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Effects of Direct Instruction Versus Reading First on Reading Comprehension of Students in Southwest Arkansas

Judith A. Jenkins
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EFFECTS OF DIRECT INSTRUCTION VERSUS READING FIRST ON READING
COMPREHENSION OF STUDENTS IN SOUTHWEST ARKANSAS

by

Judith A. Jenkins

Dissertation

Submitted to the Faculty of

Harding University

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Doctor of Education

in

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Dissertation Advisor

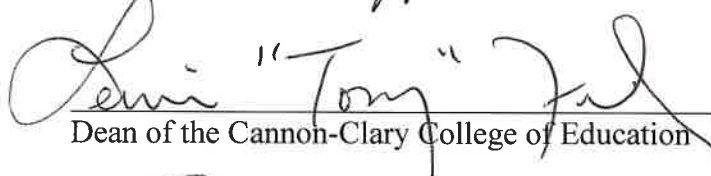
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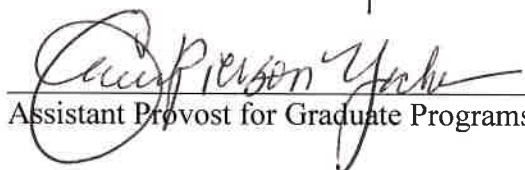
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DEDICATION

This dissertation is dedicated to my grandchildren, Avery and Garrison, my favorite listeners as I read.

ABSTRACT

by
Judith A. Jenkins
Harding University
December 2013

Title: Effects of Direct Instruction Versus Reading First on Reading Comprehension of Students in Southwest Arkansas (Under the direction of Dr. Michael D. Brooks)

The purpose of this dissertation was to add to the limited available research concerning the effectiveness of supplemental reading programs such as Reading First and Direct Instruction on reading achievement for students in elementary and middle grades. Particularly, in the first and third hypotheses, the independent variables were reading program (Direct Instruction versus Reading First) and ethnicity (Hispanic versus Non-Hispanic) on reading comprehension for third and eighth grade students. In the second and fourth hypotheses, the independent variables were reading program (Direct Instruction versus Reading First) and gender (male versus female) on reading comprehension for third and eighth students. The dependent variable was reading comprehension as measured by the Iowa Test of Basic Skills reading subtest scaled scores. A review of the literature identified the various aspects of reading programs, the characteristics of effective programs for reading, and the implications of such programs on reading ability of students.

This causal comparative study was conducted in Southwest Arkansas with grades 3 and 8 in five school districts. The sample for this study included students from one

district utilizing Direct Instruction reading and four districts utilizing Reading First. The researcher randomly chose students by grade level, gender, ethnicity, and reading program.

A 2 x 2 factorial ANOVA was used to analyze the data collected for each of the four hypotheses. The results of this study showed no significant interaction effects between students taught with Reading First or Direct Instruction by gender or ethnicity for the four hypotheses. In hypothesis 1, main effect results determined that ethnicity was significant in the third grade, but the findings revealed only a small effect size. Non-Hispanics, on average, showed higher mean scores than Hispanics. In hypotheses 1 and 2, the main effects for reading program were significant at the third grade level but were not at eighth grade level in the last two hypotheses. However, Direct Instruction students showed higher mean scores, on average, at both grade levels than students taught with Reading First.

Many of the studies reviewed revealed findings similar to this study. Some studies revealed a greater difference in gender and ethnicity. Supplemental reading programs may generally affect students' reading ability; however, these findings revealed that programs, when paired with gender or ethnicity, differ little in their influence on reading comprehension.

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CHAPTER 1

INTRODUCTION

Poor performance in America's schools has been an agenda item in recent national political campaigns (Hirsch, 2006). Hirsch went on to say there is a growing sense education is becoming more and more important. He noted that reading ability is at the heart of this matter because it correlates so strongly to learning and the ability to communicate. Reading is a critical skill for all learning. Economic and political achievements are dependent upon an ability to gain new knowledge rapidly through reading.

Asserting that idea, Stotsky (2012) proposed, "The republic cannot flourish in the 21st century, no matter how much time English or reading teachers spend teaching '21st century skills' with text deemed UG [upper grades] if the bulk of our population is reading at or below the fifth-grade level" (p. 4). Stotsky believed students do indeed lack literacy skills necessary to be successful in learning. The No Child Left Behind Law (2002) mandated all students should be reading at grade-level proficiency by 2014. Ideally, all students should know how to read by the end of third grade, if not sooner. Allington (2009) argued teachers should teach almost every student to read by the end of first grade. According to National Assessment of Educational Progress scores, approximately one-third of United States students read at or above the proficient level, another one-third reads at the basic level, and approximately one-third reads at the below

basic level (National Endowment for the Arts, 2007). In other words, two-thirds of United States students do not have a reading proficiency level high enough to do grade-level work. Allington (2011) believed educators could know as early as the second day of kindergarten which students are at risk of becoming struggling readers, but they typically do nothing with this information. In many schools, at-risk kindergartners and first graders receive no expert additional reading instruction. He argued funding is not the issue because schools spend millions of dollars on literacy programs, such as Reading First and Reading Recovery. Although it is encouraging to see gains in reading for 9- and 13-year-olds over the last 40 years, Stotsky (2009) admitted it is hard to find encouragement in the meager gains after 35 years of investment by both the federal and state governments in professional development of teachers, curriculum materials, and assessments in reading.

Adding to that observation, Anderson, Hiebert, Scott, and Wilkinson (1985) observed reading is an essential life skill, and it is fundamental for children's success in school. Without the ability to read well, opportunity for success is lost. They noted children are expected to learn to read in the primary grades, kindergarten through third, when most reading instruction is given. By fourth grade, they asserted students are expected to read to learn. Students are hindered in their schoolwork if they cannot read well by the end of third grade.

So obviously, reading skills do not magically improve as students move up in grade level. Despite the debates among policymakers, education reformers, and reading experts, Biancarosa (2012) pointed out many people still believe the main problem for struggling adolescent readers is their failure to master basic reading skills. The problem

requires more than simple remediation. Students who leave high school must possess the reading skills they need to be college and career ready. Biancarosa contended even excellent basic reading instruction in kindergarten through third grade does not guarantee a student will successfully make the shift from learning to read to the literacy demands of higher education. The literacy demands after third grade increase dramatically, and reading becomes more difficult across disciplines. In order to master these higher-level reading demands successfully, Biancarosa felt students must learn to apply background knowledge as a context for their reading, get information from texts, and monitor and adjust reading strategies as needed. To that end, secondary teachers must assume the responsibility of becoming reading or literacy teachers. Reading should be considered a tool for learning all other content.

Even so, Americans are not spending as much time reading as they once did. Gilmore (2011) observed reading comprehension skills are waning. He asserted nearly one-half of all 18- through 24-year-olds read no books for pleasure, less than one-third of 13-year-olds read on a daily basis, and teens and young adults spend 60% less time voluntarily reading than the average adult does. Gilmore noted one of the assumptions made by a high school diploma is the student receiving it can read on the high school level or at least on an eighth-grade level. When students cannot read on grade level, learning is greatly hampered because reading is the foundation of all learning.

This lack of reading ability is one major reason for attention to the core curriculum concerning reading. To address the need for more college and career readiness in graduates, Arkansas and other states are currently transitioning into the Common Core Era. Tucker (2012) proposed these standards require students to interact

with texts of greater complexity. When college and career readiness are the products, rigor and relevance must be priorities. Tucker, in a recent statewide literacy conference, contended learning these new standards will require students to grapple with texts. Teachers must require students to perform literacy tasks in all content areas as essential tools of learning.

Statement of the Problem

The purposes of this study were four-fold. First, the purpose of this study was to determine the effects by ethnicity between students who were taught in the early grades using a Direct Instruction approach versus Reading First on reading comprehension for third grade students in Southwest Arkansas schools. Second, the purpose of this study was to determine the effects by gender between students who were taught in the early grades using a Direct Instruction approach versus Reading First on reading comprehension for third grade students in Southwest Arkansas schools. Third, the purpose of this study was to determine the effects by ethnicity between students who were taught in the early grades using a Direct Instruction approach versus Reading First on reading comprehension for eighth grade students in Southwest Arkansas schools. Fourth, the purpose of this study was to determine the effects by gender between students who were taught in the early grades using a Direct Instruction approach versus Reading First on reading comprehension for eighth grade students in Southwest Arkansas schools.

Background

National Assessment of Educational Progress (2012) statistics revealed an alarming 36% of fourth grade students in the United States are performing at a below-basic reading level, meaning they have not mastered prerequisite knowledge and skills

needed to produce proficient grade-level work. National Assessment of Educational Progress noted reading with comprehension is the goal of all reading instruction, and therefore, choosing a supplemental reading program that will increase the likelihood of reading fluency and comprehension in students should be the goal of any effective school program. In this section, the researcher first addressed a brief history of the origins, professional development, and delivery methods of Direct Instruction Reading (originally DISTAR). Second, the program's effects upon ethnicity were explored. Third, gender effects for the program were examined. Fourth, the same sequence was followed with the Reading First program.

Direct Instruction Program

According to Quirk and Schwanenflugel (2004), the Direct Instruction Program was originally called DISTAR, an acronym for Direct Instruction System for Teaching Arithmetic and Reading. Direct Instruction is a trademarked program of SRA/McGraw-Hill, a commercial publishing company. Quirk and Schwanenflugel revealed Siegfried Engelmann, a professor at the University of Oregon, created the Direct Instruction model, and the program is used particularly for historically disadvantaged and/or at-risk students. They noted DISTAR Reading has been extensively expanded and rebranded by SRA/McGraw-Hill as Reading Mastery, and Direct Instruction, as it is now known, is one of several highly structured methodologies for teaching elementary, middle, and high school students.

Englemann, Becker, Carnine, and Gersten (1988) indicated the original DISTAR reading lessons were derived from the basic principles of the overall Direct Instruction

model. They maintained the Direct Instruction Model has three basic underlying assumptions.

- All children can be taught.
- Compensatory education programs need to focus on the development of basic skills and their application in higher order skills.
- Disadvantaged students need to be taught at an accelerated rate in order for them to catch up with their peers.

Englemann et al. (1988) held student time on task is maximized using explicitly scripted daily lessons where the teacher follows a systematic procedure, correcting students when they diverge from the script in any way. Teachers are guided by reading coaches who are highly trained in the scripted delivery of the lessons, and administrators shadow coaches and evaluate reading lessons.

Further, Englemann et al. (1988) noted Direct Instruction reading's focus on the mastery of basic skills involves a bottom-up belief about early reading development. Letter-sound correspondences are taught in a carefully sequenced hierarchy designed to reduce misunderstanding and build toward more difficult sound blends and eventually whole word reading. Quirk and Schwanenflugel (2004) contended the program also uses controlled vocabulary readers that put the sounds and words students have acquired into a story-like structure. They indicated the text is highly controlled, instruction is done in small groups, and the same program is utilized for all children in the group.

