzing and comparing differences in achievement between an experimental group and a control group. The experimental group consisted of 32 students who were instructed with differentiated instructional pedagogy, and the control group consisted of 32 students who were instructed with direct instructional pedagogy. I analyzed and compared archival CRCT data to determine which instructional pedagogy yielded higher academic

achievement. I will address additional information concerning the nature of this study, including data collection and analysis, in more detail in Section 3.

Research Question and Hypothesis

I examined the reading achievement of eighth-grade students when direct instructional strategies and differentiated instructional strategies were implemented. The research study was based on the following research question and hypothesis:

RQ: Was there a difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction?

Hypothesis

H_{01}: There was no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction.

H_1: There was a significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction.

Purpose Statement

The purpose of this quasi-experimental study was to examine archival CRCT scores of two eighth-grade reading classes for the 2011–2012 and 2012–2013 academic

years, and determine which instructional pedagogy showed a significant difference in academic achievement—differentiated or direct.

Theoretical Framework

The theoretical framework for this study was built on Vygotsky's constructivist learning theory, which concluded that learning and cognitive development are dependent on social interaction (O'Neil, Fisher, & Newbold, 2009). Vygotsky, Cole, John-Steiner, and Scribner (1978) suggested guidelines for ways in which a child's cognitive skills develop, and they indicated that a child must be exposed to experiences that enhance higher-order thinking skills when interacting with others before they can internalize a learning situation on their own (Tracey & Morrow, 2006). Vygotsky et al. noted that the cultural development of children is predicated on their individual and social levels.

Vygotsky's theories are the zone of proximal development (ZPD), scaffolding, and the importance of play as a tool for learning. The foundation for children to build knowledge occurs when they interact with their peers (Vygotsky et al., 1978). Vygotsky believed this was vital in social interaction in that it provides self-reflection and thought. The psychological component allows children to become mindful of their immediate surroundings, to solve problems, and acquire knowledge by connecting with children who have experience in higher order thinking (Eggen & Kauchak, 2006).

The ZPD is the area of the development level induced by higher-order thinking and the level of inherent advancement, which is gained through resolving issues under supervision or in participation with other students who are more knowledgeable (Vygotsky et al., 1978). The ZPD exhibits a concept of willingness to learn that asserts

upper levels of competence (Vygotsky et al., 1978). The upper-level boundaries are not stable, but are consistently changing with the learners, which increases independent competence. The actual developmental level directly represents intellectual development, whereas the ZPD indirectly characterizes mental development (Vygotsky et al., 1978). Another key idea in Vygotsky's social constructivism theory is scaffolding, which characterizes specific instructional methods geared toward enhanced learning when students are introduced to a new concept (Vygotsky et al., 1978). In addition, scaffolding provides students with a basis for deciphering information that will be presented during upcoming assignments (Lewis, 2012).

Vygotsky's idea of the ZPD relates closely to differentiated instruction and was created to allow children to learn at their individual levels (Vygotsky et al., 1978). In addition, the same theory guides differentiated instruction (Tracey & Morrow, 2006). For example, teachers apply Vygotsky's theory of scaffolding to design instruction, which aligns to the students' current state of knowledge. Tomlinson (1999) described features of differentiated instruction, including a variation of learning modalities that will ensure students' contention with self, ability to make adjustments throughout the school day, varied instructional strategies, and independent learning. Research revealed that individuals react differently to the same situations; therefore, teachers should scaffold students' background knowledge and create lessons that promote prevalence and engagement (Edwards et al., 2006). Vygotsky's concept is similar to differentiated instruction because it endorses the image of aptness as it relates to a student's mastery level of a particular skill (Hall, Strangman, & Meyer, 2011).

Definition of Terms

Cognitive development: Piaget's theory that children's exertive engagement with their surroundings leads them to construct meaning (Jordan et al., 2008).

Cognitivism: The analysis of processing information mentally (Jordan, Carlile, & Stack, 2008).

Constructivism: An extensive group of theories that describe knowledge achievement and learning (Jordan et al., 2008).

Content teachers: The subject or literacy instruction that teachers instruct (National Institute for Literacy, 2007).

Differentiation: A teaching method that incorporates a variety of learning modalities that meet the needs of all students (Watts-Taffe et al., 2012).

Pedagogy: The art and science of teaching and encompassing the psychological, cultural, political, and socioemotional processes of teaching young children (New & Cochran, 2007).

Assumptions

I used archival CRCT data in this study. I assumed that the instrument was valid and was a reliable measure of student progress. In addition, I assumed that the teachers were familiar with the curriculum that was implemented. Another assumption was that the students did their best and the results on the CRCT were indicative of literacy achievement. It was unlikely that other factors might have contributed to any perceived difference. My final assumption was that teachers who used the treatment implemented the intended strategy.

Limitations

Creswell (2013) defined *limitations* as potential weaknesses of a study. Limitations of this study included data that were taken from only one school; therefore, the results cannot necessarily be generalized to other populations. Archival data were the only variables that I used in this study. In addition, the number of participants was limited to 64 randomly selected eighth-grade students. Finally, there may be some unforeseen factors influencing the performance of the participants (e.g., some may exhibit physical and/or emotional issues in the classroom during instructional time and/or when taking the CRCT).

Delimitations

This study involved a middle school located in northwest Georgia with an enrollment of 640 students. Delimitations of this study were that the content consisted of only one grade and only one subject. The results of this study were based on archival data I used to determine if differentiated instructional pedagogies improve academic achievement in reading for eighth-grade students. A teacher's ability to instruct students with the pedagogies in the classroom was not a determinant.

Significance of the Study

Teachers are being held accountable by the state and are being evaluated by their immediate supervisors and principals on their job performance based on students' assessments (Morgan et al., 2013). Many of the students enter into the classroom reading below grade level and lacking literacy skills, and they have failed to achieve proficiency on state and local curriculum standards (Morgan et al., 2013).

I explored two instructional pedagogies: differentiated and direct instruction. This study is pertinent to social change because it may validate the effectiveness of instructional strategies that sanction learner-centered classrooms, as opposed to traditional classrooms where the teacher stands in the front of the room and the students are seated working from a workbook (Servilio, 2009).

Summary

In this quasi-experimental study, I examined the direct instruction and differentiated instructional pedagogies. I investigated the performance of eighth-grade students in two instructional reading settings using archival CRCT data. In many classrooms, state standards, paradigmatic adjustments in educational principles, and the classification of effective teaching practices, are creating a foundation for expectations that creative instructional methods will be exerted in classrooms for teachers entering the profession (Edwards et al., 2006).

I have divided the remainder of this research into three sections: a review of literature on adolescent literacy, direct instruction and differentiated instruction, and student motivation and self-efficacy. Direct and differentiated instructional pedagogies, and the essential components and strategies of the two pedagogies, make up Section 2. A description of the research design, hypothesis, treatment, sample and setting, data collection procedures, instrumentation, and data analysis makes up Section 3. I include the data analysis procedures and results in Section 4, along with a summary of the findings, conclusions, and implication for social change. Recommendations for further study are described in Section 5.

Section 2: Literature Review

In this literature review, I present a comprehensive overview of direct and differentiated instructional pedagogies, and I outline how theorists have defined these types of instruction. To examine why teachers use differentiated instructional pedagogy in a diverse eighth-grade classroom, I searched the following databases: Educational Resources Information Center (ERIC), Expanded Academic ASAP, PsycINFO, and Student Achievement Guarantee in Education (SAGE). I used the following keywords in the searches: *adolescence*, *literacy*, *student achievement*, *cooperative learning*, *scaffold instruction*, *direct instruction*, and *differentiated instruction*. The research covered studies published between 2006 and 2015.

Adolescence and Literacy

Adolescent literacy instruction is geared for students in Grades 4 through 12 (Marchand-Martella, Martella, Modderman, Petersen, & Pan, 2013). Supporting adolescent literacy not only requires students' mastery of skills that they did not obtain in their previous school years but meets 21st-century expectations for reading (Greenleaf et al., 2011).

Adolescent readers must be proficient in different content areas, master complex texts, and navigate digital reading (Biancarosa, 2012). In addition, adolescents must analyze, synthesize, and evaluate information from multiple sources of traditional texts (Goldman, 2012). For these to happen, the curriculum and professional development for teachers must fit with the current standards implemented by the state. Last, policymakers

must make literacy a priority and address the needs in getting funding to the schools to support the educational structure (Biancarosa, 2012).

Adolescents and teachers in the United States face a major task of reading comprehension (Simmons et al., 2014). The Common Core State Standards Initiative (2012) placed emphasis on student readiness for college that entails reading complex text. In addition, secondary reading courses are derived from courses that students should have mastered in elementary school. With fewer than 35% of secondary students reading proficiently, the issue becomes how to meet the needs of those failing students (U. S. Department of Education, 2011).

Adolescent literacy has been a central topic owing to the eminent high school drop-out rate (Cassidy & Ortlieb, 2012). Adolescence is a transitional period during which a child develops physically and psychologically. During the adolescent period, students' attentiveness and motivational levels in school decline considerably (Jayalekshmi & Raja, 2011). The literacy challenges faced by adolescents have caused researchers to direct their focus away from individual performance and hone in on understanding the sociocultural factors and structural forces that affect literacy (Fisher, 2007). For example, Morrell (2006) advocated for "research that is critical, participatory, and action-oriented" (p. 3), and supported the idea of adolescents, in particular, as knowers of their own literacies who seek out and create a knowledge of literacy that is not joined to preexisting frames of deficit (e.g., a struggling reader). Morrell studied gaps in achievement by focusing on adolescents' literacy strengths and weaknesses, and proffered pedagogical approaches to supporting adolescents' literacy learning that are

grounded in the belief that adolescents are already literate in a variety of cultural domains (e.g., popular culture and virtual worlds). Furthermore, Morrell believed that the literacy concept is not based on mastery skills but, rather, is a social practice that must be understood in context and with special attention given to power dynamics (Bartlett, 2007; Lewis, Enciso, & Moje, 2007).

Yazzie-Mintz (2009) conducted a survey of high school students regarding engagement and achievement, of which boredom was a chief component. When examining the student responses, 66% were bored at least every day, 49% were bored every day, and 17% were bored in every class. Only 2% reported never being bored and 4% reported being bored "once or twice" (p. 6). The rationale of the boredom was based on the instructional material in the classroom. Results affirmed that 98% of the students believed that "the material being taught was not interesting," and 81% believed that "the material lacked relevance" (p. 6). Students surveyed responded to the level of difficulty of the material being taught. Results showed 33% were bored because "the work wasn't challenging enough;" 26% stated "the work was too difficult;" and 35% were bored as a result of "no interaction with teacher" (p. 6).

As students transition to high school, many are not challenged by the education program and view reading and writing narrowly (Vasudevan & Campano, 2009). It is debatable as to whether literacy instruction in secondary schools invokes an extensive look at the continuance of literacy development in adolescents and the integration of comprehension of adolescent literacy (DiGisi, 2010).

Cooperative Learning

Cooperative learning is a researched learning design that is used in the classroom to increase levels of inductive reasoning, build positive relationships, foster analytical skills, improve problem-solving strategies, and internalize content apprehension (Yamane, 2006). Armstrong (2009) described cooperative learning as students working in small groups to achieve an instructional goal. The use of small groups is the center of the cooperative learning model; some groups work well with three to eight students, whereas others work well with only two. The goal of cooperative learning is to transition from delivering instruction to groups of mostly indifferent students, to instruction that blends students' intercommunication skills (Shimazoe & Aldrich, 2010). Studies on cooperative learning strategies that include student-led groups and peer tutoring comprise the concept of learning by teaching. These methods reveal successful results on assessments in the areas of comprehension and critical thinking skills when compared with assessments of teacher-led instruction (Yamane).

Chamberlain, Daniels, Madden, and Slavin (2007) conducted a longitudinal study on cooperative learning. A reading program titled *Reading Edge Middle Grades* was implemented for 1 year to 788 sixth-grade students in two middle schools. The program focused on proficiency and was designed to motivate and strengthen students' reading skills. The program was created to integrate research findings on cooperative learning and metacognitive reading strategies (Chamberlain et al.). The reading program combined effective instructional practices, a coherent curriculum, frequent progress monitoring, and feedback to students (Chamberlain et al.).

In the study, two groups of sixth-grade students were pretested and posttested with the Scholastic Reading Inventory (SRI) and Bell's Twelve Powerful Words. During the first month of the posttest, low-skilled students were provided with the additional resources of Foresman's Scholastic Read 180 and Scholastic Aloud Anthology. Students who were more proficient in reading were organized in groups to discuss novels and Foresman's reading materials. Results of this study revealed that the first cohort scored (F[1,786] = 7.59, p = .006), and the second cohort scored (F[1,785] = 7.88, p = .005), indicating that the second cohort, which used the Reading Edge Program, yielded better test results.

According to Armstrong (2009), cooperative groups are beneficial for multiple intelligence instruction because they incorporate the learning styles of all students and provide students an opportunity to work as team players, which is advantageous for success in real life work environments. Moreover, Armstrong noted that cooperative learning in the classroom is highly recommended over competitive strategies because it helps students become acquainted and enhances quality relationships and friendships. In cooperative groups, everyone participates in the lesson because the final result is dependent on the effort of each member of the group (Armstrong). Cole (2008) explained that cooperative learning groups should be formed carefully, with special thought being given to students' individual strengths, weaknesses, and behaviors, as well as to the teachers' learning goals. The groups were successful when students were given specific duties and responsibilities that combine learning the material with such roles as recording the data, presenting the data, using technology, managing materials, and performing

cleanup duties. In addition, it is an opportunity to develop a cross-cultural understanding (Cole). Wijnia, Loyens, and Derous (2011) elaborated on the issue of students collaborating on a task, feeling that they are a part of the lesson and are uplifting and assisting one another. In addition, when positive reinforcement is given to individual students in the group, they tend to stimulate and assist each other with the assignment. Each group must make a collaborative effort to assist in achieving the assigned goal. This example demonstrates the cohesiveness of the students, which ultimately promotes academic success (Wijnia et al.).

Roseth, Johnson, and Johnson (2008), researchers at the University of Minnesota-Twin Cities, conducted a study on how social relationships affect individuals' demeanors and accomplishments, which spanned more than 8 decades. The researchers probed 148 studies involving over 17,000 adolescents, and analyzed the results of individualistic, competitive, and cooperative goals on achievement and the relationships of peers among students ages 12 to 15. The research study revealed that in classrooms that supported cooperative learning, students were more explicit on assessments and achieved higher scores in the areas of critical thinking, problem solving, and reasoning, when compared with classrooms that focused on competitive learning.

Cooperative learning encourages students to work together toward an objective by assisting one another on assignments, sharing resources and information, and trusting others' actions which, in turn, leads to shared rewards (Roseth et al., 2008). Students who worked alone in the classroom with limited communication and assistance from the teacher or their peers, were assessed by paradigms that did not involve any comparison

with other students. Moreover, according to the study, in classrooms where students were competitive with each other (e.g., impeding others' work, suppressing resources and information, and acting dubious), there was limited social interaction, weaker friendships, and lower achievement scores (Roseth et al., 2008). In the final analysis among students who were in either competitive or individualistic settings, there were no differences on achievement measures or peer relationships. Hence, findings suggested that when teachers implemented cooperative groups, students were supportive, felt a connection with their peers, had higher achievement scores on academic tests and tasks, and had higher levels of achievement because of the prominent peer relations (Roseth et al., 2008).

Willis (2007) defined achievement in the classroom as teachers providing the resources necessary to allow students to perform to their highest potential. The challenge for teachers is to evaluate and integrate content that suits the needs of all students at their individual learning levels. If the classroom teacher is mindful of the content delivery, then the students will be eager to learn (Childe et al., 2009).

Facets of Student Motivation and Achievement

In the United States, the dropout rate and student motivation go hand-in-hand (Acee & Weinstein, 2010). Statistics from the NAEP (2013) revealed that 33% of fourth-grade students in the United States were incapable of reading at a basic level. With the declining literacy achievement of adolescent students, secondary schools are compelled to find ways to improve student performance (Brozo, 2009). Motivation is characterized as an interconnection of feelings that are influential and govern behavior (Green, Martin,

& Marsh, 2007; Martin, 2007; Martin, 2008a; Martin, 2008b). However, student motivation has weakened owing to an increasing number of students who do not like school, do not work hard and, therefore, do not do well academically, which ultimately results in a lack of effort and low grades (Samuelson, 2010). Brophy (2010) implied that the motivation of students is derived from their experiences and their willingness to participate in learning activities, background experiences, and the competencies of the lesson.

Hodis, Meyer, McClure, Weir, and Walkey (2011) conducted a longitudinal investigation on patterns of achievement and motivation over a 3-year period. In that study, data were obtained from approximately 1,500 secondary student participants. Because of the high consistency and significant relationships to various achievement outcomes, including total credits attained with merit and excellence, two programs were selected: *Doing My Best* ($\alpha = .83$) and *Doing Just Enough* ($\alpha = .70$) (Meyer, McClure, Walkey, Weir, & McKenzie, 2009). The two programs were selected because each program displayed a strong correlation to academic achievement and were measured for motivation, orientation, and content (Meyer et al., 2009). Students were assessed by the use of a survey on motivation and methods of learning. The study revealed that the participants in the *Doing My Best Program* scored higher by +18 than the participants in the *Doing Just Enough Program*.

Issues involving reading competency among teachers and students include disengagement and motivation in reading (Greenberg, Gilbert, & Fredrick, 2006; Pitcher et al., 2007; Unrau & Schlackman, 2006). The problem of student disengagement stems

from the quality of instruction and learning (Pletka, 2007). Extensive efforts have been made to increase comprehension in adolescents and to find reasons as to why they are unmotivated (Luke et al., 2006). A study by Many, Dewberry, Taylor, and Coady (2009) supported student disengagement and motivation in reading, and revealed that motivation increased when teachers were knowledgeable of the reading content and offered a variety of teaching techniques, including high-interest books, engaging instruction, collaborative learning, and relating reading with real life experiences.

Noordzij and Te Lindert (2010) stated that the quality of a lesson can increase students' motivation levels because some students perceive the work they do in school to be meaningless. Achievement goals are linked with achievement-related behaviors (Meece, Anderman, & Anderman, 2006), and active learning is associated with students' motivational levels and increased confidence with class materials (Cherney, 2008; Machemer & Crawford, 2007). Chatterji (2006) added that motivated students are driven by teacher and classroom expectations and state-mandated standardized tests (Garner, 2006). Reis and Fogarty (2006) contributed to the research and stated that "when students' incorporate their own experiences into a lesson or assignment, then academic achievement will be amplified" (p. 4). Additional studies on motivation and achievement by Kulik, Kulik, and Bangert-Drowns (1990) found that students involved in classrooms where mastering learning goals was emphasized received higher scores on aptitude tests and, generally, had a more positive attitude toward the content they were learning when compared with students in classrooms where mastering learning goals was not emphasized.

In another study, Pletka (2007) revealed that students expressed a disinterest in school by indicating that school was irrelevant because class time consisted of worksheets and lectures. Because of this ineffectiveness, students' disengage or, as one student wrote, "Students begin to question themselves, their abilities and their potential (p. 16)." Likewise, Pletka added that perceptions are typical of most students, and that approximately two-thirds of secondary school students ultimately become disconnected from learning. High school dropouts believed that the required school work had no relevance to either the workforce or life. This idea was a major factor in the increase in the dropout rate (p. 18). Pletka further explained that although studies signify that collaborative learning generally contributes to student engagement in education, Gamoran and Nystrand (2008) found that 85% of some reading lessons involved students' completing worksheets, which impeded them from communicating with each other. Furthermore, the 2009 High School Survey of Student Engagement revealed that 52% of students expressed that feedback from their reading assignments were not included in their class discussions (Yazzie-Mintz, 2009). It is imperative that students be given the opportunity to collaborate, dialogue, and build knowledge with their peers on reading lessons. The foregoing influences whether or not students will achieve academically (Gamoran & Nystrand).

Despite the strong research that revealed social interaction among peers is connected with learning, Jones, Jones, and Hargrove (2008) found that teachers were allowing students to work collaboratively on assignments. Inasmuch as a state-mandated test is required of every state and is the basis for school accountability, teachers are

curtailing their methods of teaching and are adapting lessons toward lectures and worksheets. Although these methods identify student disengagement, teachers believe that the aforementioned lessons are more persuasive for students to learn the basic skills for the test (Jones et al.). Teachers are required to teach large amounts of materials before they are assessed by the state and, as a result, they are moving through the content at a fast pace, which results in some students not comprehending the context (Pletka, 2007).

Although there is a plethora of research on the relationship between children's' reading skills and reading motivation (Logan & Medford, 2011; Logan, Medford, & Hughes, 2011), there is minimal research using adolescents (McGeown, Duncan, Griffiths, & Stothard, 2015). Risko et al. (2008) researched and located only 11 studies that had been published in the last decade that focused *only* on reading coursework in secondary education.

Student engagement plays an intricate role in the prevention of academic failure, promoting literacy, and influencing the psychological and social skills of adolescents (Li & Lerner, 2013). The implementation of differentiated and direct instruction was the challenge of this study. Archival CRCT reading scores concluded which instructional pedagogy increased academic achievement.

Scaffold Instruction

Research revealed that scaffolding had been a topic in the education world for over 2 decades (van de Pol, Volman, & Beishuizen, 2010). Scaffold instruction was introduced by Vygotsky, who claimed that all students are capable of being leaders in the classroom and can learn. Vygotsky defined the ZPD as "the distance between a child's

actual developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky et al., 1978, p. 86). Vygotsky emphasized (as cited in Kausar, 2010) that social development is important from the beginning of a child's life. As children experience things in life, their brain functions externally before becoming internally functional.

Teachers scaffold instruction so that the responsibility of acquiring skills, knowledge, and self-regulation gradually shifts from the teacher to the student (De La Paz, 2009). With scaffolding, the teacher thoroughly explains the lesson, and then works closely with the students in completing the lesson. As time progresses, the teacher steps back and allows students to take complete control of the lesson (Dimino, 2007). Vygotsky's belief was that the students' cognitive and developmental skills are procured when they socialize with each other. For students to transition through the ZPD, they must use socialization skills and be able to work independently with minimum assistance from the teacher (Valkenburg, 2010). The alignment of competence enacted with teacher assistance or peer collaboration transcends what can be accomplished independently (Valkenburg, 2010).

Scaffolding is a progress monitoring tool that teachers use to determine the independent level of students about a specific lesson while advancing students' ability to work independently and is deemed to be an effective instructional method (Cole, 2006; Pawan, 2008; Valkenberg, 2010). In addition, scaffolding is described as the teacher providing assistance to the student when completing an assignment that the student might

not be able to master (van de Pol et al., 2010). The purpose of scaffolding is to incorporate a variety of strategies that allow students to analyze and resolve problems, be creative, and become productive, thus enabling them to become effective, independent thinkers (Valkenburg, 2010).

Three elements comprise scaffolding: modeling, teacher-assisted or practice, and independent. Students are bestowed metacognition and self-regulation knowledge skills, which are needed to comprehend information without assistance from their peers or the teacher (Dimino, 2007).

According to Dimino (2007), metacognition is the consciousness and control of a person's thinking; metacognitive knowledge and self-regulation knowledge are subsets in metacognition. Metacognitive knowledge is an individual's competence level when a lesson is being implemented (Dimino). In metacognition, four subsets are established: metacognitive knowledge, declarative knowledge, procedural knowledge, and conditional knowledge. Declarative knowledge consists of preexisting knowledge that is accumulated in one's memory (e.g., recalling punctuation rules, reading strategies, and memorization of completing graphic organizers) (Dimino).

Dimino (2007) described the second component of metacognition as being procedural knowledge, which is referred to as the way one's declarative knowledge is used. When this knowledge is amplified, the comprehension strategy or product will be successful. The final type of knowledge that Dimino expounded on was conditional knowledge, which occurs when students can acknowledge when and why strategies should be used when doing reading activities. When a student can summarize a reading

section, comprise questions, and complete a graphic organizer—procedural knowledge has been mastered (Dimino).

Butler and Lumpe (2008) conducted a 3-week study on scaffold instruction, which involved the use of scaffold software known as *Artemis*. The hypothesis of the study was to test whether the usage of Artemis yielded achievement in reading comprehension and motivation. The program calculated the total number of search engines that students used in the research. Students were assessed with a pretest, followed by navigating through the website and locating information on photosynthesis. Finally, students were given a posttest. The results of the study showed a positive association between comprehension and motivation.

With change being constant in state standards, students are required to learn more than they were previously required to learn. Therefore, it is essential that students become capable of procuring new information and deciphering between existing knowledge and up-to-date modifications (Pereis, Dignath, & Schmitz, 2009). With scaffolding, teachers can supervise students during the lesson and use this information to guide the instruction and monitor their levels of learning (Ross & Gibson, 2010).

Traditional teaching methods no longer work when it comes to satisfying academic success for students (Valkenburg, 2010). To obtain the trust of their students, teachers should be creative in their lessons and must be cognizant of students' learning styles. If necessary, they must amend their approach and the technological knowledge used to teach and clarify the reasons for using those methods.

Components of Direct Instruction

The debate as to which instructional approach is deemed most effective has been an educational topic for over half a century. Concerted efforts have been made to implement reading and writing skills, reinforce reading comprehension strategies and use basic phonics in the curriculum (Ryder, Burton, & Silberg, 2006).

Direct instruction programs have been criticized widely despite significant evidence indicating their effectiveness (Fletcher, 2007). The criticisms include the possibility that the results of direct instruction do not extend to comprehension skills, and begin to fade in upper elementary grades. The behavioral component of direct instruction programs impairs critical thinking (Fletcher, 2007). In another view, Byrnes and Wasik (2009) added that direct instruction is one of the oldest and, perhaps, most controversial reading programs still being used with students who have difficulty learning to read.

Research by Kousar (2010) revealed that the use of direct instruction increases student comprehension in basic reading. Kousar added that there had been conflicting results about direct instruction, as to whether it is an effective teaching strategy in promoting the academic success of students.

Sturtevant et al. (2006) explained that accomplishments in literacy enhancement must be grounded in congruent resources and be exciting to the students. They explained further that effective and disparate instructional and collaborative strategies should be incorporated in conformance with vocabulary, comprehension, and the students' existing knowledge. An effective curriculum should include collaborated lessons that include vocabulary, comprehension, and lessons geared toward students' prior knowledge.

Direct instruction addresses *what* to teach (i.e., the content) and *how* to teach (i.e., the delivery of the content) (Snel, Terwel, Aarnoutse, & van Leeuwe, 2012, p. 356). Rosenshine (2001) identified six components to direct instruction:

1. Briefly summarize the previous lesson;
2. Present all components of the lessons, including the activities and progress monitoring by the teacher;
3. Students practice with teacher supervision;
4. Students are allowed to work on their own and the teacher provides feedback;
5. Review the students' work after a week; and
6. Review the students' work after a month. (p. 263)

Some research-based studies have been conducted on direct instruction that supports reading achievement in the general student population (Vitale & Joseph, 2008), and those with learning disabilities (Benner, 2007; Benner, Kinder, Beaudoin, Stein, & Hirschmann, 2005). Coyne, McCoach, and Kapp (2007) conducted a study on 226 students that used the Schoolwide Enrichment Model Reading Framework (SEM-R). The program tested students on their reading articulation, comprehension, and attitude. Results revealed that the treatment group (participants that used the SEM-R model) scored higher than the control group (participants that were instructed with worksheets).

Another study of direct instruction by Slavin, Cheung, Groff, and Lake (2008), concluded that there were positive correlations when students used the Odyssey Reading software that was developed specifically for direct instruction. Results showed a median of +19 for elementary students and +16 for secondary students. Another study by Klahr

and Nigam (2004) presented proof supporting direct instruction as a better model than discovery learning over discovery instruction—a claim that policymakers now endorse (Kirschner, Sweller, & Clark, 2006; Mayer, 2004; Rittle-Johnson, 2006).

Klahr and Nigam (2004) implemented a brief study on direct instruction. The control group consisted of a teacher-led classroom in which the teacher instructed the lesson, provided the materials, and explained how the assignment should be completed. The experimental group received the same materials, but was allowed to create their own procedure to work on the lesson with minimum feedback from the teacher. Results showed that the experimental group outperformed the control group.

In addition, direct instruction has been an effective teaching model outside of schools (Grossen, 2004; Shippen, Houchins, Steventon, & Sartor, 2005). It has been implemented to English language learners in alternative schools, as well as to juveniles in detention centers (Houchins, Jolivette, Krezmien, & Baltodano, 2008; Kamps et al., 2007; Steventon & Frederick, 2003). Studies have revealed that when direct instruction is implemented with fidelity, positive outcomes occur (Ross et al., 2004; Stockard, 2010). Analyses of the curricula suggested that direct instruction provides a clear foundation for cognitive development (Carnine, Grossen, & Silbert, 2000).

Components of Differentiated Instruction

According to P. Tomlinson (2008), students are becoming more academically diverse and special education departments are identifying more students with exceptionalities. Indeed, to ensure a higher level of thinking for students who are not meeting the basic literacy requirements, which hinders their school attendance,

assessment of tests in the classroom, as well as the state standards are necessary. Dropout rates and literacy deficiency are hindering advanced students who are not being challenged with higher-order thinking skills (P. Tomlinson). Moreover, each student is different and their brains operate, store, and process knowledge differently (Sze, 2008).

Research shows that differentiated instruction dates back to 1889, but became prevalent in 1912 when the San Francisco State Normal School System started a movement to make textbooks self-instructive and enabled children to systematically progress according to their ability (Washburne, 1953, p. 140). Shyman (2012) defined differentiated instruction as teachers varying the curriculum and their pedagogical lessons to meet the needs of the students without altering the curriculum.

Differentiation is used to ensure that teachers focus on students' individual learning styles to guarantee efficient learning for diverse students (Tomlinson & McTighe, 2006). One advantage of differentiated instruction is that it allows teachers to become cognizant of their students' strengths and weaknesses. In addition, differentiated instruction allows the teacher to plan from the specific context of the lesson, which caters to students' specific learning skills and results in a better learning environment (Stanford, Crowe, & Flice, 2009). Finally, incorporating differentiated instruction learning modalities to improve literacy is a major element in improving adolescent reading (Faggella-Luby, Ware, & Capozzoli, 2009).

No two students have the same reaction to learning in identical situations (Willis, 2007) and, consequently, they have different learning styles (Pashler, McDaniel, Rohrer, & Bjork, 2008; Sze, 2008). Tomlinson (1999) stated that differentiated instructional

pedagogy should be challenging and carefully planned, but manageable for the student. If the student believes the content is too difficult, then the student will be discouraged and possibly fail the assignment. This principle is consistent with Vygotsky's ZPD, which implies that there is a discrepancy between a student's actual age and their level of mental development as it applies to learning (Bigge & Shermis, 2004).

In addition, teachers must have sufficient knowledge of content, context, pedagogy, and must know their students well enough to acknowledge the intricacies that are intertwined in the teaching and learning process (Jackson, 2009). Productive teachers recognize that students have their own personalities and understand that each student brings preexisting knowledge and perspectives to the classroom (Jackson, 2009).

Gardner (1983) discussed eight learning styles: spatial, auditory, musical, linguistic, kinesthetic, mathematical, interpersonal, and intrapersonal. Adolescents recall only 70% of what they read or hear because their auditory skills are not fully developed. A student's method of learning is derived by such variables as their personality, the learning atmosphere, and their learning outcome (Ak, 2007). At-risk students who struggle to read have unique needs (Malmgren & Trezek, 2009). One approach in motivating secondary students is to enhance their ability to think critically (Sullivan et al., 2009).

The learning style approach has been used to appoint a wide variety of student attributes and differences (Felder & Brent, 2006). A student's learning style is determined by how they think and learn best. Once the teacher identifies a student's area of weakness and their learning style, they can adapt to that student much better (Sze, 2008).

The concept of differentiated instruction is based on the multiple intelligences of the students' learning styles, and allows the teacher to group the students and incorporate a surfeit of activities geared toward the learning styles of the students (Paris & Paris, 2009). If students affirm that they are auditory learners and think that they cannot assimilate in any other way, they will not exert the effort. Students should be subjected to different concepts and should be open to trying the different concepts related to their learning style (Sze, 2008). Furthermore, if a student believes ineffective at understanding the concept, then he or she will adapt to the concept by reforming his or her existing cognition (Slavin, 2006). Adolescents will succeed in academics when they are confident about the content (Sze & Cowden, 2009).

Through the first part of the 21st century, differentiated instruction studies examined the effectiveness of teacher's instruction and their attitudes (Smit & Humpert, 2012), or on a specific group of learners such as students with disabilities (Jones, Yssel & Grant, 2012). However, between 2012 and 2016, studies revealed differentiated instruction as being an effective instructional pedagogy (Valiandes, 2015). Muthoni and Mbugua (2014) stated that differentiation instruction in mathematics showed academic achievement in secondary school, as well as in college. Similarly, other studies in secondary science classes revealed positive improvement in the classroom, as well as on state assessments (Simpkins, Mastropieri & Scruggs, 2009).