Not surprisingly, many studies have been conducted over the past 30 plus years bearing witness to the effectiveness of the Direct Instruction model for reading achievement (Lloyd, Cullinan, Heins, & Epstein, 1980; O'Connor, Jenkins, Cole, &

Mills, 1993; Sexton, 1989; Traweek & Berninger, 1997). Other studies have not found such positive achievement gains (Kuder, 1990; Ogletree, 1977; Serwer, Shapiro, & Shapiro, 1973), and still another has found benefits that are more isolated on particular reading subscales (Kuder, 1990). Little, if any, research examined the reading motivational effectiveness of the program.

Ryder, Burton, and Silberg (2006) compared methods of teaching reading. This research showed highly scripted, teacher-directed methods of teaching reading were not as effective as traditional methods that allowed a more flexible approach. The study, headed by Randall Ryder, Professor of Curriculum and Instruction in the University of Wisconsin-Milwaukee School of Education, also found teachers felt the most highly scripted method, known as Direct Instruction, should be used in limited situations, not as the primary method of teaching students to read.

Along those lines, Adams (1996) noted debates about the efficacy of Direct Instruction have continued since before the release of the final results of Project Follow Through, the largest educational experiment ever conducted. Adams stated Project Follow Through evaluated nine major approaches to instructing at-risk students. According to the National Institute for Direct Instruction (2012), only students taught with the Direct Instruction approach consistently outperformed students in the control group on basic, cognitive, and affective measures. However, bias could have been an issue with studies conducted by an institute founded on the principles of the direct instruction method.

Regarding performance, Hattie's (2009) synthesis of meta-analyses summarized the results of four analyses that examined Direct Instruction. These analyses included 304

studies consisting of over 42,000 students. Across all of these students, the average effect size was 0.59 and was significantly larger than those of any other curriculum Hattie studied. Another meta-analysis published by Adams and Engelmann (1996), a chief architect of the Direct Instruction program, found an average effect size per study of more than 0.75, which the authors viewed as substantial. Yet, did this improvement in overall reading translate for all students in the program regardless of ethnicity?

Direct Instruction, Ethnicity, and Reading Comprehension

According to Planty et al. (2009), schools are becoming more diverse; the number of English Language Learners has almost tripled from less than 4 million in 1997 to almost 11 million in 2007. Most English Language Learners in United States schools are of Latino descent. Planty et al. observed recent national tests of reading and writing (i.e. the National Assessment of Educational Progress) show that at the three grade levels tested (4, 8, 12), many more Latino students performed at the below-basic level than did White students and Asian/Pacific Islander students. In addition, far fewer Latino students performed at proficient or advanced levels than did White students and Asian/Pacific Islander students (National Center for Education Statistics, 2002).

In the same vein, in the Ryder et al. (2006) study, urban teachers in particular expressed great concern over a lack of sensitivity to issues of poverty, culture, and race when using Direct Instruction strategies. However, the findings from this study were not consistent with the findings of more than 20 other studies. Adams (1996) argued Direct Instruction is widely and effectively used with students from every population sector (with regard to poverty, culture, and race). In Adam's Project Follow Through, the Direct Instruction model was ranked first in achievement for poor students, students who were

not poor, urban students, rural students, African American students, Hispanic students, and Native American students. Adams contended, today, many of the Bureau of Indian Affairs's highest-performing schools use Direct Instruction materials. In another study, Rebar (2007) stated the Baltimore Curriculum Project has many schools with Free and Reduced Lunch Rates above 75% serving student populations more than 90% African American. Rebar cited these schools have shown strong achievement gains using Direct Instruction. If Direct Instruction does indeed improve reading comprehension across ethnicities, does it also bridge the gap between the sexes?

Direct Instruction, Gender, and Reading Comprehension

Prado and Plourde (2011) argued there are significant differences in the way boys and girls learn how to read. Certain reading strategies have to be taught in an explicit manner in order to help students grow as readers. Prado and Plourde contended study after study indicates girls are more likely to have an advantage in acquiring reading skill because their bodies produce hormones that make learning how to read come more naturally to them. According to the nation's report card, National Assessment of Educational Progress (2012) argued that by the time boys get to high school, they have fallen approximately 20 points behind girls in the area of reading. The report asserted much of the research done on gender states girls tend to perform better in reading than boys regardless of method of instruction, and the reasons vary. Gurian and Ballew (2003) pointed out although some gender studies have stated that girls may average as much as 1 and a half years ahead of boys in reading competence, the difference can be attributed to many things that have nothing to do with biological differences, such as prior instruction,

motivation, effort, parental support, and general mental ability. Still, how does direct instruction influence the variation in boys' and girls' reading and cognitive abilities?

Wickman and Engelmann (2005) held Direct Instruction is fast-paced and includes frequent interaction between instructors and students. In discussing the method, they stated a placement test is used to assign students to groups, and the performance level of each group dictates the pace of instruction. Speed and accuracy assessments are taken every 5 to 10 days. Although results are mixed among the studies examined by these researchers, at least students who were taught using Direct Instruction accrued some significant benefit. Yet, further research is needed to see if significant benefits are evident by gender.

Logan and Johnston (2010) compared boys to girls when taught with either a systematic synthetic phonics method (such as Direct Instruction) or an analytic-phonics-taught group. Synthetic phonics teaching is characterized by letter-sound correspondences and blending skills taught early on and at a relatively fast pace so that children quickly have a method to read independently. The researchers suggested this type of reading approach might be better suited to boys' learning style, and this approach would not necessarily be a disadvantage to girls.

Advocates and Critics of Direct Instruction

As a supplemental instructional reading program, Direct Instruction has its advocates and its critics. Advocates like the highly structured, scripted method. They believe that it provides needed support even for less effective teachers. The critics like more flexibility in instruction. Promoters like the idea of every student receiving the exact same type of instruction, and critics want to vary instruction to fit the needs of

individual students. In recent years, to address an increased effort in teaching comprehension and vocabulary skills, the Direct Instruction program has been altered to include more instruction directed at increasing comprehension rather than just fluency. The effectiveness of Direct Instruction concerning ethnicity and gender is not widely addressed in the literature. Most research-based programs, however, claim to be effective at closing the achievement gap. The federal government with its No Child Left Behind Law (2002) obligated schools to use a research-based reading instructional program. This led to the development of the Reading First program, which has been used across the nation in an effort to have consistency in reading instruction.

The Reading First Program

The United States Department of Education (2006) noted the No Child Left Behind Act of 2001 established the Reading First Program, a major federal initiative designed to help ensure that all children can read at or above grade level by the end of third grade. The United States Department of Education stated Reading First is based on scientifically researched findings that high-quality reading instruction in the primary grades significantly reduces the number of students who experience reading difficulties in later years. The department's goal was to ensure teachers in kindergarten through third grade use research-based reading programs and materials. In the early years of Reading First, when it was funded, it provided access to quality professional development for all teachers of these grades, and assessments were used to determine student progress in reading. The United States Department of Education indicated Reading First attempts to screen for, identify, and overcome barriers to students' ability to read at grade level by the end of third grade. They listed five essential elements of effective primary-grade reading

instruction provided for in the legislation: (a) phonemic awareness; (b) decoding; (c) vocabulary development; (d) reading fluency, including oral reading skills; and (e) reading comprehension strategies. Even so, some researchers questioned Reading First's effectiveness.

In a research study, Herlihy et al. (2009) indicated Reading First was not effective. They acknowledged Reading First did increase opportunities for professional development for teachers and reading coaches, and the program provided funding used to support struggling readers in schools that received it. They conceded research indicates Reading First may have improved comprehension in schools where reading instruction was greatly changed from the standard way they had administered their reading lessons. They identified two issues that may have been related to the lack of impact on overall reading comprehension scores. First, the type of reading instruction that was promoted by the No Child Left Behind Law (2002) was already in wide use when the Reading First program came to fruition. Because educators did not see a dramatic change in how reading was already being administered, few gains were noted. Second, the increase in instructional time devoted to scientifically based reading instruction, averaging about 7-10 additional minutes a day, may have been too small to improve students' reading comprehension. Herlihy et al. (2009) observed, for regular readers, these few minutes per day did not make a significant impact in reading comprehension; however, effects were larger in schools who served more educationally disadvantaged students, spent less instructional time on reading prior to Reading First, and received the larger federal grants.

Mitchell (2008) reported many limitations of the Reading First Impact Study. She and her committee had reservations about the design and implementation of the study. It called for random assignment yet districts were allowed to decide which schools received funding for Reading First and which did not. In addition, much of the funding was used for district wide professional development that affected teachers in both Reading First and non-Reading First schools. They go on to say that the schools studied were not representative of schools receiving funding under the Reading First grants. The sample was quite limited. Mitchell also criticized the use of limited variables in the study. She said the report was not conclusive; therefore, the findings did not determine whether Reading First works or does not work. In the end, too many things were left out of the report for it to be useful.

The Arkansas Department of Education (2011) was awarded \$57.5 million for the first 5 years of implementation of Reading First. Sub-grants were funded in 89 schools in 58 districts in the state. Because the model included local leadership teams, literacy coaches, lab classrooms, and literacy teams, they employed 15 Arkansas Reading First professional development administrators to provide professional development and technical assistance. They observed targeted interventions, based upon results of assessments such as DIBELS, were implemented to reduce reading difficulties in students in the primary grades in schools with low performance and high poverty. Many, though, wondered how the program would address reading gaps concerning ethnicity.

Reading First, Ethnicity, and Reading Comprehension

The United States Department of Education's final report of the Reading First Impact Study (Gamse, Bloom, Kemple, & Jacob, 2008) indicated no statistically

significant difference on reading comprehension for students in Reading First schools versus those in non-Reading First schools. However, the study did not specifically address ethnicity in its research questions but did acknowledge the baseline differences in demographics in the schools studied. With English language learners, the U. S. Department of Education (2006) reported that 25 of 37 states showed gains of five or more percentage points in first grade. In second grade, 19 of 37 states showed increases of five or more percentage points. In third grade, 12 of 25 states reported improvement by five or more percentage points. In Arkansas, Reading First schools made greater gains in increasing the percentage of students proficient or advanced than comparison schools, and the overall reading achievement gap, as measured by the third-grade Arkansas benchmark test, decreased from 2005-2007.

Bowers' (2010) study did not reveal convincing evidence Reading First implementation was effective in closing the achievement gap regarding ethnicity. Subgroup data for English Language Learners, Hispanic, and African American students were closely examined and compared with the literacy performance data of White students to determine whether implementation of the Reading First program narrowed the achievement gap. The findings of the study did support that the five components of the Reading First program and the structure and accountability provided through the assurances, positively influenced learning outcomes for English language learners, African American, and Hispanic students.

In a Utah study, Dole, Hosp, Nelson, and Hosp (2010) indicated Reading First schools appeared to have made greater gains than comparison schools or the state average in the percentage of students achieving proficiency on the state's criterion referenced

tests. In addition, the achievement gap for most disaggregated groups was reduced, and greater performance was noted for students who spent 3 years in Reading First schools rather than one or two. Yet, one might question its effectiveness in addressing the notorious reading gaps between the sexes.