Educational psychologists Urdan and Karabenick (2010) concurred that learning in the classroom involves cognitive and effective processing and is influenced by social processes, which indicates that students should have the capability and willingness to

control their feelings, perceptions, and inspirations, as well as adapt to the social conditions, to promote learning. When teachers create instructional lessons with an array of learning modalities, differentiating occurs (SDE, 2011). Academic achievement through the use of differentiated instructional pedagogy has been recognized as an effective strategy for improving student learning, as well as academic achievement (Chen & Weiland, 2007).

Differentiated instruction meets the need of every student, by allowing the teacher to provide an array of learning resources. In turn, this array grants students opportunities to interpret their understanding of what is being demonstrated, and allows them to disclose what they have learned (Algozzine & Anderson, 2007).

Educating adolescents to be strategic readers comes with its share of demands (Moje, 2008). Teachers are uncomfortable teaching content that is outside their area of expertise. Secondary schools fortify a departmentalized view of reading instruction, resulting in students being unable to comprehend the correlation of basic reading to the other content subject areas (Moje, 2008). Therefore, using differentiated instructional pedagogy as a planning strategy allows teachers to reach every student's specific level of learning (Stanford et al., 2009).

For teachers, the foundation of differentiated instruction is being able to coordinate the lesson based on students' strengths and weaknesses and identifying their learning style (Levy, 2008). The implementation of differentiated instructional pedagogy continues to be a scarce topic. The focus of differentiation is on the remediation and the support of struggling students and not on the learning styles of all students (Latz, Speirs-

Neumeister, Adams, & Pierce, 2009). Students' learning abilities vary; some are abstract learners, while others are hands-on and visual learners (Felder & Brent, 2006). Overall factors that affect students' academic successes include the accuracy of the lesson, the experience of the teacher, and the classroom environment (Chatterji, 2006). Other factors include the students' socioeconomic backgrounds, motivational levels, and having the confidence to know that they will be successful (Taylor & Nelms, 2008). Although students' learning ability is geared by these factors, Boekaerts and Cascallar (2006) and Greene and Azevedo (2007) assumed that the main goal of educating secondary students was to elevate their higher-order thinking skills (Sullivan et al., 2009).

A comparable quantitative study involving 646 third- through eighth-grade students was conducted by Kavensky (2011). There were 416 students who were identified as gifted; the remaining 230 students were identified as nongifted students. The intent of the study was to identify students' preferred learning method by having them complete a survey entitled *The Possibility of Learning*. The outcome revealed that the gifted students showed interest when they were allowed to select their own topic of interest, work at their own pace, and collaborate with their peers; the nongifted students showed no interest in any of the topics.

Students will not build their reading skills if they read only at school; they need to take the time to read at home (Hirsh, 2008). In addition to building students' developmental skills, teachers must incorporate interesting and engaging activities (Brozo & Flynt, 2008). Differentiating instructional pedagogy in reading is the coercion that allows students to make their own reading choices and formulate their work so that it is a

desirable match for their learning style (Tobin & McInnes, 2008). This is beneficial for those students who require different ways of learning and extra assistance from the teacher. In differentiated instruction, all students work on the same concept, but use different instructional resources to comprehend and exhibit these understandings (Tobin & McInnes, 2008).

Mastropieri et al. (2006) conducted a quantitative study of 2,769 students on enhanced differentiation (44 of who were classified as having a disability). The students participated in 12 sessions. Differentiated instructional pedagogy was implemented in the experimental classes, and worked in cooperative groups using hands-on instructional strategies, while the control classes received direct instructional pedagogy. Results indicated that the experimental class with collaborative, hands-on strategies statistically facilitated learning on posttests and state-mandated tests for all students. The students enjoyed the differentiation of the lessons.

Differentiated instruction focus is on the students we teach, the location where we teach, and the teaching pedagogy used (Levy, 2008). Defensible versions of differentiation addressed the vital components of differentiating quality curriculum. Nonetheless, differentiation is predominately an instruction design model (Tomlinson & McTighe, 2006). Students with language disabilities may not achieve academically in basic literacy and, instead, will rely on other instructional sources for additional support (Westby, 2009).

Differentiation can occur in terms of adjustments to the curriculum content, the teaching and learning processes, and products from each lesson. In addition, it can occur

through modification of the instructional materials, classroom organization, student-teacher interactions, support given to different students, modifications to the nature of assigned homework, and accommodations made in methods of assessment (Fahsl, 2007). Effective differentiation combines pedagogical and organizational adjustments. In addition, differentiation is achieved through flexible use of support staff, changing the learning environment, setting alternative tasks, and having multiple learning modalities in one lesson. As previously indicated, each of these forms of differentiation can bring advantages and disadvantages.

Educators are confronted with obstacles in the classroom as students enter middle school with various learning abilities and disabilities (Painter, 2009). Differentiated instruction offers lessons that are geared toward students' learning styles, and allows ways for teachers to be creative when presenting lessons, which, in turn, enable all students to achieve academically (P. Tomlinson, 2008). Student success is predicated on teachers who identify students' learning style and create lessons that are geared toward students' multiple intelligences (Santamaria, 2009).

Differentiated Instruction Opposition

While there is a plethora of literature that supports learning styles and differentiated instructions, there are conceptions against theory (Pham, 2012). Lilienfeld, Lynn, Ruscio, and Beyerstein (2009) indicated that it is a fallacy to believe that students achieve academically when teaching styles are matched to learning styles. Three reasons were given to this notion:

- Many learning styles have not been scientifically proven. Research has not shown a link between learning styles and differentiated instruction.
- If teachers deviate from the traditional teaching model and introduce a different teaching model, students will be more receptive to learning.
- Selecting a creative teaching method different from students' conventional styles may yield more striking outcomes than one that is matched to their learning styles.

There has been minimal research on actual studies or the correlation between learning styles, differentiated instruction, and academic achievement. Pashler et al. (2008) was unsuccessful in locating studies that supported the claim. In addition, Cook, Gelula, Dupras, and Schwartz (2007) and Hsieh and Dwyer (2009) confirmed the claim of Pashler et al., and implied that changing the classroom setting and offering an array of activities would yield positive results. Literature stated that students are able to adapt to any teaching model, as long as one model is not used on a continuous basis (Riener & Willingham, 2010; Scott, 2010). Therefore, teachers should provide lessons that are geared toward the students' prior and current knowledge (Pham, 2012).

Support for Methodology

Since I used archival CRCT data in this research study, I chose quantitative research instead of qualitative research, because quantitative research summarizes data numerically, whereas qualitative research studies participants in a natural setting in which standardized instruments are not used. Qualitative researchers develop their own method

for recording and collecting data, and the findings are summarized through narrative or verbal means.

Qualitative researchers develop a broad research question or area of focus, based on their experiences, observations, readings, or experiences in the research setting. In addition, the qualitative researcher develops specific questions to help guide his or her observations. As the study progresses, the question(s) may change, unlike quantitative research where the research question(s) remain constant throughout the entire study (Lodico, Spaulding, & Voegtle, 2010).

Literature Related to Different Methodology

Qualitative measurement is used in qualitative studies, mixed-method research, program evaluation, and action research. Qualitative research is described by flexible, naturalistic methods of data collection and, usually, does not use standardized instruments as its major data source (Lodico et al., 2010). Tools for qualitative measurement must be flexible enough to allow recording of data on complex areas, such as the social context for a group's interactions, cultural beliefs and customs, personal interactions and learning processes, and multiple viewpoints. Ultimately, I was the primary measurement tool in qualitative research—all data were filtered through my eyes and ears. Therefore, qualitative measures usually include tools to record the researcher's subjective experiences for analysis (Lodico et al., 2010).

The first qualitative study by Roe (2010) described how differentiated instruction occurred in classrooms led by the following intentions:

- Identify teachers' comprehension of differentiated instruction.

- Understand the teachers' implementation of differentiated instruction for their students during an academic year.
- Assess the students' and teachers' perceptions of differentiation.

Roe (2010) used data from several sources: field notes from 135 classroom observations, informal conversations with teachers and students, semi-structured interviews with 9 teachers, semi-structured interviews with 30 students, and document analysis. Roe unveiled the following attributes linked to teachers' differentiation practices:

- Differentiation is more than a classroom event.
- The classroom climate contributes to differentiation options and practices.
- Differentiation entails attention to affective and cognitive variations.
- Activities drive differentiation practices. (p. 148)

Two other comparable studies used mixed methods, which is a research design that incorporates quantitative and qualitative data to answer a particular question or set of questions. This combination of methods "involve[s] the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study" (Hanson, Creswell, Plano-Clark, Petska, & Creswell, 2005, p. 224). Mixed methods combine data, along with the usage of words, pictures, and narratives (Johnson & Onwuegbuzie, 2004).

The first mixed-method explanation, which was a 2-phase design involving quantitative and qualitative methods study conducted by Huang (2012), investigated the Accelerated Reader (AR) Program on middle-school students' reading achievement and motivation. Three research questions were addressed:

- Are students achieving academically when they use the AR Program?

- Are students motivated after using the AR Program?
- Does the AR Program promote reading motivation for middle-school students?

An AR Program was completed by 211 students—30 were randomly selected for the interview, pretest, classroom observation, and posttest. I used the descriptive statistics analysis to analyze the results of the AR survey and a *t*-test statistical analysis to compare the AR points that the participating students' gained from the primary scores to the final scores at the end of the semester. The second research question was answered largely by qualitative data to identify students' beliefs, experiences, and attitudes about the use of the AR Program, and how the AR Program promoted their reading achievement and motivation; however, quantitative data were included to answer the research question. The results revealed that the AR Program neither increased nor decreased students' reading scores.

The second mixed-method study by Kim, Samson, Fitzgerald, and Hartry (2010) examined the causal effect of READ 180 on measures of word reading efficiency, reading comprehension and vocabulary, and oral reading fluency, and whether print exposure among students in the experimental condition explained variance in posttest reading scores. READ 180 is a mixed-method approach (Slavin et al., 2008) to literacy instruction that is designed to assist at-risk readers in Grades 4–12 in improving their reading efficiency, reading comprehension and vocabulary, and oral reading fluency. READ 180 is a 90-minute program where teachers begin with a group lesson for 20–30 minutes. Students are then placed in smaller groups where they participate in a variety of

activities that involve leveled books and scaffolded computer activities (Hasselbring, Goin, Taylor, Bottge, & Daley, 1997).

A total of 294 middle-school students were randomly assigned to READ 180 or another district after-school program. Both programs were implemented 4 days a week over a 23-week period. One group of students participated in the READ 180 intervention, and another group participated in the district after-school program that included a 60-minute program in which teachers were able to select from 16 different enrichment activities designed to improve student attendance and achievement.

The research questions were conducted through the use of pretest and posttest observations of READ 180 classrooms to assess fidelity of intervention. Pretest and posttest measures of reading efficiency, reading comprehension, vocabulary, and oral reading fluency were administered by teachers. In addition, a posttest survey of students' after-school experiences was administered.

At the conclusion of the study, there was no significant difference between students in READ 180 and the district's after-school program on norm-referenced measures of reading efficiency, reading comprehension, and vocabulary. In the final analysis, findings from the study suggested that it may be unreasonable to expect one reading intervention—even a comprehensive, mixed-method approach to literacy instruction—to simultaneously address all areas of reading weaknesses.

Kim et al. (2010) conducted a mixed-methods investigation on 294 randomly-selected middle-school students who used the READ 180 Program. In this investigation, 147 of the students used the READ 180 Program during school hours, and the remaining

147 students used the Program in an after-school program. Each group took a preassessment and postassessment test. The students used scaffold computer activities and group lessons, while the after-school participants engaged in 16 noncomputerized activities that were geared toward academic achievement and attendance. The postassessment results were inconclusive in that the READ180 Program did not address areas that focused on students' reading weaknesses.

Reading Interventions and Programs

Efforts are being made to improve literacy among adolescents (Calhoon, Scarborough, & Miller, 2013). Evidence suggested that reading interventions with adolescents can be effective (Fisher & Frey, 2014); some include, but are not limited to, additional classes during the school day, technology-based learning, assistance after school, and summer programs (Soper & Marquis-Cox, 2012). For example, Vaughn and Fletcher (2012) examined 28 students who failed their state-mandated reading comprehension test in Grades 6 and 7. When the students entered grade eight, the researchers provided 50-minute individualized reading interventions in cooperative groups on a daily basis. Findings revealed that the participants' scores significantly improved and were higher than comparison students on standardized measures of comprehension (effect size = 1.20) and word identification (effect size = .49) (Fisher & Frey, 2014, p. 515). Cantrell, Almasi, Carter, Rintamaa, and Madden (2010) investigated another reading intervention effort that focused on comprehension strategies; specifically, vocabulary, visualization, word identification, sentence structure, and paraphrasing. The 365 students who participated in the study significantly outperformed the 290 who did

not (p. 269). In terms of technology-based learning and literacy, Kim, Capotosto, Hartry, and Fitzgerald (2011) explored the effectiveness of a computer-aided intervention program in an after school program of 312 adolescents. The program included vocabulary, reading comprehension, spelling, and fluency. Results revealed improvement in the areas of vocabulary and reading comprehension; however, the remaining areas of spelling and fluency showed no improvement. In a more recent study, Cheung and Slavin (2013) administered a best-evidence synthesis of studies that entailed supplemental and comprehensive computer-aided literacy interventions involving over 7,000 students. Results of this intervention disclosed that these technology applications had an insignificant effect on reading achievement with an overall weighted mean effect size of 14 (p. 295).

Effective adolescent literacy programs should focus on four areas: word study, fluency, vocabulary comprehension, and motivation (Boardman et al., 2008; Kamil et al., 2008); Scammacca et al., 2007; and Torgesen et al., 2007). Word study consists of teaching adolescents strategies in breaking words down into parts, blending the sounds and identifying syllable types, reading multisyllabic words, and identifying irregular words that do not follow typical patterns (Boardman et al., 2008). Fluency is the ability to read with accuracy, meaning, and understanding (Malmgren & Trezek, 2009, p. 3). To assist students who are struggling, Boardman et al. (2008) suggested that teachers monitor students and track their progress in fluency and provide feedback. In addition, allow the students to self-monitor. The next area in improving adolescent literacy is vocabulary. Boardman et al. (2008) defined vocabulary as comprehending the meaning of

words. McEwan (2007) provided several classroom strategies for teachers to enhance students' mastery of vocabulary:

- Post the words in the classroom as a visual.
- Have students research synonyms and antonyms of the words.
- Have students provide a real world context of the words.
- Create a word game and concept map so that students can familiarize themselves with the words.

Comprehension is the most important in reading instruction and is defined as remembering and understanding what you have read (Boardman et al., 2008). Keys to successful comprehension include, but are not limited to, the following:

- Activate prior knowledge of the topic.
- Students monitor their own comprehension.
- Teachers ask questions before, during and after reading.
- Graphic organizers, which are visual aids that allows students to remember key information.
- Mnemonic strategies are systematic strategies for memorization.

The final area is motivation. Boardman et al., (2008) implied that since struggling readers cannot read, they are unmotivated to do so. Brozo and Flynt (2008) listed six evidenced-based principles for increasing motivation in the content-area classroom:

- Increase self-efficacy.
- Create interest when new material is introduced.
- Connect new material to the real world.

- Give the students options on instructional strategies.
- Offer a wide range of reading material.
- Offer peer grouping.

Explicit instruction is another intervention that has proven to be successful (Marchand-Martella & Martella, 2013). Kosanovich, Reed, & Miller (2010) listed this instruction as the chief way to promote student learning. Explicit instruction involves teacher-led instruction and student mastery via whole group and independent practice (Marchand-Martella & Martella, 2013). The focus of explicit instruction is the ongoing interaction between the teachers and the students. Students interact with their teachers and their peers about the content and are allowed to address any issues and concerns at the time of interaction (Rupley, Blair, & Nichols, 2009).

Differentiated Instructional Strategies Used in the Study

The layout of the eighth-grade differentiated instructional classroom consisted of desks arranged in groups of three—there were four computers in each classroom. On the bookshelf was a plethora of books geared toward students from Grades 4–12. At the beginning of a lesson, the teacher reviewed the unit's standards and created a group activity introducing the vocabulary of the unit. The students were given a sheet of paper on which they were to construct a graffiti board. The teacher shared flipchart and PowerPoint presentations about the unit with the students. The students then wrote down their own definitions and examples of the unit and decorated their graffiti boards with pictures and artwork. When the graffiti boards were complete, a summarization of the vocabulary took place. Finally, the students were given a list of objectives and were

asked to explain the unit using various options (e.g., a newsletter, a PowerPoint presentation, a wanted poster board, or a mini book with pictures). The teacher monitored the students' progress by asking questions to determine their mastery of the lesson. If a student was unsure of the content, the teacher evaluated that particular student's knowledge and adjusted the assignment accordingly. Assessment was based on the teacher's monitoring of students' progress. The teacher occasionally may have given a small test to determine a student's progress.

Direct Instructional Strategies Used in the Study

In the eighth-grade direct instructional classroom, the layout consisted of desks lined up in rows. The students read for the first 15 minutes of class. At the beginning of a unit, the teacher reviewed the standards and lectures while students took notes. Worksheets were given to the students to aid in their mastering of the unit's content. The teacher checked students' understanding by asking them if they had any questions about the lesson. Assessment of the lesson was based on quizzes and tests.

Selecting the quasi-experimental research approach allowed me to compare two groups to determine whether an identical independent variable effected a change in a dependent variable. Therefore, the usage of data in a quantitative method was more appropriate than qualitative and mixed-method when portraying the views of the participants. The quasi-experimental study that I conducted was the most appropriate of the research design.

Section 3: Research Method

Introduction

In Section 3, I report the methodology of the study, which includes the research design, setting and sampling, data collection, instrumentation, reliability and validity, data analysis, and the measures to ensure the participants' rights. A quantitative research study prescribes analysis of the data being researched, whereas qualitative research produces chronological or textual declaration (Rugg & Petre, 2007). I used a quasi-experimental, post hoc analysis in this study. My purpose was to measure the effect of an independent variable on a dependent variable (VanderStoep & Johnston, 2009).

This study is composed of a one-way analysis of variance (ANOVA) with a post hoc analysis. Between-group's design is characterized when each treatment condition is administered to a different group of subjects. A within-subjects, or repeated measures design, is characterized when each subject participates in every treatment condition. All subjects are repeatedly measured under all treatment conditions (Cooper, 2012). An ANOVA is used to determine if two or more levels of an independent variable show a difference on a dependent variable. The one-way ANOVA for this research tests the difference between two groups (Huizingh, 2007). A post hoc analysis is a procedure done after a null hypothesis has been rejected (Sirkin, 2006). The post hoc analysis helps to determine which combination of two groups is significantly different from each other. The test statistic produced by ANOVA is the *F* statistic. A *p* value helps to determine the extent to which the calculated *F* value is statistically significant from zero. If the *p* value

is less than .05, a typical *p* value, researchers can conclude, with confidence, that the ANOVA is statistically significant (VanderStoep & Johnston, 2009).

Statement of Hypothesis

H_{01}: There was no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction.

H_1: There was a significant difference in the change in test scores of the CRCT reading tests from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction.

Research Design

I used a quantitative quasi-experimental design in this study to test the single hypothesis. Testing the hypothesis, or theory as Creswell (2003) referred to it, answered the research question in this study. The independent variable was the instructional type with two levels: differentiated instruction and direct instruction. The dependent variable in this study was the change scores. The research question and null hypothesis were related to whether there was a difference in the test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year.

Archival CRCT assessment data from the 2011–2012 academic year served as the pretest scores. 64 seventh-grade students were given the CRCT: 32 students were in a classroom with differentiated instructional pedagogy and 32 were in a classroom with

direct instructional pedagogy. The students were transitioned to the eighth grade. The students who were instructed in the differentiated instructional classroom in the seventh grade were placed in a differentiated instructional classroom in the eighth grade, and the students who were in the direct instructional classroom in the seventh grade were placed in a direct instructional classroom in the eighth grade. The students were tested during the 2012–2013 academic year and those scores served as the post scores. The reading scores from the 2012–2013 academic year were subtracted from the scores from the 2011–2012 academic year, which represented the change score or the dependent variable.

The research question and hypothesis were examined by determining whether a difference existed in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for eighth-grade students who received differentiated instruction compared with those who received direct instruction.

Setting and Sampling

Sampling is a crucial aspect of the research process (Arcidiacono, Procentese, & Di Napoli, 2009); a sample is the subset of people from a population who participated in a given study (VanderStoep & Johnston, 2009). CRCT assessment scores were collected from 64 eighth-grade students who were part of a reading class in a regular classroom setting at a public middle school located in northwest Georgia.

The participating middle school is located in a district composed of 24 public schools: 13 elementary schools, five middle schools, three high schools, one theme school, one charter school, and one alternative school. The participating middle school opened in August 2003 and serves students in sixth through eighth grade. There were 785

students enrolled in the participating school when the study was conducted. Of the 785 enrolled students, 112 were in the eighth grade. The school had a total of 58 teachers at the time of study.

The sample population and size was derived from CRCT archival data involving 64 eighth-grade students. In selecting the sample population for the study, I looked at the total number of students in the classroom who had been taught using direct instructional pedagogy, and those who were instructed with differentiated instructional pedagogy. Two classes participated in this study—one class was instructed using direct instructional pedagogy and was composed of 13 females and 19 males; the other class was instructed using differentiated instructional pedagogy and was composed of 18 females and 14 males. I collected archival data from records of students who transitioned from the seventh grade to the eighth grade. The students whose data were used in the study had been randomly assigned to their seventh-grade classroom receiving either differentiated instruction or direct instruction.

The students who were taught with direct instructional pedagogy in the seventh grade were instructed by a teacher who taught direct instructional pedagogy in the eighth grade, and students who were taught with differentiated instructional pedagogy in the seventh grade were instructed by a teacher who taught differentiated instructional pedagogy in the eighth grade.

Data Collection

Before performing the study, I received permission from the Public Relations Department of the county that governs the school district in which the participating

middle school is located. In addition, I was granted permission from the principal of the participating middle school to obtain archival CRCT data.

Before data collection, I provided a letter to the principal (Appendix A) and the Board of Education and Superintendent (Appendix B) explaining the doctoral study. In addition, I signed a confidentiality agreement (Appendix C) ensuring that the CRCT data would be viewed by only me and the results would not be shared and be used only for the study. The county's public relations department granted permission to obtain information from the principal of the participating school, archival data, and the teachers who taught the classes in which the archival data were utilized (Appendix D).

The data collection took place after school hours with the principal overseeing the process of my removing the CRCT data from the locked school room. Data were reviewed in the principal's office with the door locked and the blinds closed. The principal provided me with a two-way radio so that I could notify him when the data collection process was finished. I recorded the initial data on a sheet of paper and then transferred the data onto an Excel spreadsheet. Once the data were transferred, the paper was shredded. I used a coding system to ensure the anonymity and confidentiality of each student.

After leaving the secured office, the data were then coded as follows: Class 1– Direct Instruction (Appendix E); Class 2–Differentiated Instruction (Appendix F). The students were assigned letters from the alphabet. Since there are 26 letters in the alphabet and 32 students in each class, AA, BB, CC, and DD were also used. Those students who scored on Performance Level 3 exceeded the state standard and were reported with a

scale range of 850─950 and coded 3 on the data collection spreadsheets (Appendix E; Appendix F); Performance Level 2 met the state standard and were reported with a range of 800–849, and were coded 2 on the data collection spreadsheet (Appendix E; Appendix F); Performance Level 1 did not meet the state standard and were reported with a range of 650–799, and coded 1 on the data collection spreadsheet (Appendix E; Appendix F).

Instrumentation

The CRCT is an assessment used by the GDOE to evaluate how well students have retained knowledge of the material required by the state standards. In addition, the assessment is used to identify students' strengths and weaknesses in the areas of reading, English/language arts, and mathematics, and to gauge the quality of education throughout the state of Georgia (GDOE, 2012). First- through eighth-grade students take the CRCT during the spring semester of each academic year. The reading section of the CRCT must be passed by fourth-grade students in order for them to be promoted to fifth grade. Fifth- through eighth-grade students are required to pass the Reading *and* the Mathematics portions of the CRCT to be promoted to the next grade level.

Reliability and Validity

The CRCT originally was created and written by Georgia teachers who were experienced, trained specialists. Once the test questions were composed, examiners in each content area reviewed them for accuracy, quality, clarity, and alignment to the state curriculum. In addition, the curriculum specialist committee checked answers to each question to ensure only one clear and correct answer. The potential for bias was evaluated throughout the test development (GDOE, 2012). Each quarter, panels of experts from the

testing division meet with the Georgia Technical Advisory Committee to review all aspects of the test and analyze it in its entirety (GDOE, 2012). Technical characteristics of certain tests are pertinent and are contingent on how the test will be interpreted and utilized. Reliability and validity are two characteristics that assist researchers in evaluating the quality of educational measures (Ravid, 2010). Reliability is the ability of the instrument to produce the same results over a period of time in terms of testing. In addition, it can be thought of as the point to which scores are free of measurement error (Aimsweb Technical Manual, 2012. Validity is the true accuracy of the instrument to measure what it is designed to measure (Jupp, 2006; Lodico, Spaulding, & Voegtle, 2006; Ravid, 2010).

Data Analysis

The participants' CRCT scale reading scores for each academic and instructional year were entered into the Statistical Package for the Social Sciences (SPSS) software program, a comprehensive software program for analyzing data. A quasi-experimental design was conducted to determine whether there was a difference in the change in test scores over time. More specifically, do the CRCT reading test scores from the 2011–2012 academic year compared with the scores of the 2012–2013 academic year for eighth-grade students who received differentiated instruction compared with those who received direct instruction, show a statistically significant difference? Student test score data were disaggregated by instructional methods, as shown in Table 1.

Table 1

Research Design

Statistic test	Population	Independent variable	Dependent variable
ANOVA	Two classes of eighth-grade reading students who received direct instruction or differentiated instruction during their seventh and eighth grades	Instructional group– direct instructional group and differentiated instructional group	Posttest minus pretest scores

Measures to Ensure Participants' Rights

In this quasi-experimental study, CRCT archival data were collected and analyzed. Creswell (2003) stated the importance of confidentiality when collecting any and all data. I did not work with any of the teachers, or have any input in any capacity in this study. I am a Title I Math teacher at the participating school where I teach sixth- through eighth-grade math. I am affiliated with the teachers only because they work in the same school. I was the only person to analyze the CRCT data, so there were no threats or adverse effect on the students, teachers, or staff for participating in the study. The data of each participant will remain anonymous. The Institutional Review Board (IRB) at Walden University reviewed the proposal to ensure that the human rights of the participants were protected prior to the collection of data (IRB # 05–28–14–0132789).

Section 4 will describe the results and further analysis of the data to determine the effect of direct instruction and differentiated instruction on the reading achievement scores of eighth-grade students on the Georgia CRCT. Section 5 will summarize the results and how they relate to the larger body of literature and practical implications. In

addition, Section 5 will present conclusions regarding the implication for social change and provide recommendations for actions, as well as for further study.

Section 4: Results

The purpose of this quasi-experimental study was to examine the reading achievement of two eighth-grade classes that were instructed with different pedagogies. Differentiated instructional pedagogy targets the varying levels of intelligence of students to ensure lessons are geared toward their individual learning styles through instructional resources, activities, class expectations, cooperative groups, and assessments (Paris & Paris, 2009). Direct instructional pedagogy occurs when a teacher has expertise in one area and presents this expertise to students in an organized and precise way (Kousar, 2010).

I used the quasi-experimental design because of the two groups and, in addition, I compared CRCT scores of 2 different academic school years to determine whether a difference existed in the change in reading test scores. Students who scored on Performance Level 3 exceeded the state standard and were reported with a scale range of 850 to 950. Students scoring Performance Level 2 met the state standard and were reported with a range of 800 to 849. Finally, students scoring Performance Level 1 did not meet the state standard and were reported with a range of 650 to 799.

The sample population and size were derived from CRCT archival data involving 64 eighth-grade students. In selecting the sample population for the study, I looked at the total number of students in the classroom who had been taught using direct instructional pedagogy, and those who were instructed with differentiated instructional pedagogy. Two classes participated in this study—one class was instructed using direct instructional pedagogy and was composed of 13 females and 19 males; the other class was instructed

using differentiated instructional pedagogy and was composed of 18 females and 14 males. Archival data were collected from records of students who transitioned from the seventh grade to the eighth grade. The students whose data were used in the study had been randomly assigned to their seventh-grade classroom receiving either differentiated instruction or direct instruction.

The students who were taught in the 2011–2012 academic year with direct instructional pedagogy in the seventh grade were instructed by a teacher who taught direct instructional pedagogy in the 2012–2013 eighth grade academic year, and students who were taught with differentiated instructional pedagogy in the seventh grade were instructed by a teacher who taught differentiated instructional pedagogy in the eighth grade. The CRCT scores of the groups.

Research Question and Hypothesis

For this study, one research question and one related hypothesis were formulated for investigation. They were as follows:

RQ: Was there a difference in the change in test scores of the CRCT reading test from the 2011–2012 to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction?

H_{01}: There was no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction.

H_1: There was a significant difference in the change in test scores of the CRCT reading test from the 2011–2012 to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction.

The research question was answered with a one-way ANOVA. The CRCT reading test scores from the 2012–2013 academic year were subtracted from the CRCT reading test scores from the 2011–2012 academic year. The results represented the change scores. The independent variable was the instructional type with the two levels: differentiated instruction and direct instruction.

Findings for the Hypothesis

Sample Demographics and Preliminary Analysis

The sample consisted of 64 students; 50% (n = 32) had direct instruction and 50% (n = 32) had differentiated instruction. Direct instruction is a teaching method in which the teacher stands in front of the class and presents the lesson to the students. There was little to no interaction between the teacher and the students. Students are usually given a work sheet to complete at the end of the teacher's presentation. Conversely, differentiated instruction is the opposite. It is an instructional method that offers a variety of strategies that fits the needs of the students learning style. A one-way ANOVA was conducted on the data to examine differences in reading achievement before the treatment. Reading achievement scores were not significantly different between the instructional groups of test scores of eighth-grade students. The achievement score differences between the differentiated instruction group (M = 801.88, SD = 27.62) and the direct instruction group

(M = 799.25, SD = 22.90) were not statistically significant, $t(62) = -.41$, $p = .68$, two tailed. Examining test scores of the groups before participating in the instructional methods controls for external validity. Thus, if the differences between the pretest and posttest scores are statistically significant, the differences were not related to the difference in test scores (beginning achievement) of the groups before receiving instruction of either type.

The hypothesis was answered by archival CRCT performance scores of two classes with a total of 64 students. The test score results were collected from archival data of seventh-grade students who were randomly placed in two separate classrooms during the 2011–2012 academic year. One class of 32 students was instructed with direct instructional pedagogy and another class of 32 students was instructed with differentiated pedagogy. These students were tested and then transitioned to the eighth grade and were placed in the same instructional setting as they were in the seventh grade. The students were then tested during the 2012–2013 academic year. From there, the dependent variable was formulated and the change scores calculated.

Table 2

Group Mean Change Scores for Instructional Type

Instructional type	*n*	*M*	*SD*
Direct instructional classroom	32	11.09	22.11
Differentiated instructional classroom	32	11.69	18.54
Total	64	11.39	20.25

The results presented in Table 2 illustrate that the treatment group for direct instruction had a mean score of 11.09 and a standard deviation of 22.11. The treatment

group for differentiated instruction had a mean score of 11.69 and a standard deviation of 18.54. The total mean for both instructional groups was 11.39 with the standard deviation of 20.32. Although the differentiated instructional group showed a +06 difference than the direct instructional classroom, this is not enough to prove whether differentiated instruction was the better instructional pedagogy.

Table 3

ANOVA Summary Table

Source	*df*	Mean square	*F*	*p*
Between groups	1	5.64	.01	.908
Within groups	62	416.38		
Total	63			

Table 3 results show no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for eighth-grade students who received differentiated instruction ($M = 11.69$, $SD = 18.54$) compared with those who received direct instruction, $M = 11.09$, $SD = 22.11$ $F(1, 62) = .01$, $p = .908$. Therefore, the null hypothesis was not rejected.

Conclusion

This section has presented the results of the analysis performed to address the research question. For the hypothesis, although results revealed differentiated instruction showed a small increase over direct instruction, the results were not large enough therefore it was found no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for eighth-grade students who received differentiated instruction compared with those who

received direct instruction. This did not support evidence against the null hypothesis signifying that eighth-grade students who received differentiated instruction did not score significantly higher than the eighth-grade students who received direct instruction; therefore, the null hypothesis was not rejected. These results were somewhat surprising given that some of the differentiated scores were higher than the direct scores before the change scores were calculated (i.e., I thought that differentiated instruction would have a statistically significant difference than direct instruction on the achievement of the eighth- grade reading students CRCT assessment scores. In addition, differentiated instruction is strongly emphasized in the literature review as being a major component of academic achievement with the array of activities that are offered to the students. In today's education, students like to be given the option of choices and variety instead of being told that they have to do something one specific way).