Reading First, Gender, and Reading Comprehension

In Johnson's (2007) study, no statistical significant difference between students was revealed by gender in Reading First versus non-Reading First schools. Although gender was not specifically addressed in governmental studies of impact from Reading First (Gamse et al., 2008), the general idea behind Reading First is to improve reading ability of all students. Johnson (2007) noted many research studies indicate girls have advantage over boys in learning to read. Johnson cautioned research-based instructional programs such as Reading First could not negate the need to address instructional strategies that are cognizant of the differences between boys and girls in reading.

Advocates and Critics of Reading First

According to Reading First proponents, Arkansas Reading First schools are implementing targeted interventions to reduce reading difficulties in students in the primary grades (National Office for Research on Measurement and Evaluation Systems, 2008). Student progress is regularly monitored, and targeted interventions are provided according to the level of risk and specific needs of each student. The program includes the use of assessment instruments, including screening and progress-monitoring measures, and intervention provided by the teacher, small group instruction by more highly trained teachers, and one-to-one instruction for those students most at risk. There is a strong emphasis on methods and strategies grounded in standards based reading

research. The United States Department of Education (2006), cited supporters such as Margaret Spellings as saying that Reading First is the cornerstone of the No Child Left Behind Law.

According to Toppo (2008), the critics of Reading First are quick to say that the program was ineffective even when it was funded. Many states and schools find it cumbersome to implement and there has been much controversy over development of assessments to measure achievement. There are those, including educators as well as legislators, who say that Reading First has done little to impact reading comprehension of students. Critics also argue that even with the expense and effort required to implement supplemental reading instructional programs such as Direct Instruction and Reading First, little improvement has been documented in preparing students to read on grade level with comprehension (United States Department of Education, 2006).

Hypotheses

The initial review of literature noted both positive and negative outcomes regarding the potential of both early reading programs to increase reading comprehension. Because the Arkansas Department of Education continues to emphasize the importance of literacy proficiency (including reading) in students, the researcher generated the following hypotheses.

1. No significant differences will exist by ethnicity (Hispanic versus Non-Hispanic) between third grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension.

2. No significant differences will exist by gender between third grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension.
3. No significant differences will exist by ethnicity (Hispanic versus Non-Hispanic) between eighth grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension.
4. No significant differences will exist by gender between eighth grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension.

Description of Terms

Direct Instruction. Engelmann and Becker, creators of Direct Instruction, defined the program as a model for teaching that emphasizes well-developed and carefully planned or scripted lessons designed around small learning increments and clearly-defined and prescribed teaching tasks (Adams, 1996; Engelmann, 1968). Based on the theory that clear instruction removes misinterpretations, Adams (1996) believed Direct Instruction could improve and even accelerate learning.

Early grades. For the purpose of this study, the term early grades refer to kindergarten, first, second, and third grades. Students who were taught with the same instructional program in those grades made up the accessible population studied.

Non-Hispanic students. Students in Arkansas schools complete demographic information, including ethnicity, on their school entrance forms and on standardized testing materials. Choices include Asian, Black, Hispanic, Native American, Hawaiian/Pacific Islander, and White. For the purpose of this study, non-Hispanic students are any students other than those who identified themselves as Hispanic in school demographic information.

Reading Comprehension. According to Prado and Plourde (2011), many researchers agree reading comprehension is a process of interacting among word identification, prior knowledge, comprehension strategies, and engagement. They stated the most basic part is word identification. For the purpose of this study, the researcher measured reading comprehension by the state's norm referenced items used to assign a reading comprehension score in both grades examined.

Reading First. The United States Department of Education (2001) noted Reading First is a critical component of the No Child Left Behind legislation created in 2001. The program requires schools to use research-based reading programs and instructional materials for students in kindergarten through third grade. The Department asserted its purpose is to ensure that all students can read at or above grade level by the end of third grade. According to officials, Reading First educators emphasized five essential components of early reading. Reading First funding was cut in 2009.

Significance

Research Gaps

Reeves (2009) wrote about a lack of consensus on the implementation of effective literacy instruction. Students across the United States receive reading instruction from a

variety of teaching methods, some having little research on which to base their use. Therefore, inconsistency in principals' expectations for effective instruction makes the effects of instructional leadership and the resulting reading comprehension hard to define or measure. Even though this may well be the case, further reading studies are needed to determine if students subjected to particular programs for at least four years show differences in reading comprehension levels. In addition, several of the studies examined did not particularly isolate ethnicity and gender as variables. Is there a significant difference in reading comprehension between males and females when using Direct Instruction or Reading First? Is there a significant difference between Hispanic and Non-Hispanic students when using Direct Instruction or Reading First?

According to Bowers (2010), despite the gains that have been made and the standards based best practices research that is available regarding reading instruction, challenges in educating students of color persist and the gap between genders in reading is still present. Rigor and relevance for all students to achieve at high levels is needed to close achievement gaps. If no child will be left behind, states must develop schools with instructional practices that work for all children.

The nation's declining literacy growth rate and achievement gaps between subgroups is a matter of great concern to many researchers, politicians, educational forecasters, and economists. Forecasts of an increasingly less literate, less skilled workforce; a rise in the high school dropout rates which continue to be 18-21 percentage points higher among Hispanic students when compared to white students; and a rapidly growing minority population are all forces that compose *America's Perfect Storm*

(Kirsch, Braun, & Yamamoto, 2007). Add to that the Common Core curriculum movement with its demands for greater text-complexity, and the storm looms larger.

Possible Implications for Practice

Reeves (2009) referred to the reading wars where even the experts who may disagree on approach seem to agree on many elements of good reading instruction. Teachers who strive to develop proficiency in reading and seek to stimulate a joy of reading should emphasize literacy. Such is not evident in all classrooms. Reeves called for four essential questions regarding literacy achievement.

- What is effective literacy instruction?
- How will we ensure that teachers have time for effective literacy instruction?
- How will we help students who are struggling?
- How will leaders support consistent responses to the previous questions?

To respond to these questions, Reeves believed three challenges face educational leaders. First, leaders must make the case for consistent reading instruction. Second, they must define in clear and very specific terms what good teaching really means. Third, leaders must balance the need for consistency on essentials with necessary differentiation to meet student needs. Reeves cited Allington (2005) who reminded educators that expert teaching of reading does not consist in following a script but rather requires a deep commitment to proficiency achievement for every student. Reeves argued it is not about doing what usually works, but about what works best for each individual child and the group of children receiving instruction at the moment.

Allington's (2002) research over a decade revealed six factors that must be addressed in the instruction of reading. These include (a) students must be allowed time

to engage in reading, (b) texts must be accessible to all students, (c) teaching must be explicit, (d) students must talk about what they have read, (e) tasks must be assigned to reinforce what has been read, and (f) reading must be assessed formatively to continuously improve ability, and comprehensive reading instruction should be evaluated to determine its effectiveness. Allington's study provided information useful to literacy decision-makers. Continued use of a program should be dependent upon the data. Reading teachers, federal coordinators, and educational consultants should utilize this and other research to make informed educational decisions.

Findings from this study should be examined to determine if programs are effective in improving reading comprehension. In particular, the researcher hoped to determine whether Direct Instruction or Reading First is more effective with Hispanic students or if either program favors one gender or another in impact on reading comprehension. Another consideration is whether early reading instructional programs have a lasting impact on student reading ability in secondary schools, which is the justification for looking at scores in Grade 8, 5 years after formal reading instruction in either program has been completed.

Process to Accomplish

Design

A quantitative, causal-comparative strategy was a major tool in this study. All four hypotheses utilized a 2 x 2 factorial between-groups design. The independent variables for hypotheses one and three were type of instructional reading program (Direct Instruction versus Reading First) and ethnicity (Hispanic versus non-Hispanic). The independent variables for hypotheses two and four were type of instructional reading

program (Direct Instruction versus Reading First) and gender (male versus female). The dependent variable for all hypotheses was reading comprehension measured by the Arkansas Comprehensive Testing, Accountability, and Assessment Program's (ACTAAP) Augmented Benchmark Test scores in reading.

Sample

Students chosen to participate in this study were 2011-2012 third and eighth graders from various elementary and secondary schools across Southwest Arkansas. The sample consisted of two groups of participants. In each grade, one group of students received reading instruction using the Direct Instruction reading program from kindergarten through third grade, and the other group of students received Reading First instruction from kindergarten through the third grade. Students who attended the same schools in kindergarten, first grade, second grade, and third grade were included in the accessible population for sampling. Only students who were taught all four years with the same program were included in the population for sampling. Scores were then examined for students based on ethnicity and gender. Because of the need for a significant sampling of Hispanics and Non-Hispanics in both groups, schools from two educational cooperatives in southwest Arkansas were asked to submit data.

Instrumentation

In the spring of 2012, the students were assessed using the Arkansas Comprehensive Testing, Accountability, and Assessment Program's Augmented Benchmark Test. The literature of the Arkansas Department of Education (2011) asserted the third and eighth grade Augmented Benchmark Exam contained both norm-referenced (Iowa Test of Basic Skills) and criterion-referenced test items. The reading

comprehension subtest scores from the norm-referenced items were used in the analysis for this study. During the fall of 2012, permission to use scores was obtained from schools. Identifiable information was removed, and data were entered into IBM Statistical Packages for the Social Sciences Version 21 software.

Scores from the norm-referenced third and eighth grade reading comprehension subtests were used to measure reading comprehension. The Iowa Test of Basic Skills is a nationally recognized test that allows educators to assess student progress in reading (Arkansas Department of Education, 2011). The Iowa Reading Comprehension subtest was used to measure students' ability to comprehend reading literary, informational, and functional texts. The students read each selection and then answered a series of questions pertaining to the selection.

According to the Arkansas Department of Education (2011), the state assessments, including the augmented tests, have been examined and found to be both reliable and valid. They contend the tests have appropriate levels of reliability, validity, and fairness, based on the extensive research supporting both the criterion-referenced and norm-referenced items. They revealed post-equating methods are utilized to establish uniformity between versions of the test, and a Stratified Alpha method is used to determine reliability. Each item is checked separately and then combined with other items to accomplish a precise estimate of reliability. Items are weighted accordingly.

Data Analysis

To address the first hypothesis, a 2 x 2 factorial analysis of variance (ANOVA) was conducted using type of instructional reading program and ethnicity as the independent variables and reading comprehension as the dependent variable for third

grade. The second hypothesis was analyzed by a 2 x 2 factorial ANOVA using type of instructional reading program and gender as the independent variables and reading comprehension as the dependent variable for third grade. Hypothesis number three was examined by a 2 x 2 factorial ANOVA using type of instructional reading program and ethnicity as the independent variables and reading comprehension as the dependent variable for eighth grade. The research conducted a 2 x 2 factorial ANOVA to test the fourth hypothesis with type of instructional reading program and gender as the independent variables and reading comprehension as the dependent variable for eighth grade. To test the null hypotheses, the researcher used a two-tailed test with a .05 level of significance.