Section 5: Discussions, Conclusions, and Recommendations

Overview

The purpose of this quasi-experimental ad hoc study was to determine which instructional pedagogy—differentiated or direct—would most improve reading scores for eighth-grade students at a middle school in northwest Georgia. A quasi-experimental post hoc analysis helped to determine which combination of two groups is significantly different from each other (Sirkin, 2006). I addressed the following research question: Was there a difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction?

The null hypothesis was that there was no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction. The alternative hypotheses stated that there was a significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction.

I used a quasi-experimental ad hoc design for this study. The study consisted of 64 students. One class of 32 students was instructed with direct instructional pedagogy and another class of 32 students was instructed with differentiated pedagogy. These students were tested and then transitioned to the eighth grade and were placed in the same instructional setting as they were in the seventh grade. The students transitioned from seventh grade to eighth grade and were placed in the exact same instructional setting, but with a different teacher. The differentiated classroom consisted of students being placed in cooperative groups. Technology-based learning would be utilized in the class and students would have the option of choosing a differentiated activity to show mastery of the content. The teacher would monitor the classroom and would summarize the lesson at the end of each class. Alternatively, in the direct classroom, the seats would be assembled in single rows. Each lesson would be teacher-led and the activities would consist of worksheets only. The students would take notes and no other forms of instruction would take place.

The data analyses addressed the research question: Was there a difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction? The data analysis revealed that no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for eighth-grade students who received differentiated instruction ($M = 11.69$, $SD = 18.54$)

compared with those who received direct instruction, $M = 11.09$, $SD = 22.11$, $F(1, 62) = .01$, $p = .908$. Therefore, the null hypothesis was not rejected. Change in student test scores were relative to the instructional type.

By implementing the Georgia CRCT scores in the 2011–2012 and the 2012–2013 academic school year, I found no significant difference in the instructional pedagogies in terms of academic achievement.

Interpretation of Findings

My goal was to determine whether there was a difference in the change in reading test scores of the CRCT from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction. My goal was to determine which instructional pedagogy would yield higher academic achievement results from the CRCT scores—direct instruction or differentiated instruction.

Analysis of the data addressed the research question: Was there difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for the 2011–2012 cohort of eighth-grade students who received differentiated instruction compared with those who received direct instruction? The data analysis suggested no significant difference in the change in test scores of the CRCT reading test from the 2011–2012 academic year to the 2012–2013 academic year for eighth-grade students who received differentiated instruction compared with those who received direct instruction Therefore, the null hypothesis was not rejected.

Vygotsky's (1978) ZPD, was the conceptual framework used in this study. Vygotsky believed the foundation for children to build knowledge occurs when they interact with their peers (Vygotsky et al., 1978). In addition, Vygotsky believed this was vital in social interaction in that it provides self-reflection and thought. The psychological component allows children to become mindful of their immediate surroundings, to solve problems, and acquire knowledge by connecting with children who have experience in higher order thinking (Eggen & Kauchak, 2006).

The ZPD is the area of the development level induced by higher-order thinking and the level of inherent advancement, which is gained through resolving issues under supervision or in participation with other students who are more knowledgeable (Vygotsky et al., 1978). The ZPD exhibits a concept of willingness to learn that asserts upper levels of competence (Vygotsky et al., 1978). The upper level boundaries are not stable, but are consistently changing with the learners, which increases independent competence. The actual developmental level directly represents intellectual development, while the ZPD indirectly characterizes mental development (Vygotsky et al., 1978).

The literature suggest that cooperative learning is a research learning design that is used in the classroom to increase levels of inductive reasoning, build positive relationships, foster analytical skills, improve problem-solving strategies, and internalize content apprehension (Yamane, 2006). Cooperative learning encourages students to work together toward an objective by assisting one another on assignments, sharing resources and information, and trusting others' actions which, in turn, leads to shared rewards (Roseth et al., 2008).

Although cooperative groups were a part of the differentiated instructional setting in this study, a longer time may be considered in future studies, with the study only being one year, perhaps expanding it throughout the entire middle school year would allow students more opportunities to gain higher achievement scores on the CRCT. In reference to a direct instructional setting, the study conducted by Klahr and Nigam (2004) involved the control group, which consisted of a teacher-led classroom where the teacher instructed the lesson, provided the materials, and explained how the assignment should be completed. The experimental group received the same materials, but could create their own procedure to work on the lesson with minimum feedback from the teacher. Results showed that the experimental group outperformed the control group. Since both instructional examples displayed positive outcomes, a possible speculation may be from the analysis results—the students motivational level.

Noordzij and Te Lindert (2010) stated that the quality of a lesson can increase students' motivation levels because some students perceive the work they do in school to be meaningless. In addition, Pletka (2007) revealed that students expressed a disinterest in school by indicating that school was irrelevant because class time consisted of worksheets and lectures. Because of this ineffectiveness, students disengage or, as one student wrote, "students begin to question themselves, their abilities and their potential (Pletka, 2007, p. 16)."

The focus of this section was on the analysis of Georgia CRCT reading test scores for eighth-grade students. The sample population consisted of two eighth-grade classes who were randomly assigned to an instruction type. The sample included groups of

students who received direct instructional pedagogy and differentiated instructional pedagogy during the 2011–2012 and 2012–2013 academic years. The analysis was conducted to determine if an instructional pedagogy yielded significantly higher scores than the other. Overall results revealed no significant difference in academic achievement when differentiated instructional pedagogy or direct instructional pedagogy was instructed. With these results, finding interventions and/or reading programs that best fit the school or, more specifically, the classroom (or even a program that has a combination of direct and differentiated instruction may be beneficial in this study) may be a possible solution to the literacy epidemic.

Implications for Social Change

Reading achievement effects the curriculum and determines how students respond to, and critically interpret, different texts (Taylor, 2010). According to Lee (2011), engaging adolescents in reading for enjoyment can be a challenging task. According to the NCES (2013), middle- and high-school students in every state struggle with reading. Recent data from the NAEP revealed that 24% of eighth-grade students read below their level and only 34% read at or above a proficient level. Results such as these have prompted professional organizations to pinpoint the specific problem and provide solutions to rectify the problem (International Reading Association, 2012). Scholars in the literacy community have criticized the lack of research on teacher preparation in reading (Dillon, O'Brien, Sato, & Kelly, 2011; Risko et al., 2008).

Interventions for secondary students should be comprehensive because of the diversity of the students and the different components of reading. Effective interventions

for adolescents address students' deficiencies in basic reading, while promoting problem solving and interpretation skills needed when they enter high school (Faggella-Luby, Graner, Deshler, & Drew, 2012). Since both groups improved significantly in reading achievement, and at the same rate, for the 2011–2012 and 2012–2013 academic years, the results in the category of the CRCT did not exceed in either the differentiated instruction or direct instruction. Therefore, to improve literacy in secondary schools, a possible solution would be to implement a successful reading intervention program that has been proven in prior years to be successful. The Strategic Adolescent Reading Intervention [STARI] Program (2016) is a literature-focused, multi-component program targeting secondary students reading 2–4 years below their grade level, and addresses deficiencies in basic comprehension, fluency, decoding, and reading stamina. This program incorporates differentiated and direct instructional strategies for 3–5 days per week for one teaching block. Strategies include project-authored student workbooks, unit novels, nonfiction books, slides, and detailed lesson plans. Each block involves the student working for at least 15 minutes on leveled fluency passages, reading silently on their own, phrase-cued reading, and practicing with isolated words and phrases. In the STARI Program, students rotate to small groups to read. Students read with partners and the direct instruction concept is utilized with the guided reading prompts by the teacher (Hemphill et al., 2015).

Four school districts participated in a clinical trial utilizing the STARI Program for the 2013–2014 academic year. District A's percentage of students who performed below the proficient level on the 2013 state ELA assessment ranged from 55% to 79%;

District B's percentage of students was 34% to 41%; District C's results were 30% to 39%; and District D's results showed that 38% of students scored above the proficient level (Lowry et al., 2015). Results revealed in one academic year showed that the STARI students scored eight percentile points higher, on average, in word recognition and basic reading, and seven points higher in morphological awareness. In addition to this, STARI students' scores increased significantly in all subsets—word recognition, vocabulary, morphological awareness, sentence processing, efficiency basic reading, and reading comprehension (STARI, 2016). (See Figure 1.)

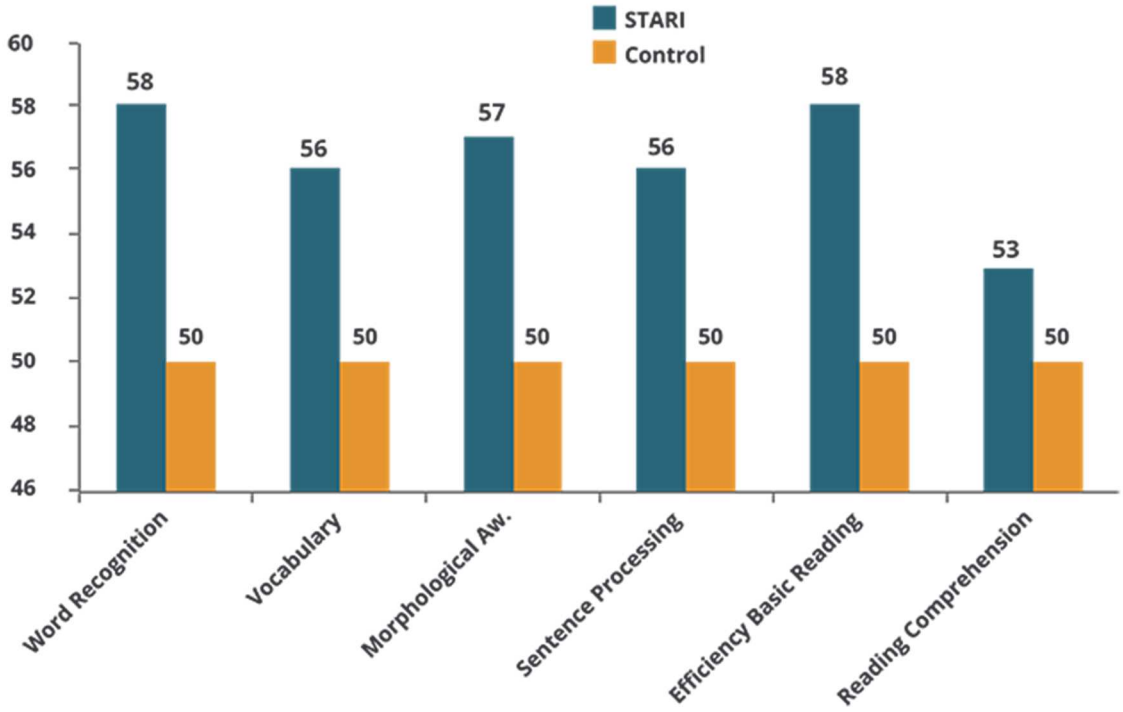

Figure 1. Results of 2013–2014 STARI Program.

Recommendations for Action

Literacy has not significantly improved in the 21st century and, as a result, the need for reading interventions and programs is in high demand (Ortlieb & McDowell, 2016). The purpose of this study was to enlighten teachers, administrators, instructional coaches, and community stakeholders who have an interest in students' academic achievement. The results of the study suggested no significant difference in academic achievement when differentiated instructional pedagogy or direct instructional pedagogy was implemented during 2011–2012 and 2012–2013 academic years. A possible solution that the participating school may want to consider is a before- or after-school reading tutorial for students who need additional assistance in literacy. This tutorial could be useful for all grades and should not be limited to eighth-grade students. In addition, professional development could be offered to all content teachers and staff that instruct students. With this training, a portion of each class could be used as a review session to teach students the area in which they may need assistance. The teacher would teach the lesson and review it daily so that the student will retain it. Another potential recommendation may be to monitor students' progress before the state's assessment. This strategy, along with incorporating the STARI Program into the English/Language Arts classes, could be a possible key to students' excelling on state standardized assessments.

Recommendations for Further Study

This study was limited to seventh- and eighth-grade students. A larger study, widening the population to a comparison of 3 years of data could be conducted to address the problem. In addition, other studies could include focusing only on the students' demographics combined with the instructional method. Finally, future research could include a mixed-methods study including qualitative results. Teachers and students would have the opportunity to provide feedback through recorded teacher observations, structured interviews, and surveys on which instructional method they prefer.

Conclusion

The need for literacy interventions in middle schools cannot be ignored or left to the primary teachers (Wendt, 2013). Educators must strive to ensure literacy of all forms in every content area, especially in reading, is shared by all teachers (Lobasher, 2011). Students depend on teachers to educate them on the necessary literacy skills to achieve academically on the state test and to learn what they need for success in adulthood (Wendt, 2013). Successful teaching design involves developing assignments with a clear structure that incorporate literacy skills and lessons that offer students the greatest opportunity to learn, by allowing adequate class time to obtain mastery of a specific task (Rowe, 2006).

Adolescent literacy is no longer a hypothetical issue to be debated or analyzed but, rather, is an area that needs to be thoroughly researched. In this era of academic accountability, it is within reason to say that no adolescent can be left behind (Shippen,

Miller, Patterson, Houchins & Darch, 2014). It is the teacher's responsibility to make sure that every student who enters their classroom is given every opportunity to learn and be successful, regardless of their skill level. Therefore, it is up to the school to make sure that proper resources are provided to students, as well as providing the most qualified educators.

References

Acee, T., & Weinstein, C. E. (2010). Effects of a value-reappraisal intervention on statistics students' motivation and performance. *Journal of Experimental Education*, *78*(4), 487–512. doi:10.1080/00220970903352753

Aimsweb Technical Manual. (2012). Retrieved from http://www.aimsweb.com/wp-content/uploads/aimsweb-Technical-Manual.pdf

Ak, S. (2007). A conceptual analysis on the approaches to learning. *Educational Sciences: Theory and Practice, 8*(3), 707–720. Retrieved from http://new.peoplepeople.org/wp-content/uploads/2012/07/5.-Approaches-to-learning.pdf

Algozzine, B., & Anderson, K. M. (2007). Tips for teaching: Differentiating instruction to include all students. *Preventing School Failure*, *51*(3), 49–54. doi:10.3200/PSFL.51.3.49–54

Arcidiacono, C., Procentese, F., & Di Napoli, I. (2009). Qualitative and quantitative research: An ecological approach. *International Journal of Multiple Research Approaches*, *3*(2), 163–176. doi:10.5172/mra.3.2.163

Armstrong, T. (2009). *Multiple intelligence in the classroom* (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum.

Bartlett, L. (2007). Literacy, speech and shame: The cultural politics of literacy and language in Brazil. *International Journal of Qualitative Studies in Education*, *20*(5), 547–563. doi:10.1080/09518390701207426

Benner, G. J. (2007). The relative impact of remedial reading instruction on the basic reading skills of students with emotional disturbance and learning disabilities. *Journal of Direct Instruction*, *7*(1), 1–15. ERIC

Benner, G. J., Kinder, D., Beaudoin, K. M., Stein, M., & Hirschmann, K. (2005). The effects of the 'corrective reading decoding' program on the basic reading skills and social adjustment of students with high-incidence disabilities. *Journal of Direct Instruction*, *5*(1), 67–80. http://digitalcommons.tacoma.uw.edu/education_pub/46

Biancarosa, G. (2012). Adolescent literacy: More than remediation. *Educational Leadership*, *69*(6), 22–27. ERIC

Biancarosa, C., & Snow, C. E. (2006). Reading next: A vision for action and research in *middle and high school literacy* (2nd ed.). Washington, DC: Alliance for Excellent Education. Retrieved from http://lincs.ed.gov/lincs/resourcecollections /readingandwriting/profile_17

Bigge, M., & Shermis, S. (2004). *Learning theories for teachers* (6th ed.). Boston, MA: Pearson.

Boardman, A. G., Roberts, G., Vaughn, S., Wexler, J., Murray, C. S., & Kosanovich, M. (2008). *Effective instruction for adolescent struggling readers: A practice brief.*. Portsmouth, NH: RMC Research Corporation, Center on Instruction.

Boekaerts, M., & Cascallar, E. (2006). How far have we moved toward integration of theory and practice in self-regulation? *Educational Psychology Review*, *18*(3), 199–210. doi:10.1007/s10648–006–9013–4

Brophy, J. E. (2010). *Motivating students to learn* (3rd ed.). New York, NY: Routledge.

Brozo, W. G. (2009). Response to intervention or responsive instruction? Challenges and possibilities of response to intervention for adolescent literacy. *Journal of Adolescent Literacy, 53*(4), 277–281. doi:10.1598/JAAL.53.4.1

Brozo, W. G., & Flynt, E. S. (2008). Motivating students to read in the content classroom: Six evidence-based principles. *Reading Teacher, 62*(2), 172–174. doi:10.1598/RT.62.2.9

Butler, K. A., & Lumpe, A. (2008). Student use of scaffolding software: Relationships with motivation and conceptual understanding. *Journal of Science Education and Technology, 17*(5), 427–436. doi:10.1007/s10956–008–9111–9

Byrnes, J. P., & Wasik, B. A. (2009). *Language and literacy development: What educators need to know* (*solving problems in the teaching literacy*). New York, NY: The Guilford Press.

Calhoon, M., Scarborough, H., & Miller, B. (2013). *Interventions for struggling adolescents and adult readers: Instructional learner, and situational differences. Reading and Writing, 26*(4), 489–494. doi:10.1007/s11145-013-9442-7

Cantrell, S., Almasi, J. F., Carter, J. C., Rintamaa, M., & Madden, A. (2010). The impact of a strategy-based intervention on the comprehension and strategy use of struggling adolescent readers. *Journal of Educational Psychology*, *102*(2), 257–280. doi:10.1037/a0018212

Carnine, D., Grossen, B., & Silbert, J. (2000). Direct instruction to accelerate cognitive growth. In J. Block, S. Everson, & T. Guskey (Eds.). *Comprehensive school reform*: *A program perspective* (pp. 111–130). Dubuque, IA: Scholastic, Inc.

Cassidy, J., & Ortlieb, E. (2012). Looking at literacy in the 21st century. *The Clearing House: A Journal of Educational Strategies, Issues, and Ideas, 85*(4), 141–145. doi.org/10.1080/00098655.2012.659773

Chamberlain, A., Daniels, C., Madden, N., & Slavin, R. (2007). *The randomized evaluations of the success for all middle school reading programs: Second year results.* Baltimore, MD: John Hopkins University, Center for Data Driven Reform in Education.

Chatterji, M. (2006). Reading achievement gaps, correlates, and moderators of early reading achievement: Evidence from the Early Childhood Longitudinal Study (ECLS) kindergarten to first grade sample. *Journal of Educational Psychology*, *98*(3), 489–507. doi:10.1037/0022-0663.98.3.489

Chen, J. J., & Weiland, L. (2007). Helping young children learn mathematics: Strategies for meeting the needs of diverse learning. *Exchange*. Retrieved from http://www.childcareexchange.com/library/5017402.pdf

Cherney, I. D. (2008). The effects of active learning on students' memories for course content. *Active Learning in Higher Education*, *9*(2), 152–171. doi:10.1177/1469787408090841

Cheung, A., & Slavin, R. (2013). Effects of educational technology applications on reading outcomes for struggling readers: A best-evidence syntheses. *Reading Research Quarterly, 48*(3), 277–299.

Childe, A., Sands, J. R., & Pope, S. T. (2009). Backward design. *Teaching Exceptional Children*, *41*(5), 6─14. Retrieved from http://ncatedev.gcsu.edu/sites /ncatedev.gcsu.edu/files/Backward%20Design--TEC%20article.pdf

Cole, A. D. (2006). Scaffolding beginning readers: Micro and macro cues teachers use during student oral reading. *Reading Teacher*, *59*(5), 450–459. doi:10.1598/RT.59.5.4

Cole, R. W. (2008). *Educating everybody's children: Diverse teaching strategies for diverse learners* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Common Core State Standards Initiative (2012). *Common core state standards for English language arts and literacy in history, social studies, science and technical subjects*. Retrieved from http://www.corestandards.org/assets/CCSSI_ELA %20standards.pdf

Cook, D. A., Gelula, M. H., Dupras, D. M., & Schwartz, A. (2007). Instructional methods and cognitive and learning styles in Web-based learning: Report of two randomised trials. *Medical Education*, *41*(9), 897–905. doi:10.1111/j.1365–2923.2007.02822.

Cooper, H. M. (2012). *APA handbook of research methods in psychology-Volume 2*. American Psychological Association. Washington DC.

Coyne, M. D., McCoach, D. B., & Kapp, S. (2007). Vocabulary intervention for kindergarten students: Comparing extended instruction to embedded instruction and incidental exposure. *Learning and Disabilities Quarterly, 30*(2), 74–88. doi:10.2307/30035543

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.

De La Paz, S. (2009). Rubrics: Heuristics for developing writing strategies. *Assessment for Effective Intervention*, *34*(3), 134–146. doi:10.1177/1534508408318802

DiGisi, L. L. (2010). Response to reviewing adolescent literacy reports: Key components and critical questions. *Journal of Literacy Research*, *42*(2), 115–123. doi:10.1080/10862960903340769

Dillon, D. R., O'Brien, D. G., Sato, M., & Kelly, C. M. (2011). Professional development and teacher education for reading instruction. In M. L. Kamil, P.D., Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of reading research* (Vol. 4, pp. 629–660). New York, NY: Routledge.

Dimino, J. A. (2007). Bridging the gap between research and practice. *Journal of Learning Disabilities*, *40*(2), 183–189. doi:10.1177/00222194070400020901

Edwards, C. J., Carr, S., & Siegel, W. (2006). Influences of experiences and training on effective teaching practices to meet the needs of diverse learners in schools. *Education*, *126*(3), 580–592. Education Source

Eggen, P. D., & Kauchak, D. P. (2006). *Educational psychology: Windows on classrooms.* Upper Saddle River, NJ: Prentice Hall.

Faggella-Luby, M. N., Graner, P. S., Deshler, D. D., & Drew, S. V. (2012). Building a house on sand: Why disciplinary literacy is not sufficient to replace general strategies for students who struggle. *Topics in Language Disorders*, *32*(1), 69–84. doi:10.1097/TLD.0b013e318245618e

Faggella-Luby, M. N., Ware, S. M., & Capozzoli, A. (2009). Adolescent literacy—reviewing adolescent literacy reports: Key components and critical questions. *Journal of Literacy Research*, *41*(4), 453–475. doi:10.1080/10862960903340199

Fahsl, A. J. (2007). Mathematics accommodations for all students. *Intervention in School and Clinic*, *42*(4), 198–203. doi: 10.1177/10534512070420040201

Felder, R. M., & Brent, R. (2006). *Active learning or how to get students actively involved in their own learning even if you have 200 of them in the class.* Retrieved from the University of West Florida website at http://www.uwf.edu/cutla /workshops/Active%20Handout.pdf

Fisher, D., & Frey, N. (2014). Close reading as an intervention for struggling and middle school readers. *Journal of Adolescent & Adult Literacy, 57*(5). 367–76. doi:10.1002/jaal.266

Fisher, M. T. (2007). *Writing in rhythm: Spoken word poetry in urban classrooms*. New York, NY: Teachers College Press.

Fletcher, J. M. (2007). *Learning disabilities: From identification to intervention*. New York, NY: The Guilford Press.

Fritz, A. E., Cooner, D., & Stevenson, C. (2009). Training new content area secondary teachers to teach literacy: The university/public school partnership. *Reading Improvement*, *46*(1), 19–28. Expanded Academic ASAP

Gamoran, A., & Nystrand, M. (2008). Taking students seriously, In F. Newman (Ed.), *Student engagement and achievement in American secondary schools.* New York, NY: Teachers College Press.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences.* New York, NY: Basic Books.

Garner, R. L. (2006). Humor in pedagogy: How ha-ha can lead to aha! *College Teaching*, *54*(1), 177–180. doi:10.3200/CTCH.54.1.177–180

Gavin, M. K., Casa, T. M., Carroll, S. R., & Sheffield, L. J. (2007). Project M^3: Mentoring mathematical minds—Challenging curriculum for talented elementary students. *Journal of Advanced Academics*, *18*(4), 566–585. doi:10.4219/jaa-2007-552

Georgia Department of Education. (2012). *What Georgia educators need to know about Georgia's testing program*. Retrieved from the GDOE website at http://public.doe.k12.ga.us

Goldman, S. R. (2012). Adolescent literacy: Learning and understanding content. *Future Child, 22*(2), 89–116. doi:10.1353/foc.2012.0011

Graham, S., & Herbert, M. A. (2010). *Writing to read: Evidence for how writing can improve reading*. Retrieved from the Carnegie Corporation website at https://www.carnegie.org/media/filer_public/9d/e2/9de20604-a055-42da-bc00-77da949b29d7/ccny_report_2010_writing.pdf

Green, J., Martin, A. J., & Marsh, H. W. (2007). Motivation and engagement in English, mathematics and science high school subjects: Towards an understanding of multidimensional domain specificity. *Learning and Individual Differences*, *17*(3), 269–279. doi:10.1016/j.lindif.2006.12.003

Greenberg, D., Gilbert, A., & Fredrick, L. (2006). Reading interest and behavior in middle school students in inner-city and rural settings. *Reading Horizons*, *47*(2), 159–173. Retrieved from http://scholarworks.wmich.edu

Greene, J. A., & Azevedo, R. (2007). A theoretical review of Winne and Hadwin's model of self-regulated learning: New perspectives and directions. *Review of Educational Research*, *77*(3), 334–372. doi:10.3102/003465430303953

Greenleaf, C. L., Litman, C., Hanson, T, L., Rosen, R., Boscardin, C. K., Herman, J., . . . Jones, B. (2011). Integrating literacy and science in biology: Teaching and learning impacts of reading apprenticeship professional development. *American Educational Research Journal*, *48*(3), 647–717. doi:10.3102/0002831210384839

Grossen, B. (2004). Success of a direct instruction model at a secondary level school with high-risk students. *Reading & Writing Quarterly*, *20*(2), 161–178. doi:10.1080/10573560490262091

Hall, T., Strangman, N., & Meyer, A. (2011). *Differentiated instruction and implications for UDL implementation*. Retrieved from the National Center on Accessible Instructional Materials website at http://aim.cast.org/learn/historyarchive /backgroundpapers/differentiated_instruction_udl

Hanson, W. E., Creswell, J. W., Plano-Clark, V. L., Petska, K. S., & Creswell, J. D. (2005). Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology, 52*(2), 224–235. doi:10.1037/0022–0167.52.2.224

Hasselbring, T. S., Goin, L., Taylor, R., Bottge, B., & Daley, P. (1997). The computer doesn't embarrass me. *Educational Leadership*, *55*(3), 30–33. Retrieved from http://www.ascd.org/publications/educational-leadership/nov97/vol55/num03 /The-Computer-Doesn't-Embarrass-Me.aspx

Hemphill, L., Kim, J., Yudron, M., LaRusso, M., Donovan, S., Sabatini, J. & O'Reilly, T. (2015). Experimental effects of the strategic reading intervention on reading performance in high poverty middle schools. *Society for Research on Educational Effectiveness,* 1–8. ERIC

Hirsh, E. D. (2008). The knowledge connection. *The Washington Post*. Retrieved from http://www.washingtonpost.com/wp-dyn/content/article/2008/02/15 /AR2008021503008.html

Hodis, F. A., Meyer, L. H., McClure, J., Weir, K. F., & Walkey, F. H. (2011). A longitudinal investigation of motivation and secondary school achievement using growth mixture modeling. *Journal of Educational Psychology*, *103*(2), 312–323. doi:10.1037/a0022547

Houchins, D. E., Jolivette, K., Krezmien, M. P., & Balyodano, H. M. (2008). A multi-state study examining the impact of explicit reading instruction with incarcerated students. *Journal of Correctional Education, 59*(1), 65–85. http://www.jstor.org/stable/23282646

Hsieh, P. H., & Dwyer, F. (2009). The instructional effect of online reading strategies and learning styles on student achievement. *Educational Technology & Society*, *12*(2), 36–50. ERIC

Huang, S. (2012). A mixed method study of the effectiveness of the accelerated reader program on middle school students' reading achievement and motivation. *Reading Horizons, 51*(3), 229–246. Retrieved from http://scholarworks.wmiched /reading_horizons/vol51/iss3/5

Huizingh, E. (2007). *Applied statistics with SPSS*. Thousand Oaks, CA: Sage Publications. doi:10.9781412919319

International Reading Association. (2012). *Adolescent literacy: A position statement of the International Reading Association*. Retrieved from http://www.reading.org /Libraries/resources/ps1079_adolescentloteracy_rev2012.pdf

Jackson, R. R. (2009). *Never work harder than your students and other principles of great teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Jayalekshmi, N. B., & Raja, B. W. D. (2011). Behavioural development of early adolescents by dint of positive school climate. *Journal on Educational Psychology*, *5*(2), 1–8. ERIC

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14–26. doi:10.3102/0013189X033007014

Jones, M. G., Jones, B. D., & Hargrove, T. (2008). *The unintended consequence of high stakes testing*. Lanham, MD: Rowman & Littlefield.

Jones, R. E., Yssel, N., & Grant, C. (2012). Reading instruction in tier 1: Bridging the gaps by nesting evidence evidence-based interventions within differentiated instruction. *Psychology in the Schools*, *49*(3), 210–218. doi:10.1002/pits.21591

Jordan, A., Carlile, O., & Stack, A. (2008). *Approaches to learning: A guide for teachers*. Berkshire, UK: Open University Press.

Jupp, V. (2006). *The SAGE dictionary of social research methods*. Thousand Oaks, CA: Sage Publications.

Kamil, M. L., Borman, G. D., Dole, J., Kral, C. C., Salinger, T., & Torgesen, J. (2008). *Improving adolescent literacy: Effective classroom and intervention practices*. Retrieved from https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/adlit_pg_082608.pdf

Kamps, D. M., Abbott, M., Greenwood, C., Arreaga-Mayer, C., Wills, H., Longstaff, J., . . . Walton, C. (2007). Use of evidenced-based, small-group reading instruction for English language learners in elementary grades: Secondary-tier intervention. *Learning Disability Quarterly*, *30*(3), 153–168. Retrieved from http://www.voyagerlearning.com/docs/default-source/researchlibrary/read-well-evidence-base-for-ell.pdf?sfvrsn=6

Kausar, G. (2010). Educational implication of Piaget and Vygotsky language learning theories in Pakistani context: A review. *The Dialogue 5*(3), 254–268. Retrieved from http://www.qurtuba.edu.pk/thedialogue/The%20Dialogue/5_3 /Dialogue_July_September2010_254-268.pdf

Kavensky, L. (2011). Deferential differentiation: What types of differentiation do students want? *Gifted Child Quarterly*, *55*(4), 279–299. doi:10.1177/0016986211422098

Kim, J. S., Samson, J. F., Fitzgerald, R., & Hartry, A. (2010). A randomized experiment of a mixed methods literacy intervention for struggling readers in grades 4–6: Effects on word reading efficiency, reading comprehension, and vocabulary, and oral reading fluency. *Reading and Writing: An Interdisciplinary Journal, 23*(9), 1109–1129. doi:10.1007/s11145–009–9198–2

Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, *41*(2), 75–86. doi:10.1207/s15326985ep4102_1

Klahr, D., & Nigam, M. (2004). The equivalence of learning paths in early science instruction. Effects of direct instruction and discovery learning. *Psychological Science*, *15*(10), 661–667. doi:10.1111/j.0956–7976.2004.00737.x

Kosanovich, M. L., Reed, D. K., & Miller, D. H. (2010). *Bringing literacy strategies into content instruction: Professional learning for secondary-level teachers*. Portsmouth, NH: RMC Research Corporation.

Kousar, R. (2010). The effect of direct instruction model on intermediate class achievement and attitudes towards English grammar. *Journal of College Teaching & Learning*, *7*(2), 99–104. Retrieved from http://prr.hec.gov.pk/Thesis/200S.pdf

Kulik, C. C., Kulik, J. A., & Bangert-Drowns, R. L. (1990). Effectiveness of mastery learning programs: A meta-analysis. *Review of Educational Research*, *60*(2), 265–299. doi:10.3102/00346543060002265

Latz, A. O., Speirs-Neumeister, K. L, Adams, C. M., & Pierce, R. L. (2009). Peer coaching to improve classroom differentiation: Perspectives from Project CLUE. *Roeper Review*, *31*(1), 27–39. doi:10.1080/02783190802527356

Lee, L., Grigg, W., & Donahue, P. (2007). *The nation's report card: Reading 2007. (NCES2007–496)*. Retrieved from the National Center for Education Statistics website at http://nces.ed.gov/nationsreportcard/pdf/main2007/2007496.pdf

Lee, V. (2011). Becoming the reading mentors our adolescents deserve: Developing a successful sustained silent reading program. *Journal of Adolescent & Adult Literacy, 55*(3), 209–218. doi:10.1002/JAAL.0026

Levy, H. M. (2008). Meeting the needs of all students through differentiated instruction: Helping every child reach and exceed standards. *Clearing House: A Journal of Educational Strategies, Issues and Ideas, 81*(4), 161–164. Retrieved from http://www.wou.edu/~tbolsta/web/texbook/24_Meeting_the_Needs.pdf

Lewis, B. (2012). *Scaffolding instruction strategies*. Retrieved from the Education Monitor website at http://www.educationmonitor.net/Scaffolding+Instruction +Strategies-33.html

Lewis, C., Enciso, P. E., & Moje, E. B. (2007). *Reframing sociocultural research on literacy: Identity, agency and power*. New York, NY: Routledge.