CHAPTER II

REVIEW OF RELATED LITERATURE

The comprehensive literature review in this chapter provides a research-based foundation for this study and its findings and is organized into five parts. First, a brief overview of the history of reading instruction and education was presented. Second, an examination of the achievement gaps of gender and ethnicity—past, present, and future—and the potential impact of these gaps on children and adults in society was discussed. Third, the researcher took an in-depth look at Direct Instruction and its effect on student achievement. Fourth, material was presented to offer an in-depth look at Reading First and its effect on student achievement. Fifth, conclusions were drawn.

The Historical Perspective of Reading Instruction

Rylance (1981) stated that in the late 18th century, schooling moved from home-based instruction into the one-room schoolhouse. By the 19th and early 20th centuries, these early schoolhouses were established in many small towns and rural areas throughout the United States. Most of these classrooms had one dedicated teacher who taught as many as eight grades and focused on the basics of reading, writing, and mathematics. Teacher preparedness and curriculum varied from state to state, city to city, and even school to school. In the area of reading instruction, a phonics-based approach was then and remained the primary mode of teaching reading until the middle of the 20th century.

The Reading Wars: 1950-1997

According to Smith (2002), the whole language approach to reading instruction was a result of an analysis of Chomsky's (1957) work on linguistic principles and development conducted in the 1950s. The controversy over the most effective way to teach reading has been intense since 1967. The *Reading Wars* is the nickname given to this battle between a phonics-based approach and a whole-language approach to reading instruction. During this controversy, the Cold War contributed to fears that the Russians had a superior education system. Largely because of these fears, the First Grade Studies report was developed and released by Bond and Dykstra (1967).

This First Grade Studies report (Bond & Dykstra, 1967) is one of the earliest comprehensive reading studies to examine how children best learn to read. Bond and Dykstra (1967) studied three main components in their study of 27 projects, each coordinated by a different director. The projects examined the implication of teacher and student characteristics on first grade reading and spelling, identified valuable instructional strategies that produced good first grade readers, and reviewed reading programs that were effective in meeting the needs of students who struggled (Cowen, 2005). The report suggested teachers' attitude, tools, and training were more critical than the choice of either a phonics-based or a whole-language program (Flipppo, 1999; Harp & Brewer, 2005; Smith, 2002). Cowen (2005) went on to say the "First Grade Studies" continue to influence the creation of exemplary literacy programs and to guide the direction of reading instruction in the United States.

The Balanced Approach to Reading: 1969-2012

In a 1975 report commissioned by The National Institute of Education entitled *Toward a Literate Society*, Carroll and Chall (1975) recommended a balanced approach with an integration of phonics and whole-language as the most effective method of teaching reading. For the last decade, educators and practitioners have opposed the either-or position in the debate and have instead supported the position of the International Reading Association (1999) as follows:

There is no single method or single combination of methods that can successfully teach all children to read. Therefore, teachers must have a strong knowledge of multiple methods for teaching reading and a strong knowledge of the children in their care so they can create the appropriate balance of methods for the children they teach. (p. 2)

Thus, for the International Reading Association, a balanced approach including both phonics and whole-language instruction ensures teachers and parents that their students have the greatest opportunity of learning to read. However, after years of reading instruction research, some studies still indicate achievement gaps in reading between males and females and between different ethnic groups.

The Achievement Gaps in Gender and Ethnicity in Reading

Gender and Reading

According to Logan and Johnston (2010), girls consistently outperform boys on tests of reading comprehension, although the reason for this is not clear. In their study, these researchers examined the following aspects of reading: differences in behavioral and motivational factors, differences in cognitive abilities, differences in brain activation

during reading, and differences in reading strategies and learning styles. The review of literature by these researchers showed regardless of type of reading instruction children received, girls outperformed boys in every country studied. Logan and Johnston found there was evidence suggesting boys and girls have naturally different reading approaches and benefit from different instructional strategies. The researchers did find one study that found gender differences in reading favored boys. In that study, Johnston and Watson (2005) found that a systematic synthetic phonics method revealed a gender difference, which favored boys with equal overall attainment in reading comprehension.

Some researchers, however, believe gender differences are more closely tied to attitude than other attributes. In the study about gender and reading ability, Logan and Johnston (2009) investigated gender differences in the relationship between reading ability, frequency of reading, and attitudes and beliefs relating to reading and school. In a large sample of 10-year-old children who completed a reading comprehension test and a questionnaire, the researchers found girls had better reading comprehension, read more frequently, and had a more positive attitude toward reading and school. Smaller gender differences were found in reading ability than in attitudes and frequency of reading. Effect sizes for gender differences in reading were found to be small. Reading ability correlated with both boys' and girls' reading frequency and competency beliefs, but only boys' reading ability was associated with their attitude to reading and school. Gender differences were found predominantly in the relationship between factors, rather than in the factors themselves. The analysis of variance revealed girls were significantly better at reading with an effect size of 0.01. Girls reported reading significantly more often than boys with an effect size of 0.09. Girls also reported borrowing books from the library

more often than boys with an effect size of 0.09. After controlling for reading ability, girls showed a significantly more positive attitude to reading. Effect sizes were relatively small for attitudes to reading (0.04) and attitudes to school (0.06). Both genders showed high correlations between all areas relating to internal thoughts and feelings, but only boys' attitudes toward school were significantly related to their perceived academic support. Logan and Johnston suggested boys in particular would benefit from the combination of teaching aimed at improving reading, with the promotion of positive attitudes and greater confidence in abilities. In addition, the researchers concluded boys' perceived academic support from teachers and peers could be used to promote more positive attitudes in school.

Teachers who understand how the learning style of boys differs from the learning style of girls can leverage that knowledge by applying it to all students (Costello, 2008). According to the results of the National Assessment of Educational Progress (2012) in 2004, boys who have made it through 12 years of school have significantly poorer reading skills than girls of the same age do. For more than 30 years on United States Department of Education reading tests, boys have scored lower than girls have every year. The longer boys are in school, the wider the reading gender gap grows. Brain research is critical, according to Costello (2008), to inform instructional strategies that are gender-based. Males and females process information differently. Costello noted boys take longer to learn how to read, are less able to sit still while reading, tend to read less frequently, place less value on reading, and score lower on reading tests. Not surprisingly, boys and girls also have different tastes in reading materials. He found boys like nonfiction, stories with action and adventure, stories with male protagonists, and a

wider variety of reading materials including books, magazines, newspapers, how-to manuals, web sites, comic books, and graphic novels. Costello recommended using single-gender reading activities to motivate boys. He also supported the use of male role models for reading, read-alouds, and oral readings as being beneficial for boys.

Gender differences for poor reading are not new but date back more than 100 years (Limbrick, Wheldall, & Madelaine, 2010). Even in 1910, 85% of struggling readers were boys. Limbrick et al. utilized a large-scale assessment to examine gender ratios for poor performance. They reviewed a large number of studies reporting gender ratios for poor reading and found considerable differences among studies in terminology, methodology, selection severity, and sampling. Limbrick et al. attested that variables such as behavior and attention are confounding and inflate the difference between genders. Another reason for the greater proportion of males as low performers is related to the distribution of reading scores for boys. A greater variability exists in boys' reading scores than in girls, which results in more boys scoring in the tail of the distribution. Consequently, this means more boys are identified as poor readers according to this research panel. Limbrick et al. argued the use of a large-scale assessment might help alleviate some of the inconsistencies in measuring reading ability. Their study included more than 1 million third, fifth, seventh, and ninth grade students in schools in Australia. The measurement instrument was the National Assessment Program Literacy and Numeracy: Achievement in Reading, Writing, Language Conventions and Numeracy. For their study, they defined poor reading as scoring in the lowest band. In all levels, boys had significantly lower means for reading than girls did. The sample sizes were extremely large in this study, which caused even slight differences between boys and girls to appear

statistically significant. Because of this, effect sizes were calculated for gender differences for each scale by year level. For reading, effect sizes for gender were generally small. Differences in reading between boys and girls appeared to be negligible and decreased over time. In all year levels, more boys than girls scored in the lowest band for reading. Gender ratios were calculated for all scales by year level. Little variation existed in gender ratios for reading across year levels. Limbrick et al. (2010) cited many other studies using large-scale assessments, which also concluded mean gender differences for reading were negligible when consistently measured. They ascertained assumptions made about poor reading based upon gender have arisen due to a lack of consensus in definitions and measurements of reading.

Entwisle, Alexander, and Olson (2007) found boys who are not on meal subsidies do about the same as girls, but boys of poverty did not perform as well as girls of poverty in this study. The researchers attribute this gender gap to teachers' low ratings of classroom behavior and reading skills for boys on meal subsidies as well as their parents' lower expectations for boys' school performance. In other words, how parents and teachers treat boys can impact their reading comprehension. This study pointed out the critical first-grade transition in relation to gender gap and some of its long-term implications.

Williams (2006) cited the opinion of some (i.e. Haas, Tulley, & Blair, 2002) that girls may be mastering literacy but not the literacy skills connected to their daily lives or that are truly valued in culture. His research included a study by Marsh (2003) that revealed girls' success in outdated school-sanctioned print literacies may limit their expectations and perceptions of what they believe literacy can be. Williams (2006)

asserted girls might simply become rule followers and test takers but not be willing to take risks or experiment with reading in a manner that would allow them to advance their comprehension in relevant ways.

Prado and Plourde (2011) stated there were significant differences in the way boys and girls learn how to read. Being aware of the differences and the reasons for the differences can help educators become more effective and proficient in teaching all students how to read. They agreed with many researchers that reading comprehension is a process. Because reading is a process that develops over time, according to Prado and Plourde, it is important to know all of the factors affecting how a child achieves literacy. Brain development and hormones play significant roles in reading attainment. Their quasi-experimental study employed a single-group pretest-posttest design in order to determine if there would be an increase in the reading comprehension of the subjects when they were explicitly taught certain reading strategies. Boys showed a significant gain from pretest to posttest; a significant gain existed for girls as well. No statistical significance existed, however, in how the boys performed in comparison to the girls. Yet again, there was a greater variance in boys' scores than in girls' scores. The study cited Haertel's 1986 study that determined reasons for differences between the genders could be attributed to many things that have nothing to do with gender such as previous instruction, motivation, effort, parental support, and mental ability. Prado and Plourde (2011) concluded it is not appropriate to use a one-size-fits-all method of teaching in the classroom when research demonstrated the same method does not work for everyone. This sentiment does not only apply to gender differences but also to learning differences between ethnic groups.

Ethnicity and Reading

In examining learning differences based upon ethnicity, many studies have been conducted between Caucasians and African Americans. Limited studies have addressed learning differences between Caucasians and Latinos. Hemphill and Rahman (2011) reported achievement gaps between Hispanic and Caucasian students in public schools in both math and reading on the National Assessment of Educational Progress. In reading, fourth and eighth grade reading achievement gaps between Caucasians and Hispanics did not change significantly from 1992 to 2009. Both groups showed increased reading achievement over the years, but the gap between groups did not decrease significantly during the No Child Left Behind era. Gaps between the two groups were between 25 to 36 points each year in reading achievement in grade 4 and between 24 to 27 points each year in reading achievement in grade 8. Hemphill and Rahman indicated factors such as low-economic status and language proficiency are possible causes of the learning differences for Hispanic students in reading. In 1992, Arkansas showed a gap of 18 points between Hispanic and Caucasian fourth grade students in reading scores on the National Assessment of Educational Progress. In 2009, the gap was 22 points. In Grade 8, Arkansas' Hispanic students averaged nine points lower than their Caucasian peers in 2003. In 2009, that gap was 18 points.