Li, Y., & Lerner, R.M. (2013). Interrelations of behavioral, emotional, and cognitive school engagement in high school students. *Journal of Youth Adolescence*, *42*,20–32. doi:10.1007/s10964–012–9857–5

Lilienfeld, S. O., Lynn, S. J., Ruscio, J., & Beyerstein, B. L. (2009). *50 great myths of popular psychology: Shattering widespread misconceptions about human behavior*. Malden, MA: Wiley-Blackwell.

Little, C. A., Feng, A. X., Van Tassel-Baska, J., Rogers, K. B., & Avery, L. D. (2007). A study of curriculum effectiveness in social studies. *Gifted Child Quarterly, 51*(3), 272–284. doi:10.1177/0016986207302722

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2006). *Methods in educational research: From theory to practice* (2nd ed.). Indianapolis, IN: Jossey-Bass.

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in educational research: From theory to practice* (2nd ed.). Hoboken, NJ: Jossey-Bass.

Logan, S., & Medford, E. (2011). Gender differences in the strength of association between motivation, competency beliefs and reading skills. *Educational Research*, *59*, 85–94. doi:10.1080/00131881.2011.552242

Logan, S., Medford, E., & Hughes, N. (2011). The importance of intrinsic motivation for high and low ability readers' reading comprehension performance. *Learning and Individual Differences*, 21, 124–128. Doi:10.1016/jlindif.2010.09.011

Luke, A., Elkins, J., Weir, K., Land, R., Carrington, V., Dole, S. . . . Stevens, L. (2006). Beyond the middle: A report about literacy and numeracy development of target group students in the middle years of schooling−Volume 1. *Australian Journal of Education, 53*(2), 176–191.

Machemer, P. L., & Crawford, P. (2007). Student perceptions of active learning in a large cross-disciplinary classroom. *Active Learning in Higher Education*, *8*(1), 9–30. doi:10.1177/1469787407074008

Malmgren, K. W., & Trezek, B. J. (2009). Literacy instruction for secondary students with disabilities. *Focus on Exceptional Children, 41*(6), 1. doi:10.1111/j.1540-5826.2012.00356.x

Malouf, R. C., Reisener, C. D., Gadke, D. L., Wimbush, S. W., & Frankel, A. C. (2014). The effect of helping early literacy with practice strategies on reading fluency for children with severe reading impairments. *Reading Improvement*, *51*(2), 269–279. ERIC

Many, J. E., Dewberry, D., Taylor, D. L., & Coady, K. (2009). Profiles of three preservice ESOL teachers' development of instructional scaffolding. *Reading Psychology*, *30*(2), 148–174. doi:10.1080/02702710802275256

Marchand-Martella, N. E., Martella, R. C., Modderman, S. L., Petersen, H. M., & Pan, S. (2013). Key areas of effective adolescent literacy programs. *Education and Treatment of Children*, *36*(1), 161–184. doi:10.1007/s11145–014–9537–9

Martin, A. J. (2007). Examining a multidimensional model of student motivation and engagement using a construct validation approach. *British Journal of Educational Psychology*, *77*(2), 413–440. doi:10.1348/000709906X118036

Martin, A. J. (2008a). Academic buoyancy: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology*, *46*(1), 53–83. doi:10.1016/j.jsp.2007.01.002

Martin, A. J. (2008b). Motivation and engagement: The effects of a multidimensional framework in diverse performance settings. *Journal of Personality*, *76*, 135–170. doi:10.016/j.cedpsych.2006.11.003

Mastropieri, M. A., Scruggs, T. E., Norland, J. J., Berkeley, S., McDuffie, K., Tornquist, E. H., & Connors, N. (2006). Differentiated curriculum enhancement in inclusive middle school science: Effects on classroom and high-stakes tests. *Journal of Special Education*, *40*(3), 130–137. doi:10.1177/00224669060400030101

Mayer, R. E. (2004). Should there be a three-strikes rule against pure discovery learning? *American Psychologist, 59*(1), 14–19. doi:10.1037/0003–066X.59.1.14

McEwan, E. K. (2007). *Use and teach content vocabulary daily*. Retrieved from http://www.adlit.org/article/19792

McGeown, S. P., Duncan, L. G., Griffiths, Y. M., & Stothard, S. E. (2015). Exploring the relationships between adolescent's reading skills, reading motivation and reading habits. *Reading and Writing*, *28*(4), 545–569. doi:10.1007/s11145-014-9537-9

Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, *57*(1), 487–503. doi:10.1146/annurev.psych.56.091103.070258

Meyer, L. H., McClure, J., Walkey, F., Weir, K. F., & McKenzie, L. (2009). Secondary student motivation orientations and standards-based achievement outcomes. *British Journal of Educational Psychology*, *79*(2), 273–293. doi:10.1348/000709908X354591

Moje, E. B. (2008). Foregrounding the disciplines in secondary literacy teaching and learning: A call for change. *Journal of Adolescent & Adult Literacy*, *52*(2), 96–107. doi:10.1598/JAAL.52.2.1

Mokhtar, I. A., Majid, S., & Foo, S. (2008). Teaching information literacy through learning styles: The application of Gardner's multiple intelligences. *Journal of Librarianship and Information Science*, *40*(2), 93–109. doi:10.1177/0961000608089345

Morgan, D., Williams, J., Clark, B., Hatteberg, S., Hauptman, G., Kozel., & Paris, J. (2013). Guiding readers in the middle grades: Teachers can use guided reading strategies to help students achieve CCCS for literacy. *Middle School Journal*, *44*(3), 16–24. doi:10.1080/0094071.2013.11461851

Morrell, E. (2006). Critical participatory action research and the literacy achievement of ethnic minority groups. In J. Hoffman, D. Schallert, C. Fairbanks, J. Worthy, & B. Maloch (Eds.), *55th Yearbook of the National Reading Conference* (p. 3). Oak Creek, WI: National Reading Conference.

Muthoni, W. M., & Mbugua, Z. K. (2014). Effectiveness of differentiated instruction on secondary school students achievements in mathematics. *International Journal of Applied Science and Technology*, *4*(1), 116–122. ERIC

National Assessment of Educational Progress. (2013). *Reading assessment*. Retrieved from the National Center for Education Statistics website at http://nces.ed.gov/nationsreportcard/subject/publications/stt2013/pdf/2014464GA8.pdf

National Center for Education Statistics (2013). *The nations report card: Reading 2013: Summary data tables.* Retrieved from the U.S. Department of Education website at https://nces.ed.gov/nationsreportcard/subject/publications/main2013/pdf/201445.pdf

National Institute for Literacy. (2007). *What content-area teachers should know about adolescent literacy*. Retrieved from the National Institute of Child Health and Human Development (NICHD) website at http://www.lincs.ed.gov/publications//pdf/adolescent_literacy07.pdf

New, R. S., & Cochran, M. (2007). *Early childhood education: An international encyclopedia*. Westport, CT: Praeger Publishers.

Noordzij, G., & Te Lindert, A. (May 13–16, 2010). *The effects of goal orientation and quality of problems on students' motivation in a problem based learning environment*. Presented at The Self-Determination Theory Conference in Ghent, Belgium.

O'Neil, C. A., Fisher, C. A., & Newbold, S. K. (2009). *Developing online learning environments in nursing education*. New York, NY: Springer Publishing.

Ortlieb, E., & McDowell, F. D. (2016). Investigating the effects of an experimental approach to comprehension instruction within a literacy clinic. *Current Issues in Education, 19*(1), 1–16.

Painter, D. D. (2009). Providing differentiated learning experiences through multigenre projects. *Intervention in School & Clinic*, *44*(5), 288–293. doi:10.1177/1053451208330900

Paris, J. L., & Paris, J. L. (2009). *Cliffsnotes praxis II: Elementary education*. Hoboken, NJ: Wiley & Sons.

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest*, *9*(3), 105–119. doi:10.1111/j.1539–6053.2009.01038.x

Pawan, F. (2008). Content-area teachers and scaffolded instruction for English language learners. *Teaching and Teacher Education, 24*(6), 1450–1462. doi:10.1016/j.tate.2008.02.003

Pereis, F., Dignath, C., & Schmitz, B. (2009). Is it possible to improve mathematical achievement by means of self-regulation strategies? Evaluation of an intervention

in regular math classes. *European Journal of Psychology of Education, 24*(1), 17–31. doi:10.1007/BF0317

Pham, H. L. (2012). Differentiated instruction and the need to integrate teaching and practice. *Journal of College Teaching & Learning*, *9*(1), 13–20. ERIC

Pitcher, S. M., Albright, L. K., DeLaney, C. J., Walker, N. T., Seunarinesingh, K., Mogge, S., . . . Dunston, P. J. (2007). Assessing adolescents' motivation to read. *Journal of Adolescent & Adult Literacy*, *50*(5), 378–396. doi:10.1598/JAAL.50.5.5

Pletka, B. (2007). *Educating the next generation: How to engage students in the 21st century*. Santa Monica, CA: Santa Monica Press.

Ravid, R. (2010). *Practical statistics for educators* (4th ed.). Lanham, MD: Rowman & Littlefield Publishers.

Reis, S. M., Eckert, R. D., McCoach, D. B., Jacobs, J. K., & Coyne, M. (2008). Using enrichment reading practices to increase reading fluency, comprehension, and attitudes. *Journal of Educational Research*, *101*(5), 299–315. doi:10.3200/JOER.101.5.299–315

Reis, S. M., & Fogarty, E. A. (2006). Savoring reading schoolwide. *Educational Leadership*, *64*(2), 32–36. ERIC

Reis, S. M., McCoach, D. B., Coyne, M., Schreiber, F. J., Eckert, R. D., & Gubbins, E. J. (2007). Using planned enrichment strategies with direct instruction to improve reading fluency, comprehension, and attitude toward reading: An evidence-based study. *Elementary School Journal, 108*(1), 3–24. doi:10.1086/522383

Riener, C., & Willingham, D. (2010). The myth of learning styles. *Change*, *42*(5), 32–35. Retrieved from http://www.changemag.org/archives/back%20issues /september-october%202010/the-myth-of-learning-full.html

Risko, V. J., Roller, C. M., Cummins, C., Bean, R. M., Block, C. C., Anders, P. L., and Flood, J. (2008). A critical analysis of research on reading teacher education. *Reading Research Quarterly, 43*(3), 252–288. doi:10.1598/RRQ.43.3.3

Rittle-Johnson, B. (2006). Promoting transfer: Effects of self explanation and direct instruction. *Child Development*, *77*(1), 1–15. doi:10.1111/j.1467–8624.2006.008525.x

Roe, M. F. (2010). The ways teachers do the things they do: Differentiation in middle level literacy classes. *Middle Grades Research Journal*, *5*(30), 139–152. Expanded Academic ASAP

Rosenshine, B. (2001). Advances in research on instruction. *Journal of Educational Research*, *88*, 262–268. doi:10.1080/00220671.1995.9941309

Roseth, C. J., Johnson, D. W., & Johnson, R. T. (2008). Promoting early adolescents' achievement and peer relationships: The effects of cooperative, competitive, and individualistic goal structures. *Psychological Bulletin*, *134*(2), 223–246. doi:10.1037/0033–2909.134.2.223

Ross, P., & Gibson, S. A. (2010). Exploring a conceptual framework for expert noticing during literacy instruction. *Literacy Research and Instruction*, *49*(2), 175–193. doi:10.1080/19388070902923221

Ross, S. M., Nunnery, J. A., Goldfeder, E., McDonald, A., Rachor, R., Hornbeck, M., & Fleischman, S. (2004). Using school reform models to improve reading achievement: A longitudinal study of direct instruction and success for all in an urban district. *Journal of Education for Students Placed at Risk (JESPAR)*, *9*(4), 357–388. doi:10.1207/s15327671espr0904_3

Rowe, K. (2006). Teaching reading: Findings from the National Inquiry. *Research Developments, 15*(2), 10–13. Retrieved from http://www.acer.edu.au/resdev /15_TeachingReading.html

Rugg, G., & Petre, M. (2007). *A gentle guide to research methods*. New York, NY: Open University Press.

Rupley, W., Blair, T., & Nichols, W. (2009). Effective reading instruction for struggling readers: The role of direct/explicit teaching. *Reading and Writing Quarterly*, *25*, 125–138. doi:10.080/10573560802353

Ryder, R. J., Burton, J. L., & Silberg, A. (2006). Longitudinal study of direct instruction effects from first through third grades. *Journal of Educational Research*, *99*(3), 179–192. doi:10.3200/JOER.99.3.179–192

Samuelson, R. J. (2010). Why school reform fails: Student motivation is the problem. *Newsweek Magazine.* Retrieved from http://www.thedailybeast.com/newsweek /2010/09/06/school-reform-and-student-motivation.html

Santamaria, L. J. (2009). Culturally responsive differentiated instruction: Narrowing gaps between best pedagogical practices benefiting all learners. *Teachers College Record*, *111*(1), 214–247. Retrieved from http://educ625spring2011.pbworks .com/f/Culturally+Responsive+Differentiated+Instruction.pdf

Scammacca, N., Roberts, G., Vaughn, S., Edmonds, M., Wexler, J., Reutebuch, C. K., & Torgesen, J. K. (2007). *Interventions for adolescent struggling readers: A meta-analysis with implications for practice*. Portsmouth, NH; RMC Research Corporation.

Scott, C. (2010). The enduring appeal of learning styles. *Australian Journal of Education, 54*(1), 517. doi:10.1177/000494411005400102

Servilio, K. L. (2009). You get to choose! Motivating students to read through differentiated instruction. *TEACHING Exceptional Children Plus*, *5*(5), 2–11. Retrieved from http://journals.cec.sped.org/tecplus/vol5/iss5/art5/

Shimazoe, J., & Aldrich, H. (2010). Group work can be gratifying: Understanding and overcoming resistance to cooperative learning. *College Teaching*, *58*(2), 52–57. doi:10.1080/87567550903418594

Shippen, M. E., Houchins, D. E., Steventon, C., & Sartor, D. (2005). A comparison of two direct instruction reading programs for urban middle school students. *Remedial and Special Education*, *26*(3), 175–182. doi:10.1177/07419325050260030501

Shippen, M. E., Miller, A., Patterson, D., Houchins, D. E., & Darch, C. B. (2014). Improving adolescent reading skills in rural areas using evidenced based practices. *Rural Special Education Quarterly, 33*(2), 12–17. doi:10.1177/875687051403300203

Shyman, E., (2012). Differentiated instruction as a pedagogy of liberation. *International Journal of Critical Pedagogy*, *4*(1), 65–75. ERIC

Simmons, D., Fogarty, M., Oslund, E. L., Simmons, L., Hairrell, A., Davis, J., . . . Fall, A. (2014). Integrating content knowledge-building and student regulated comprehension practices in secondary English language arts classes. *Journal of Research on Educational Effectiveness*, *7*, 309–330. doi:10.1080/19345747.2013.836766

Simpkins, P. M., Mastropieri, M. A., & Scruggs, T. E. (2009). Differentiated curriculum enhancements in exclusive fifth-grade science classes. *Remedial and Special Education, 30*(5)*,* 300–308. doi: 10.1177/0741932508321011

Sirkin, R. M. (2006). *Statistics for the social sciences*. (3rd Ed.). Thousand Oaks, CA: Sage Publications. doi:10.4135/9781412985987

Slavin, R. E. (2006). Student-centered and constructivist approaches to instruction. *Educational Psychology: Theory and Practice,* (7th ed.). pp. 241–273.