Reviewing that same report, Webley (2011) asserted that the numbers insinuate the relentless gap has more to do with the language barrier among the limited English subset of that group. The report indicates there are approximately 4 million Hispanic students in public schools whose primary language is not English. Hemphill and Rahman (2011) showed an even larger difference between those students, known as English

language learners or ELL, and their Hispanic classmates who are proficient in English. For example, in eighth grade reading, the discrepancy between ELL Hispanic students and non-ELL Hispanic students was 39 points, or roughly four whole grade levels.

Webley (2011) gave credit to Florida for that state's success in educating Hispanic students. The state has one of the highest Hispanic populations in the nation, and yet 31% of their Hispanic students score proficient or advanced on the state test. Florida's Public Schools Chancellor Michael Grego credited their success to rigorous standards for all students, professional development focused on instructing non-English speakers, and programs such as dual language classes where English speakers learn Spanish and vice versa. Rigorous curricula may be a key ingredient missing from some Hispanic-focused programs. Webley cited Kati Haycock (2001), president of the national policy group Education Trust, who many times has claimed that disadvantaged students are not expected to perform well. Consequently, they only reach the low bar set for them rather than being pushed to a high level. Haycock called for equally demanding assignments for all students as a possible solution for increasing the achievement levels of Latinos and other lower performing groups.

Nunez and Murakami-Ramalho (2012) recognized the gap between Caucasians and Latinos and asserted that ensuring higher numbers of Latino students succeed and thrive in education is critical to this country's future. Their study revealed the political, economic, and social climate in the country has become somewhat hostile toward Latinos in many places with the emergence of policies opposed to immigrant rights, affirmative action, and ethnic studies programs. The authors claimed many Latinos list schools more often than workplaces or other public places as discriminating, and that such

discrimination, as it has for African Americans, negatively affects Latinos' academic achievement and the probability of going on to higher education.

These negative consequences are reflected in Viadero (2010) who reported on data reviewed as far back as 1996 for fourth and eighth grade reading tests administered by the National Assessment of Educational Progress. Viadero noted achievement gaps widened, stayed the same, or declined insignificantly between many groups including Caucasian and disadvantaged minority students and between English-language learners and their English-speaking counterparts. Viadero's report stated the No Child Left Behind legislation is actually irrelevant in this performance by students. He referred to a statement by Jonathan A. Plucker, Professor of Education and Cognitive Science at Indiana University, who said No Child Left Behind legislation did not set the bar very high for states because most states do not require a high level of achievement for students to be judged as proficient in literacy or math. Viadero went on to say it would take 92 years for English-language learners to equal non-English language learners at the current rate of change. Viadero quoted Plucker's challenge of policymakers' hope that "a rising tide would lift all boats" (p. 6).

A difficulty that has resulted from the increasing number of Hispanics is how to meet the needs of English language learners. An ongoing debate revolves around whether dual language instruction is needed. In her study, Gorman (2012) cited a critical need for greater insight into the reading development and difficulties of many Hispanic students who are English language learners. Through her study of kindergarten students, she concluded phonological awareness instruction and strong vocabulary skills in the student's primary language benefit reading ability in both languages. Gorman found

relationships exist between vocabulary size, storage and processing components of working memory, and phonological awareness development in both languages of English language learners. She claimed her research has important educational implications for instructing English language learners, acknowledging that there are limitations in measuring and comparing skills in different languages. She recommended an integrated or balanced approach be utilized in the reading instruction of English language learners with a strong emphasis on vocabulary.

A further study of the issue by Tong, Lara-Alecio, Irby, and Mathes (2011) explored oral and reading development in Spanish and English for 70 first grade Hispanic English-learning boys and girls. These students received a longitudinal structured English intervention composed of 70% Spanish and 30% English; a comparison group of 70 boys and girls was used as a control. Two key components were included in the treatment: (a) instruction was conducted through two languages, and (b) only one language was used during periods of instruction, with the exception of specific clarifications that were in scripted lessons. Students were assessed at the beginning of kindergarten, the beginning of first grade, and at the end of first grade. Results demonstrated, on average, treatment students scored significantly better in dual oracy and Spanish literacy than the control group. Even when controlling for gender, the treatment contributed to a larger proportion of the variance in scores. This study was limited in that it could only be generalized in districts with similar demographics and not beyond the first grade. In addition, mobility rate played a major role in this study because the results were reported only for students who were continuously enrolled for the entire 2-year period. The researchers quoted the National Center for Education Statistics' prediction that by the year 2030, English

language learners will be one-fourth of all young children in the United States. These students face the challenge of acquiring proficiency in English while learning literacy skills to succeed in school. Schools are challenged to provide quality instruction to these students.

Earlier, Carlisle and Beeman (2000) found children taught in Spanish did not differ from those taught in English on English reading and writing but were significantly stronger on Spanish reading and writing. They also found being taught literacy in Spanish contributed to performance in Spanish reading comprehension but being taught in English did not have the same positive effect on performance in English reading comprehension.

Another complicating factor involves miscues and decoding in second language learning. Miramontes (1987) studied reading miscues of Hispanic fourth, fifth, and sixth grade students in California. This research, primarily aimed at avoiding mistakes in assessing learning disabilities in Hispanic students, found significant differences in decoding ability of students whose first reading language was Spanish and those whose first reading language was English. Miramontes found the determination of a learning disability for the students might have been based on a lack of overall English proficiency rather than on a reading disorder. The researcher concluded there might be some reading strategies that are language specific. Good Spanish readers consistently used decoding skills with greater adherence to the text in both languages than did good English-only readers. Students were also able to transfer the decoding strategies to English reading. The miscues of good readers of English, however, did not closely adhere to the features of the text, suggesting decoding strategies may not be particularly effective in English.

Thus, it seems reasonable that a phonics approach to instruction in English for Spanish literate students would tend to reinforce erroneous assumptions about the nature of English reading. In addition, because a phonetic approach also focuses attention on the pronunciation of words, pronunciation and intonation differences of a nonnative speaker in the process of acquiring oral fluency in English may be perceived as a lack of reading proficiency. Lopez and Velasco (2011) agreed with Nunez and Murakami-Ramalho (2012) about the difficulties Latino children face in education. Many Latino children are also children of poverty. In fact, Lopez and Velasco assert that more children of Latino families are living in poverty than were children of any other racial or ethnic group. According to these researchers, since 2007, poverty rates among Latino children have increased the most.

Such demographic shifts have led to studies such as Project Athena: A Pathway to Advanced Literacy Development for Children of Poverty (VanTassel-Baska & Stambaugh, 2006). Although the project focused on several skills, the one relevant to this study was reading comprehension. The purposes of the study included implementing, refining, and extending research-based language arts curricular units in Grades 3-5, training teachers and administrators, developing and implementing instrumentation sensitive to low-socioeconomic learners for the purpose of identifying and assessing learning, and conducting research on short-term and longitudinal student learning gains. Researchers used alternative assessments to measure the full potential of students of poverty to determine what needed to be done to bring them to proficient levels of reading. A random sample of 2,113 students across 3 years and 39 experimental and 38 control teachers were involved. Twenty-four lessons were implemented over a three-month

period at grades 3, 4, and 5. Researchers used a pre- and posttest design to assess students' growth gains in the dimensions of critical thinking, general reading comprehension, specific curriculum-based proficiency in literary analysis and persuasive writing, and state proficiency in language arts. Tests included the Test of Critical Thinking, the Iowa Test of Basic Skills (Hoover, Dunbar, & Frisbie, 2005) reading comprehension subtest, and performance-based reading and writing assessments modeled after the National Assessment of Educational Progress (2012) in reading. Teachers were observed twice each year to ensure fidelity of implementation of the curriculum and to assess the degree of effectiveness in using differentiated strategies that promoted higher-level thinking and problem solving. The experimental students performed significantly better than control students did in reading comprehension. Gender differences were minimal. All ability groups and ethnic groups showed significant growth gains from using the curriculum. Experimental teachers scored significantly higher on both the frequency of use and effective use of differentiated strategies across both years.

VanTassel-Baska and Stambaugh (2006) concluded children from poverty backgrounds could develop literacy through a systematic approach that involves high-powered curriculum, which is married to the use of powerful teaching and learning models and linked to various ways of assessing to gauge the level and extent of accumulated learning.

However, discrimination in reading instruction is not limited to people but includes materials as well. As early as the 1830s, the McGuffey Readers became widely used and influential with a focus on religion, moral, and ethical principles that portrayed White, Anglo-Saxon, and Protestants as the model American (Public Broadcasting Service, 2001). As immigration increased, a movement evolved to educate all children in

public schools using public funds regardless of race or ethnicity. Revisions have occurred over the years to make the textbooks more sensitive to national issues of culture and diversity. The McGuffey text is still considered by many as a remarkable literary piece. Some school systems and home schooling programs still use the text today.

It is no surprise that discrimination in education has been an issue in courtrooms across the nation for many years. When desegregation of public schools was forced, it was only because individuals chose to stand for what they believed was right and just (National Museum of American History, 2010). The intent of desegregation was to redistribute resources to ensure equal access. However, research by Rumberger and Willms (1992) suggested African-American segregation has only declined slightly since the 1960s, and Hispanic segregation has in fact increased.

According to Thernstrom and Thernstrom (2003), as early as the 1900s, approximately 2 million immigrant and nonimmigrant Hispanic (mostly Mexican) children under the age of 15 found themselves working in industry, agriculture, and service industries in the United States. In many cases, these children were denied the opportunity to receive an education. Adverse conditions took a toll on opportunities for Hispanics. Thernstrom and Thernstrom went on to report by the 1960s, about two-thirds of the Hispanic population was illiterate. Since the 1970s when there was a tremendous growth of legal immigration from Mexico, the numbers have continued to grow contributing to a sense of urgency to ensure a high quality educational program for all children in the United States (Center for Immigration Studies, 2010). Although most studies have focused on the achievement gap between Caucasian and African-American students, the gap between Caucasian and Hispanic Americans is also significant.

Gunn, Smolkowski, Biglan, and Black (2002) conducted a follow-up study that experimentally evaluated the effects of supplemental reading instruction for children in kindergarten through third grade. Hispanic and Non-Hispanic students in early elementary school were the participant groups. Effects were analyzed with 2 x 2 analyses of variance on three reading measures: letter-word identification, word attack, and oral reading fluency. The effect of instruction and its interaction with ethnicity was first examined. Because of policy implications, effects for Hispanic children alone were examined. Because students were distinguished by ability to speak English and only 16 or 17 non-English speaking children were included, the findings must be interpreted with caution because of the possibility of a Type II error. Differences between treatments were larger for students who were non-English speaking than those who spoke English at the onset of the study. Overall, the results supported the use of supplemental reading instruction for children in Kindergarten and Grades 1-3 and provided evidence of the effectiveness in improving reading ability of children at risk for reading difficulty. Hispanic and non-Hispanic children benefitted comparably from instruction. Regardless of students' initial English language ability, supplemental instruction enhanced word attack and the higher level literacy skills of oral fluency and passage comprehension. The findings suggested children's dominant language at the time of instruction was not a factor in their ability to benefit from instruction. In conclusion, supplemental instruction could prevent reading failure among Hispanic and non-Hispanic children.

Johnson (2002) asserted, "We must aim to create a nation of high achievers regardless of background" (p. 5). Closing the achievement gap will require dispelling the myth of academic inferiority and lack of motivation that result in inequities in

expectations, access, and rigor in classrooms across the nation. Thus, teacher quality in the light of existing research must be addressed.

Teacher quality is one of the most crucial factors affecting student achievement, especially among minority children. The National Commission on Teaching and America's Future (1996) advocated providing highly qualified teachers as the single most important influence on improving student achievement and closing the gap. Most often, the low-income and lowest performing students get the least qualified teachers, those who lack experience, content knowledge, and adequate teaching skill (Haycock, 2001; National Commission on Teaching and America's Future, 1996). In some supplemental reading programs, paraprofessionals who have less than adequate training may instruct these low-performing students.

Even so, momentum has grown over the last two decades for a focus on standards-based education, including reading instruction. Educators are challenged to ensure that instruction acknowledges culture and is intentionally relevant to increase student engagement and affect student learning, specifically among African American and Hispanic students (Brandt, 2000; Ladson-Billings, 1994; Lindsey, Robins, & Terrell, 2003; Thompson, 2004).

An Examination of Direct Instruction Reading

Moore (2012) pointed out, "reading instruction is most effective when teachers provide students with direct and explicit teaching" (p. 1). A strong advocate of the Direct Instruction model, Moore went on to call Direct Instruction "an exemplary model that allows teachers to scaffold instruction, gradually shifting and releasing responsibility for learning from themselves to the students" (p.1). He believed that teachers who use the

method clarify concepts and expose strategies such as modeling and thinking aloud. He saw it as a useful tool to teach students about how to make inferences or determine the importance of ideas in a text. By clarifying these concepts, the teachers reveal the secrets of what proficient readers do, which is a mystery to too many students.

Speaking of secrets, Lindsay (2004) called Direct Instruction the "dirty little secret from the biggest education study ever" (p. 1). The large scale federal research project that funded and examined multiple approaches to educating disadvantaged students from kindergarten to third grade was entitled *Project Follow Through* (Engelmann et al., 1988). The project began in 1967 under President Lyndon Johnson and was an endeavor to lead to a reduction in the disparity between low- and high-performing students by improving the performance of low-performers. The project was concluded in 1995 after using a billion dollars and conducting research on more than 20,000 students across the nation. The reading portion of the study involved more than 15,000 students and was designed to test the effectiveness of three major models of reading instruction. Results from this project revealed Direct Instruction was the most effective approach in all three areas studied: basic skills (reading, language, spelling, and math), cognitive skills, and affective behavior. In a meta-analysis by Adams and Engelmann (1996) of 34 studies meeting methodological rigor and conducted between 1972 and 1995 with 173 comparisons between Direct Instruction and non-Direct Instruction groups, 87% favored Direct Instruction. The mean effect size was 0.97, a large effect size. The researchers also examined studies that tracked Direct Instruction students into later grades. Several of those studies reported Direct Instruction students continued to outperform control students in middle and high school.

Stockard joined with Engelmann (2010) in studying the impact of Direct Instruction's Reading Mastery (Stockard & Engelmann, 2010). Data from two different sites were used to examine how exposure to Direct Instruction related to growth in beginning literacy and early reading skills from kindergarten through the end of third grade. One site compared schools using Direct Instruction's Reading Mastery versus schools using Open Court. The other site compared students exposed to whole language in kindergarten and Reading Mastery beginning in first grade with students who had Reading Mastery in Kindergarten through third grade. Results favored Direct Instruction's Reading Mastery at both sites with students in Reading Mastery having significantly greater growth. Other studies by Stockard (2008, 2010, 2011) revealed similar results favoring the use of Direct Instruction for effective reading instruction for beginning reading as well as its long-term impact in later grades.

Becker and Gersten (1982) conducted a quasi-experimental follow-up study of *Project Follow Through*. Five diverse sites were examined. Low-income fifth and sixth graders who had completed 3 years of Direct Instruction were tested using the Metropolitan Achievement Tests. Results indicated consistently strong, significant effect in reading scores. Students appeared to retain the knowledge they had mastered in the primary grades. However, without a continuing program, most students demonstrated losses when compared to the standardization sample of the achievements tests. Implications for improved instruction in the intermediate grades were discussed.

Becker (2001) continued to look at Direct Instruction. He labeled the teaching of reading and language competencies as the heart of the War on Poverty, which began in 1964. He emphasized in his writing that *Project Follow Through* was about children and

finding out what works for them. He believed poor children could succeed in school when better teaching models are used. According to Becker, the Direct Instruction Model has demonstrated children from low-income homes can be taught at a rate sufficient to bring them up on most achievement measures to national norms by the end of third grade. He conceded the model did fall somewhat short in the area of reading comprehension. He went on to say a magical solution is unlikely. Low-performing children from homes that do not contribute to the growth of vocabulary or concepts have little hope of being adequately prepared for the vocabulary they encounter by the fourth grade. However, language learning does not end at the third grade. Programs can be developed, or so Becker said, that would teach vocabulary-concept knowledge in a systematic way throughout the school years.

Gersten and Carnine (1986) examined the applicability of Direct Instruction for teaching reading comprehension to students at the intermediate and secondary levels. The researchers found the explicit strategies of the Direct Instruction model created a shared language between teachers and students, which all teachers could use when correcting errors. Many teachers simply do not know what to say without a shared language script. A common language for instruction is an effective school strategy. Studies were conducted with low-performing students, average students, and high-performing students. Classroom observations revealed teachers need guidance in teaching students to make sense of what they read. The type of questions, the detailed systematic breakdowns, and the extensive practice with a range of examples significantly benefited students' reading comprehension. These procedures are integral in the Direct Instruction reading program.

The Promising Practices Network (2012) reviewed 17 studies of Direct Instruction, which used rigorous study designs. Eight were quasi-experimental studies, and nine were randomized trials comparing students who received Direct Instruction or a different program. Like groups were formed in terms of ability. Several of the studies evaluated long-term effects ranging from 1 to 20 years, and grade levels ranged from preschool through the sixth grade. Students from regular as well as special education classes were included, along with students from various ethnicities, and urban as well as rural settings were involved. Of the 17 studies, 4 studies reported statistically significant results finding in favor of Direct Instruction in contrast with a comparison program. Eight studies reported mixed findings for the effects of type of instruction, with Direct Instruction students outscoring comparison students on some measures without reaching statistical significance. One study (Yu & Rachor, 2000) involving fourth through sixth graders showed a positive impact from Direct Instruction in the highest grade, particularly in the content area of reading. In the fourth grade, students in the control group outperformed the Direct Instruction group in reading proficiency scores between pre-test and post-test, but no significant gains in reading proficiency scores were noted at the fifth grade. However, a statistically significant difference was found in gains in reading proficiency scores for sixth-graders, with Direct Instruction students improving by a greater amount than control students did. Of the remaining four studies, all investigated reading ability of students with disabilities, and all showed no significant effects based on instructional method (Cole, Mills, & Dale, 1989; Mills, Dale, Cole, & Jenkins, 1995; Richardson, DiBenedetto, Christ, Press, & Winsberg, 1978; Traweek & Berringer, 1997).

Tobin's (2004, 2009) studies of Direct Instruction involved first graders as well as third and fourth graders. In his first grade studies in 2004, he found students came to first grade with comparable levels of early reading skill. However, at the end of first grade, students who were taught with the Direct Instruction material significantly outperformed students who received instruction in a conventional reading curriculum on measures of basic reading, word reading efficiency, and general reading skills. Students also maintained and even increased their performance 2 and 3 years later on state-mandated tests. Differences between the Direct Instruction groups and the other group were very large. One limitation to this study, however, included non-randomized assignment of participants because the teachers volunteered and students were selected based on their assignment to volunteer teachers' classrooms. Another limitation included a small sample size. In another study, Tobin (2009) compared first grade students in two elementary schools. Three teachers used Direct Instruction and three teachers utilized the Guided Reading approach. A pretest was administered in the fall, and no significant differences were found between the two programs. However, a significant difference favoring the Direct Instruction model was evident on phonemic segmentation fluency. Data were collected and repeated measure ANOVAs were conducted in the winter and spring. In the analysis of phoneme segmentation fluency, an interaction effect favoring Guided Reading was demonstrated, but nonsense word fluency showed a very small effect size favoring the Guided Reading program. However, oral reading fluency showed a large effect size of 0.92 favoring students in the Direct Instruction program over students in the Guided Reading program. Both programs generally improved reading performance over time.

Coughlin (2011) reported on an updated meta-analysis of the effectiveness of Direct Instruction programs. Although her association with the National Institute for Direct Instruction may create suspicions of bias, her report warranted inclusion in this review because of its magnitude. Her report presented preliminary results of 20 studies of Direct Instruction since the Adams and Engelmann's study in 1996. The average effect size for reading was 0.56. Overall, on average, Direct Instruction programs resulted in moderate to large effect sizes. Effect sizes consistently surpassed the level deemed educationally important by Fashola and Slavin (1997).

Kamps et al. (2007) compared supplementary, small-group instruction in six elementary schools. All schools served large numbers of English language learners. Groups were exposed to Direct Instruction reading versus an English as Second Language approach using balanced literacy. Results indicated higher gains for English language learners enrolled in direct instruction interventions. English language learners receiving the Direct Instruction supplementary instruction showed significant gains on the Dynamic Indicators of Basic Early Literacy Skills (2012) assessments for decoding and oral reading skills.

At the middle school level, Shippen, Houchins, Steventon, and Sartor (2005) examined the differential effects of two Direct Instruction reading programs, one with overt decoding strategies and one with more covert decoding strategies on the reading achievement of struggling seventh graders. Students in this study were 2 to 4 years behind in reading achievement according to standardized tests. Results indicated after a six-week reading intervention, all students made significant gains in reading, regardless of overt or covert Direct Instruction programs. The only difference in effect was

demonstrated in the area of reading rate or fluency. This research is considered significant because the participants were struggling readers.