Slavin, R. E., Cheung, A., Groff, C., & Lake, C. (2008). How to differentiate effective reading programs for middle and high instruction in reading: A best-evidence syntheses. *Reading Research Quarterly*, *43*(3), 290–322. doi:10.1598/RRQ.43.3.4

Smit, R., & Humpert, W. (2012). Differentiated instruction in small schools. *Teaching and Teacher Education 20,* 1152–1162. doi:10.1016/j.tate.2012.07.003

Snel, M. J., Terwel, J., Aarnoutse, C. A. A., & van Leeuwe, J. F. J. (2012). Effectiveness of guide co-construction versus direct instruction for beginning reading instruction. *Educational Research and Evaluation*, *18*(4), 353–374. doi:10.1080/13803611.2012.682803

Soper, S., & Marquis-Cox, D. (2012). Literacy interventions for adolescent in the public high schools. *Perspectives in Language and Literacy*, *38*(2), 13–18. ProQuest

Staff Development for Educators. (2011). *Differentiated instruction*. Retrieved from www.sde.com/di/what.asp

Stanford, P., Crowe, M. W., & Flice, H. (2009). Differentiating with technology. *Teaching Exceptional Children Plus*, *6*(4), 3. Retrieved from http://journals.cec.sped.org/tecplus/vol6/iss4/art2

Steventon, C. E., & Frederick, L. D. (2003). The effects of repeated readings on student performance in the corrective reading program. *Journal of Direct Instruction, 3*(1) 17–27. ERIC

Stockard, J. (2010). Promoting reading achievement and countering the fourth grade slump: The impact of direct instruction on reading achievement in fifth grade. *Journal of Education for Students Placed at Risk*, *15*(3), 218–240. doi:10.1080/10824669.2010.495687

Strategic Adolescent Reading Intervention Program (The). (2016). Retrieved from http://stari.serpimedi.org/evidence-stari-works.html

Sturtevant, E. G. (2010). *The literacy coach: A key to improving teaching and learning in secondary schools*. Retrieved from http://www.all4ed.org/files/Literacycoach.pdf

Sturtevant, E. G., Boyd, F. B., Brozo, W. G., Hinchman, K. A., Moore, D. W., & Alvermann, D. E. (2006). *Principle practices for adolescent literacy: A framework for instruction and policy*. Mahwah, NJ: Erlbaum.

Sullivan, P., Mornane, A., Prain, V., Campbell, C., Deed, C., Drane, S., . . . Smith, C. (2009). Junior secondary students' perceptions of influences on their engagement with schooling. *Australian Journal of Education*, *53*(2), 176–191. doi:10.1177/000494410905300206

Sze, S. (2008). Learning style and the special needs child. *Journal of Instructional Psychology*, *36*(4), 360. ERIC

Sze, S., & Cowden, P. (2009). *What about my child? A guide for parents and teachers of children who learn in special ways*. Bloomington, IN: Trafford Publishing.

Taylor, C. R. (2010). The literacy dilemma and no child left behind. *Southeastern Teacher Education Journal, 3*(1), 123–130. ERIC

Taylor, J., & Nelms, L. (2008). *Life chances at 16: Life chances study stage 8*. Fitzroy, Vic, Australia: Brotherhood of St. Laurence.

Tobin, R., & McInnes, A. (2008). Accommodating differences: Variations in differentiated literacy instruction in Grade 2/3 classrooms. *Literacy*, *42*(1), 3–9. doi:10.1111/j.1467–9345.2008.00470.x

Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A. (2003). *Differentiation in practice, grades K–5: A resource guide for differentiating curriculum*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A. (2008). Differentiated instruction. In J. A. Plucker & C. M. Callahan (Eds.), *Critical issues and practices in gifted education: What the research says*. Waco, TX: Prufrock Press.

Tomlinson, C. A., & McTighe, J. (2006). *Integrating differentiated instruction & understanding by design: Connecting content and kids*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, P. (2008). Psychological theory and pedagogical effectiveness: The learning promotion potential framework. *British Journal of Educational Psychology*, *78*(4), 507–526. doi:10.1348/000709908X318672

Torgesen, J. K., Houston, D. D., Rissman, L. M., Decker, S. M., Roberts, G., Vaughn, S., …Lesaux, N. (2007). *Academic literacy instruction for adolescent: a guidance document from the center on Instruction.* Portsmouth, NH: RMC Research Corporation.

Tracey, E. D. H., & Morrow, L. M. (2006). *Lenses on reading: An introduction to theories and models*. New York, NY: The Guilford Press.

Tyner, B. (2012). *Literacy jigsaw puzzle: Assembling the critical pieces of literacy instruction*. Newark, DE: International Reading Association.

Unrau, N., & Schlackman, J. (2006). Motivation and its relationship with reading achievement in an urban middle school. *Journal of Educational Research*, *100*(2), 81–101. doi:10.3200/JOER.100.2.81–101

Urdan, T. C., & Karabenick, S. A. (Eds.). (2010). *The decade ahead: Applications and contexts of motivation and achievement*. Bingley, UK: Emerald Publishing Group.

U.S. Department of Education. (2011). The nations report card: Retrieved from the U.S. Department of Education website at http://nces.ed.gov/nationsreportcard/pdf /main2011/2012457.pdf

Valiandes, S. (2015). Evaluating the impact of differentiated instruction literacy and reading in mixed ability classrooms: Quality and equity dimensions of education effectiveness. *Studies in Educational Evaluation. 45,* 17–26. doi:10.1016/j.stueduc.2015.02.005

Valkenburg, J. (2010). Joining the conversation: Scaffolding and tutoring mathematics. *Learning Assistance Review*, *15*(2), 33–41. Retrieved from http://files.eric.ed.gov /fulltext/EJ907798.pdf

van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in teacher-student interaction: A decade of research. *Educational Psychology Review*, *22*(3), 271–296. doi:10.1007/s10648–010–9127–6

VanderStoep, S. W., & Johnston, D. D. (2009). *Research methods for everyday life: Blending qualitative and quantitative approaches*. San Francisco, CA: Wiley & Sons.

Vasudevan, L., & Campano, G. (2009). The social production of adolescent risk and the promise of adolescent literacies. *Review of Research in Education*, *33*(1), 310–353. doi:10.3102/0091732X08330003

Vaughn, S., & Fletcher, J. M. (2012). Response to intervention with secondary students with reading disabilities. *Journal of Learning Disabilities*, *45*(3), 244–256. doi:10.1177/022219412442157

Vitale, M. R., & Joseph, B. L. (2008). Broadening the institutional value of direct instruction implemented in a low-SES elementary school: Implications for scale-up and school reform. *Journal of Direct Instruction, 8*(1), 1–18. ERIC

Vygotsky, L. S., Cole, M., John-Steiner, V., & Scribner, S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Washburne, C. W. (1953). Adjusting the program to the child: Practical first steps. *The Elementary School Journal, 33*(7), 551–553. Retrieved from http://ascd.org/ASCD/pdf/journals/ed_lead/el_195312_washburne.pdf

Watts-Taffe, S., Laster, B. P., Broach, L., Marinak, B., Connor, C. M., & Walker-Dalhouse, D. (2012). Differentiated instruction. Making teacher informed decisions. *Reading Teacher 66*(4), 303–314. doi:10.1002/TRTR.01126

Wendt, J. L. (2013). Combating the crisis in adolescent literacy: Exploring literacy in secondary classroom. *American Secondary Education*, *41*(2) 38–48.

Westby, C. (2009). Multiliteracies: Beyond reading and writing. *Word of Mouth, 21*(2), 1–16. doi:10.1177/10483950090210020101

White, M. W., Houchins, D. E., Viel-Ruma, K. A., & Dever, B. V. (2014). Effects of direct instruction plus procedural facilitation on the expository writing of adolescents with emotional and behavioral disabilities in residential schools. *Education and Treatment of Children*, *37*(4), 567–587. ERIC

Wijnia, L., Loyens, S. M. M., & Derous, E. (2011). Investigating effects of problem-based versus lecture-based learning environments on student motivation. *Contemporary Educational Psychology*, *36*(2), 101–113. doi:10.1016/j.cedpsych.2010.11.003

Willis, J. (2007). *Brain-friendly strategies for the inclusion classroom: Insights from a neurologist and classroom teacher*. Alexandria, VA: Association for Supervision and Curriculum Development.

Wilson, K. M., & Trainin, G. (2007). First-grade students' motivation and achievement for reading, writing, and spelling. *Reading Psychology*, *28*(3), 257–282. doi:10.1080/02702710601186464

Yamane, D. (2006). Course preparation assignments: A strategy for creating discussion-based courses. *Teaching Sociology*, *34*(3), 236–248. doi:10.1177/0092055X0603400303

Yazzie-Mintz, E. (2009). *Charting the path from engagement to achievement: A report on the 2009 high school survey of student engagement*. Center for Evaluation and Education Policy. Retrieved from http://www.indiana.edu/~ceep/hssse/images/HSSSE_2010_Report.pdf

Appendix A: Letter to Principal

July 29, 2014

Principal
County Schools

Dear Principal:

I am a doctoral student in Teacher Leadership at Walden University, and a teacher in the Newton County Public School System. Currently, I am writing my dissertation entitled, *The Effects of Instructional Pedagogy on Eighth-Grade Students' Reading Achievement*.

Differentiated instruction is the process of meeting students at their ability level and helping them to be successful in the classroom (Tomlinson, 2000). It is possible to devise an educational program that promotes learning and builds on higher-order thinking for all students (Childe et al., 2009; Edwards et al., 2006).

I plan to analyze the archival CRCT scores of two classrooms. Students in one of the classrooms will be instructed using direct instructional pedagogy, while students in the other classroom will be instructed using differentiated instructional pedagogy. The results of my research will be shared with you and the teachers in an effort to make an informational contribution to your educational organization.

If you have questions or concerns regarding this research study, please contact me by telephone at _____.

Thank you in advance for your time and consideration.

Sincerely,

Barbara Ward

Appendix B: Letter to Board of Education and Superintendent

July 29, 2014

County Board of Education
Georgia

County Board of Education and Superintendent:

I am a teacher at _____ Middle School in this county, and a student at Walden University. Currently, I am working on my doctoral degree in teacher education with a specialization in Teacher Leadership. I am conducting a study on *The Effects of Instructional Pedagogy on Eighth-Grade Students' Reading Achievement* and am requesting permission to conduct this study in your school district.

I have developed an interest in how teachers perceive the use of differentiated instruction as a strategy to improve reading of eighth-grade students. The implementation of differentiated instruction and the new educational standards, along with state and local guidelines and procedures, presents an environment conducive for this study.

The purpose of this causal-comparative quantitative study is to investigate the use of differentiated instruction as a strategy to improve the reading performance of eighth-grade students. Identifying the differentiated instruction specific to this locale may provide the local educational leaders with information useful for improving the school community and climate.

The research question to be answered is:

> Is there a difference in reading achievement scores on the Georgia CRCT between eighth-grade students who were instructed using direct instructional pedagogy and eighth-grade students who were instructed using differentiated instructional pedagogy?

Study participants will be teachers of eighth-grade reading, and a maximum of 64 eighth-grade students. I will analyze the archival CRCT data of two classrooms—one instructed using direct instructional pedagogy, and the other instructed using differentiated instructional pedagogy. I will submit a summary of the results of this study to the school district upon completion.

All criteria for IRB approval will be adhered to for this study. I will submit an IRB application along with my proposal to Walden University for review.

If there are questions or concerns regarding this study, please contact the undersigned by telephone at _____.

Sincerely,

Barbara Ward

Signature of Participant: _____

Appendix C: Confidentiality Agreement

During the course of collecting data for this research entitled *The Effects of Instructional Pedagogy on Eighth-Grade Students' Reading Achievement*, I will have access to confidential information. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant. By signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.

2. I will not in any way divulge copy, release, sell, loan, alter, or destroy any confidential information except as properly authorized.

3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.

4. I will not make any unauthorized transmissions, inquiries, modification, or purging of confidential information.

5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.

6. I understand that violation of this agreement will have legal implications.

7. I will only access or use systems or devices that I am officially authorized to access, and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

By signing this document, I acknowledge that I have read the agreement, and I agree to comply with all of the terms and conditions stated above.

Signature:_____ Date:_____

Appendix D: Permission Letters

August 11, 2014

XYZ Middle School

Dear Colleague,

I am a doctoral student in Teacher Leadership at Walden University, Currently; I am writing my dissertation entitled, *The Effects of Instructional Pedagogy on Eighth-Grade Students' Reading Achievement*.

Differentiated instruction is the process of meeting students at their ability level and helping them to be successful in the classroom (Tomlinson, 2000). It is possible to devise an educational program that promotes learning and builds on higher-order thinking for all students (Childe et al., 2009; Edwards et al., 2006).

I plan to analyze the archival CRCT scores from 2011–2012 and 2012–2013 of two classrooms. Students in one of the classrooms that were instructed using direct instructional pedagogy, while students in the other classroom that were instructed using differentiated instructional pedagogy. The results of my research will be shared with you and the teachers in an effort to make an informational contribution to your educational organization.

With your approval I would like to analyze archival CRCT data from your classroom. Please respond to the attached letter granting permission to use the data in my dissertation. Results will be shared with the county, and the school's principal, as well as the teachers at XYZ Middle School.

If you have questions or concerns regarding this doctoral study, please contact me by telephone at _____.

Thank you in advance for your time and consideration.

Sincerely,

Barbara Ward

August 11, 2014

To: Differentiated Instructional Teacher
XYZ Middle School

From: Barbara Ward

Re: Use of Classroom Archival CRCT Data

I, _____, grant permission for Barbara Ward to use archival CRCT data for her doctoral study.

I, _____, do not grant permission for Barbara Ward to use archival CRCT data for her doctoral study.

Thanking you in advance,

Barbara Ward

August 11, 2014

XYZ Middle School

Dear Principal,

I am a doctoral student in Teacher Leadership at Walden University, Currently; I am writing my dissertation entitled, *The Effects of Instructional Pedagogy on Eighth-Grade Students' Reading Achievement*.

Differentiated instruction is the process of meeting students at their ability level and helping them to be successful in the classroom (Tomlinson, 2000). It is possible to devise an educational program that promotes learning and builds on higher-order thinking for all students (Childe et al., 2009; Edwards et al., 2006).

I plan to analyze the archival CRCT scores from 2011–2012 and 2012–2013 of two classrooms. Students in one of the classrooms that were instructed using direct instructional pedagogy, while students in the other classroom that were instructed using differentiated instructional pedagogy. The results of my research will be shared with you and the teachers in an effort to make an informational contribution to your educational organization.

With your approval, I would like to analyze archival CRCT data from your school. Please respond to the attached letter granting permission to use the data in my dissertation. Results will be shared with the county, principal as well as the teachers at XYZ Middle School.

If you have questions or concerns regarding this doctoral study, please contact me by telephone at _____.

Thank you in advance for your time and consideration.

Sincerely,

Barbara Ward

Appendix E: CRCT Data Collection—Direct Instructional Classroom

Student #	Class 1 or 2	2011–2012 CRCT Reading Raw Score	2011–2012 Reading Performance Level	2012–2013 CRCT Reading Raw Score	2012–2013 Reading Performance Level
A	1	800	2	810	2
B	1	802	2	815	2
C	1	763	1	770	1
D	1	815	2	815	2
E	1	798	1	800	2
F	1	800	2	802	2
G	1	832	2	840	2
H	1	852	3	930	3
I	1	765	1	800	2
J	1	805	2	810	2
K	1	802	2	802	2
L	1	796	1	800	2
M	1	818	2	820	2
N	1	800	2	800	2
O	1	792	1	800	2
P	1	810	2	818	2
Q	1	753	1	800	2
R	1	800	2	800	2
S	1	780	1	800	2
T	1	800	2	805	2
U	1	798	1	810	2
V	1	798	1	802	2
W	1	810	2	820	2
X	1	800	2	800	2
Y	1	800	2	830	2
Z	1	800	2	795	1
AA	1	742	1	761	1
BB	1	798	1	740	1
CC	1	802	2	803	2
DD	1	810	2	813	2
EE	1	852	3	900	3
FF	1	783	1	820	2

Appendix F: CRCT Data Collection—Differentiated Instructional Classroom

Student #	Class 1 or 2	2011–2012 CRCT Reading Raw Score	2011–2012 CRCT Reading Performance Level	2012–2013 CRCT Reading Raw Score	2012–2013 CRCT Reading Performance Level
A	2	783	1	781	1
B	2	805	2	808	2
C	2	793	1	824	2
D	2	809	2	833	2
E	2	800	2	750	1
F	2	775	1	801	2
G	2	800	2	796	1
H	2	810	2	803	2
I	2	805	2	810	2
J	2	800	2	811	2
K	2	852	3	878	3
L	2	786	1	801	2
M	2	800	2	803	2
N	2	783	1	813	2
O	2	805	2	808	2
P	2	781	1	808	2
Q	2	834	2	838	2
R	2	775	1	801	2
S	2	815	2	806	2
T	2	756	1	756	1
U	2	800	2	803	2
V	2	807	2	828	2
W	2	800	2	808	2
X	2	800	2	810	2
Y	2	800	2	800	2
Z	2	853	3	910	3
AA	2	850	3	853	3
BB	2	800	2	819	2
CC	2	825	2	830	2
DD	2	765	1	790	1
EE	2	859	3	886	3
FF	2	734	1	768	1