In the third chapter of their book, Engelmann and Adams (1996) cited what in their opinion are eight myths about Direct Instruction, addressing some of the criticisms against the program. Myth 1 was Direct Instruction programs are rigid and unenlightened because they treat all instructional tasks as if they have right and wrong answers. Engelmann and Adams called this myth an excuse for a poor analysis of the subject to be taught. They noted that with a well-designed program and knowledge of the subject, correct answers or acceptable responses are easily specified. Myth 2 noted Direct Instruction programs are spurious because they are based on the hierarchies of skills, but there are no universal skill hierarchies. Engelmann and Adams argued the necessity of hierarchies is easily demonstrated in any subject. They countered that this criticism of Direct Instruction comes from those who do not believe there should be systematic preparation. Direct Instruction programs are hierarchical, which simply means that the learning is measured out in small, progressive amounts. The third myth involved the concept that Direct Instruction programs eschew developmental progression and developmental theory. The authors asserted Direct Instruction holds to the theory that developmental readiness is defined by comparing the child's performance to the goal behaviors. The difference indicates what the child must learn to achieve the goal. Direct Instruction begins where the child is and addresses the skills needed to reach the goal. In addressing Myth 4, the researchers claimed some teachers felt the program's scripted presentations and predetermined lessons stifle teachers' creativity. Engelmann and Adams held the creativity of the teacher is often confused with the creativity of the

students. The creative potential of students is limited by what they know. The first job of any teacher is to teach basic skills and knowledge, and skills naturally lead to creativity.

Of the eight myths, Engelmann and Adams (1996) presented Myth 5 as Direct Instruction programs are only appropriate for low performers. Engelmann and Adams contended if one is able to teach a complex skill, such as reading, to lower performers, it is much easier to teach that same skill to higher performers. They observed any instructional sequence that is effective with low performing students would equally be effective with high performing students. Myth 6 proposed Direct Instruction programs promote passive learning. Engelmann and Adams agreed that Direct Instruction students might indeed become dependent on the teacher as the source of information and skill. This does not necessarily mean they lose the ability or desire to learn on their own. According to these researchers, students learn how to learn through mastery. The seventh myth was Direct Instruction ignores individual differences. Direct Instruction programs have provisions for placing and accelerating students. Engelmann and Adams noted multiple-entry points and in-program assessments measure mastery, and remedies are specified for unacceptable performance. Surplus practice opportunities expand mastery and use of learning. Finally, Myth 8 stated it is possible to use effective-school practices to achieve results as good as those achieved with Direct Instruction. Engelmann and Adams chided this myth results from confusion between causation and correlation. They continued Direct Instruction content is often assumed to involve rote learning, not higher-order thinking, and this judgment is because students are responding orally in a regimented fashion. Engelmann and Adams acknowledged it is possible to teach content

(reading) without using Direct Instruction, and it is possible to use Direct Instruction ineffectively. Success of students depends largely on what teachers do.

Schieffer, Marchand-Martella, Martella, Simonsen, and Waldron-Soler (2002) insisted the need to teach reading is crucial. Three focal areas of effective reading instruction are oral language, decoding, and comprehension. In their review of the Reading Mastery program (Direct Instruction), they reported the National Reading Panel's work in recommending components of reading instruction based upon 15,000 scientific studies conducted prior to 1966 and another 100,000 between 1966 and 1998. Direct Instruction Reading Mastery and other programs including Reading First incorporate those components.

The Wisconsin Policy Research Institute Report (Schug, Tarver, & Western, 2001) cited two conclusions by James H. Miller, President of the Wisconsin Policy Research Institute, about the use of Direct Instruction. First, Direct Instruction has been a more effective program when teaching children, especially poor children. Second, the program has been much more cost efficient for taxpayers. Miller concluded money should be spent on reading programs that work rather than wasting millions annually on trendy programs that have failed in the past, are failing in the present, and are likely to fail in the future. According to Miller, the Wisconsin Policy Research Institute Report was one of the most important projects ever funded by the institute. The report addressed the teaching of early reading and specifically Direct Instruction as a method proven to work. The report questioned why some educators ignored or misrepresented Direct Instruction and emphasized over 25 years of significant research forms a solid base for use of Direct Instruction. The report acknowledged training might have been ineffective

leading to confusion about how Direct Instruction works. Schools were visited in which Direct Instruction was implemented, and the observations revealed Direct Instruction looked as good in practice as it read on paper.

Direct Instruction takes time to learn and is expensive when it comes to training. Some district-level specialists oppose the program because it is so expensive to implement. According to the researchers, potential cost savings from the decreased need for remedial reading programs because children learn to read in the early grades should be viewed as an investment worth making. Schieffer et al. (2002) agreed the most effective beginning reading curricula available should be used with students. They maintain Reading Mastery (Direct Instruction) is that model curriculum. However, some are not sold on Direct Instruction noting the model reading curriculum evolved from the No Child Left Behind legislation in the form of the Reading First program.

An Examination of Reading First

Reading First was a federal grant program for states (Scholastic, 2012) created to encourage the use of scientifically based research as the foundation for K-3 reading instruction and was what many labeled the cornerstone of the Bush administration's education legislation. The goal of the legislation was to have every student ending the third grade as a reader, and each state could apply for grant funds to help forward this goal. The foundation of the Reading First program was its five essential components of standards-based reading instruction. The components included phonemic awareness, phonics, fluency, vocabulary, and comprehension (United States Department of Education, 2008). The heart of the initiative was the conviction that scientific research should inform reading instruction. According to the United States Department of

Education, students taught with Reading First from nearly every grade and subgroup have made impressive gains in reading proficiency, with many states reporting gains of five percentage points or more.

Moss, Jacob, Boulay, Horst, and Poulos (2006) prepared an interim report on Reading First implementation. The Reading First program's goal was to improve the quality of reading instruction and improve the reading skills and achievement of children in the primary grades. Legislation called for use of an outside entity to evaluate the program's implementation. Key findings of the evaluation were based upon the following data. First, 6,185 kindergarten through third grade teachers, 1,574 principals, and 1,318 reading coaches in nationally representative samples of 1,092 Reading First schools and 541 non-Reading First Title I schools completed surveys in the spring of 2005. Second, interviews were conducted with Reading First state coordinators, and reviews were conducted of states' applications for Reading First awards. Third, a Reading First Awards Database was compiled listing all Reading First districts and schools as well as their baseline measures of K-3 reading performance and poverty rates. Fourth, researchers included the Education Department's School-Level State Assessment Score Database that provided measures of reading achievement and poverty for all school districts nationwide.

According to the report, Moss et al. (2006) noted Reading First schools appeared to be implementing the major elements of the program as intended by the legislation. Reading First schools received both financial and nonfinancial support from a variety of external sources. The report asserted classroom reading instruction in Reading First schools was significantly more likely to adhere to the Reading First legislation than Title

I schools. In addition, the report proposed Reading First teachers in three grades (kindergarten, second, and third) were significantly more likely than their counterparts in Title I schools to place their struggling students in intervention programs to improve reading. The report went on to say that although assessment played a crucial role in reading programs in both Reading First and non-Reading First Title I schools, principals in Reading First schools were significantly more likely to report having a reading coach than were principals of non-Reading First Title I schools. Reading First staff also received significantly more professional development than did Title I staff. In conclusion, the report found the preliminary evidence suggested that Reading First was being implemented in schools and classrooms as intended by the legislation, and for the most part, funds were awarded to appropriate schools and districts. They found states were providing appropriate supports including professional development related to reading.

The most recognized study examining Reading First is the *Reading First Impact Study* (Gamse et al., 2008) conducted by the National Center for Education Evaluation and Regional Assistance. The report presented preliminary findings of an evaluation of the federal government's \$1 billion-per-year initiative to help all children read at or above grade level by the end of the third grade. The evaluation was mandated by the No Child Left Behind (2002) legislation and encompassed Reading First funding in 2004-2005 and 2005-2006 in 17 school districts across 12 states and one statewide program with 18 sites. The report examined impact on students reading comprehension and teachers' use of scientifically based reading instruction. The key findings of the study (Gamse et al., 2008) included the following. First, on average, across the 18 participating study sites, estimated impacts on student reading comprehension were not statistically significant.

Second, on average, Reading First increased instructional time spent on the five essential components of reading instruction. Third, average impacts on reading comprehension and classroom instruction did not change systematically over time as sites gained experience with Reading First. Fourth, study sites receiving grants later in the federal funding process experienced positive and statistically significant impacts both on the time first and second grade teachers spent on the five essential components of reading instruction and on first and second grade reading comprehension. On the other hand, no statistically significant impacts existed on either time spent on the five components of reading instruction or on reading comprehension scores at any grade level among study sites that received their Reading First grants earlier in the funding process.

The *Reading First Impact Study* (Gamse et al., 2008) was commissioned to answer the following questions:

- What is the impact of Reading First on student reading achievement?
- What is the impact of Reading First on classroom instruction?
- What is the relationship between the degree of implementation of scientifically based reading instruction and student reading achievement? (p. 15)

The Interim Report addressed the first two questions only. The instrument to measure reading comprehension was the Stanford Achievement Test, 10th Edition (Pearson Assessments, 2012). An observation system developed by the study team was used to assess first and second grade reading classes for total daily minutes of instruction in the five components and minutes of supplemental instruction per day in each of the five components. They also gathered information concerning the percentage of 3-minute

observational intervals with instruction in the five components that incorporated highly explicit instruction and the percentage of three-minute observational intervals with instruction in the five components that involved high quality student practice. Student engagement with print was assessed beginning in the fall of 2005 through classroom observations using the Student Time-on-Task and Engagement with Print instrument to measure the percentage of student engagement in academic work reading or writing print.

Gamse et al. (2008) stated the following results from the *Reading First Impact Study*:

- Reading First did not improve students' reading comprehension.
- Reading First increased total class time spent on the five essential components of reading instruction promoted by the program.
- Reading First increased highly explicit instruction in first and second grades and increased high quality student practice in second grade.
- Reading First had mixed effects on student engagement with print.

Some limitations of the study involved how sites differed from each other in ways that potentially influenced the effectiveness of Reading First. Length of time since funded, levels of funding per student, and prior levels of reading performance made up some of the differences. The study found the impacts of Reading First on classroom instruction and student reading comprehension did not change consistently over time. The estimated impacts of Reading First were positive for late award sites and mixed for early award sites. The numerous differences between early award sites and late award sites may have contributed to some of the observed differences in Reading First results because only some of the differences were statistically significant.

The Reading First Federal Advisory Committee (2008) responded to the *Reading First Impact Study*. This committee, composed of leading professors and educators across the nation, recommended caution in interpreting results from the Reading First Impact Study Interim Report. They acknowledged the report had technical strengths yet had fundamental flaws that limited its use for informing policy decisions. Their reasons for reservations concerning the report included lack of random assignment and contamination of comparison conditions. The Reading First legislation called for random assignment; yet, in the districts studied, random assignment was not employed. The evaluation only included schools in districts that had received Reading First funds. Within those districts, comparisons were made between schools awarded grants and those not awarded Reading First grants. Districts were allowed to make the decision regarding which schools would receive funding, and this was not done randomly. Reading First's influence at the district level was not considered, and teachers who were in non-Reading First schools sometimes received the same training as those in Reading First schools.

Another concern of the study was the unrepresentative sample (Reading First Federal Advisory Committee, 2008). The *Reading First Impact Study* was based only on a sample of 2% of the local education agencies and schools that received funding under Reading First. They felt differences between the schools used in the Impact Study and the much larger population of schools funded under Reading First precluded generalizing any outcomes assessed by the study. Still, another limitation included the limited variables assessed in the Impact Study. They concluded the range of variables assessed did not provide a thorough or adequate analysis of the outcomes of Reading First. Members of the Reading First Federal Advisory Committee did not expect all states, local education

agencies, schools, or teachers would have equal outcomes; therefore, they wanted to know under what conditions greater success occurred. The committee found the Impact Study inadequate to make effective judgments on reading instruction but contended the growing body of research continues to substantiate the rationale for the Reading First program. They argued the Impact Study was not designed to evaluate the efficacy of scientifically-based reading assessment and instruction but specifically the Reading First program's impact. Other sources of information about Reading First were available for consideration such as the annual progress reports required of each state and territory and independent evaluation studies being conducted in each state. The committee went on to recommend that funding not be eliminated based solely on this report.

The American Institutes for Research (2007) reported for the U. S. Department of Education the *Reading First State Annual Performance Report* data. Data were reported for fluency and comprehension, grade levels, and subgroups such as economically disadvantaged students, English language learners, students with disabilities, and ethnicity. In addition, proficiency rates on state benchmark assessments were used. In Arkansas, Reading First Schools starting in 2003-2004 reported reading comprehension gains from 59.4% above the 40th percentile in 2004 in Grade 1 to 68.3% above the 40th percentile in 2007. All subgroups in this grade made significant gains in percent above the 40th percentile with the exception of Caucasian and Asian students who made little or no gains. In Grade 2, gains were smaller and some subgroups actually suffered losses in percentage above the 40th percentile. In Grade 3, significant gains were made including all subgroups. For schools starting in 2006-2007, scores were only reported for 2007, and scores were comparable to those in Cohort 1 for 2007. However, for fluency, gains were

not significant and rates actually decreased between 2004 and 2007 for grades 1 and 3. When comparing Arkansas scores to Alabama scores, the opposite was reported. Fluency in Alabama showed significant gains, and comprehension scores showed more meager gains.

Arkansas Department of Education contracted with the National Office for Research on Measurement and Evaluation Systems (2008) to conduct an evaluation of the state's Reading First schools. Arkansas was awarded Reading First funding on August 14, 2002, and the Arkansas Department of Education received an allocation of \$57.5 million for the first 5 years of implementation. By 2007, the state had spent \$43 million of the 5-year Reading First allocation. Reading First sub grants funded 89 schools in 58 districts, and schools were funded in two rounds called Cohort 1 and Cohort 2 schools. High poverty, low-performing schools received funds for reading coaches, professional development, assessment, and curriculum. The evaluative report described the intervention in Reading First schools and outlined how Reading First funds created statewide reading activities.

Vint (2009) also examined the Reading First program in Arkansas. She classified schools into funded Reading First and non-funded Reading First and matched control groups for both funded and non-funded schools. Researchers followed the schools for 3 years, first grade through the third grade, by obtaining data from the Arkansas Department of Education public website. A one-between one-within repeated measures MANOVA on Iowa's Test of Basic skills vocabulary, word analysis, and listening skills percentile rank scores was performed. Results indicated Reading First schools did not do significantly better than other schools using different approaches to teach reading.

Baker (2009) conducted a study at Tennessee Technological University to compare Dynamic Indicators of Basic Early Literacy Skills scores between students at Reading First schools and students at non-Reading First schools; gender was also addressed. The data were compared using a causal comparative ex post facto research design. A factorial ANOVA was conducted, and the results showed no significant differences in second grade DIBELS scores between Reading First and non-Reading First schools or by gender. This study cited other Reading First studies such as Ratcliff (2008), Hamlett (2008), and Hylemon (2005) who saw some gains in Reading First scores, but the gains were not large enough to be considered significant.

In comparison, results in Florida's Reading First schools showed significant improvements (Foorman, Petscher, Lefsky, & Toste, 2010). Five years of reading comprehension data in Florida Reading First schools were analyzed to measure student improvement, reduction in the achievement gap, efficacy of site visits to schools making no gains, and the effects of student mobility on growth in reading comprehension. State test data as well as Stanford Achievement Test data were studied. The percentage of students on grade level increased, and the percentage of students at high risk decreased over the 5-year period. However, no evidence of a significant narrowing of the achievement gap existed even though subgroups improved performance as well. In addition, students with learning disabilities showed a reduction in risk that was considered noteworthy by the researchers. Another important facet of this study was students who left a Reading First School showed significant reductions in growth in reading comprehension.

Bowers (2011) conducted a study of Reading First in the Lancaster School District in California regarding effective literacy instruction and intervention for at-risk African American students and English language learners. She cited the depth and quality of the Reading First program implementation at each of the sites as a limitation of the study. Bowers also noted she served as an upper-level administrator in the district and was involved in the development, implementation, monitoring, and evaluation of educational programs in the district and this might have unintentionally influenced her recommendations. The Reading First schools in this study between 2005 and 2009 showed more growth in reading than the non-Reading First schools at each grade level. A statistically significant difference in the data at all grade levels was evident when comparing Reading First and non-Reading First schools. For English language learners, a consistent pattern of statistical significance was revealed in all grade levels; for Hispanic students, a statistically significant difference was revealed in all grades except second. For African American students, the difference was statistically significant for African Americans in Reading First versus non-Reading First schools. For Caucasian students, no significant difference was reported between students in Reading First schools versus non-Reading First schools.

Bowers (2011) concluded those schools implementing the Reading First program produced a positive significant impact on literacy achievement of students. She also found the Reading First program promoted increased student achievement for English language learners, African American, and Hispanic students. She stated it is very likely that schools that fully implement a comprehensive literacy program, with fidelity, will have greater student literacy achievement outcomes. Recommendations for further study

by Bowers included an examination of the relationship between teacher preparedness and student achievement, an examination of the relationship between data-driven and student-centered professional learning communities and student achievement. Bowers also recommended a study of teachers and administrators to examine perceived value of professional development and a 10-year longitudinal mixed study to examine the sustainability of the Reading First program.

Conclusion

Politicians and educators are continuously faced with the challenge of examining the impact of educational gaps and less-than-desirable performance on society and the economy. How schools do business, communicate, process information, and process changes based on societal needs have changed dramatically over the last 50-60 years and have caused many to re-examine educational programs with added intensity. McKinsey and Company (2009) conducted research in a study titled, *The Economic Impact of the Achievement Gap in America's Schools*. Two alarming points emerged from the study relating to the economy. The first was if by 2008 the United States had closed the gap between African American and Latino performance and Caucasian student performance, the gross domestic product would have been between \$310 billion and \$525 billion higher. The second point was closing the gap between socioeconomically disadvantaged students (mostly composed of minority students) and the rest of the student population would have resulted in a \$400 billion to \$670 billion increase in gross domestic product.

In the light of this possible financial gain, Fullan (2003) argued each individual has a moral responsibility to ensure that all children are educated at high levels. Educators and those in political arenas must examine the policies and structures that

continue to reinforce the achievement gap. According to O'Connell (2006), every classroom contains future workers. The economy's health and the nation's security are at stake. Therefore, schools must address this simple fact: the population of students that is fastest growing is also the population that is lagging farthest behind.

According to Heibert and Pearson (2012), the No Child Left Behind law affirmed the belief of educators and politicians that certain skills are foundational to more advanced skills, including reading critically. Students need to learn the underlying patterns of written words. This law has focused educators' efforts on making sure all students have basic literacy skills. However, it has not produced the critical readers needed in today's society. The Common Core movement should not negate what has been learned from No Child Left Behind about effective reading instruction but should increase expectations for text complexity, especially in grades two and three. Heibert and Pearson affirmed there is little doubt the disappointing reading comprehension results from the No Child Left Behind era called for changes in early-grades literacy instruction. Third grade students who failed to recognize words on a third grade test were later four times more likely than their higher-performing peers to drop out of high school. No Child Left Behind (2002) brought attention to foundational skills that were lacking but did not view text as a source of knowledge like the Common Core initiative promises to do; at least, that is what proponents of the movement hope.

Boyles (2012) cited the Partnership for Assessment of Readiness for College and Careers (2011) with research linking the close reading of complex text to significant gains in reading proficiency and finding close reading to be a key component of college and career readiness for students. Williamson (2008) agreed with Boyles that too many

students are unprepared for the secondary world, especially in reading. In his study, he examined literature related to postsecondary readiness for further education, citizenship, the workplace, or the military. His definition of readiness included exposure to texts required after high school. Using the Lexile Framework for Reading (2012), Williamson found required high school reading displayed less complexity than reading required at the postsecondary level. He suggested students be provided support for learning and using reading skills necessary for postsecondary textual materials. His research called for an alignment between the reading demands of secondary and postsecondary education, which should facilitate a successful transition for students. Williamson said further extensive study is needed to compare student reading ability during high school versus student reading ability after high school and the readability of high school texts versus postsecondary texts. In addition, Williamson added comparisons are also warranted in the areas of student reading ability at any point in time versus text requirements at that point in time and student reading ability at a given point in time versus text requirements at a later point in time.

As Bowers (2011) stated, "Ineffectiveness in closing the achievement gap, coupled with a slow response in preparing students with 21st century learning skills, is perpetuating a growing divide between groups of individuals predicated on ethnicity, class, or socioeconomic status" (p. 178). Reading is a critical equalizer and has the potential to close the gaps that exist among minority students and their Caucasian peers. Reading is a moral obligation for educators who desire to ensure equitable access to higher education and better job opportunities for all students. As a nation, college and career readiness are the two focal points of the current educational movement. For these

reasons, this study examined the effect of two influential reading programs on reading comprehension by gender and ethnicity, defined by Hispanics and non-Hispanics.

CHAPTER III

METHODOLOGY

The review of literature presented evidence that Direct Instruction and Reading First, when implemented with fidelity and given adequate instructional time, have a positive effect on student achievement. The research implied both programs can be effective supplemental reading programs for students to learn to read. However, reading is a complex skill to learn, and reading comprehension may not necessarily accompany the gains in fluency as one learns to read.

The researcher asked three main questions in this study. First, to what extent do differences exist between two types of reading instruction, Direct Instruction supplemental reading instruction and Reading First supplemental reading instruction, on reading comprehension of third and eighth grade students in Southwest Arkansas? Second, to what extent do ethnicity and gender as independent variables interact with type of reading instruction on reading achievement? Third, if differences exist at the third grade level, to what extent do they exist in the eighth grade? From these variables, the researcher generated the following hypotheses.

1. No significant differences will exist by ethnicity (Hispanic versus Non-Hispanic) between third grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach

versus Reading First on reading comprehension measured by the Iowa Test of Basic Skills' Reading Comprehension subtest.

2. No significant differences will exist by gender between third grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension measured by the Iowa Test of Basic Skills' Reading Comprehension subtest.
3. No significant differences will exist by ethnicity (Hispanic versus Non-Hispanic) between eighth grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension measured by the Iowa Test of Basic Skills' Reading Comprehension subtest.
4. No significant differences will exist by gender between eighth grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension measured by the Iowa Test of Basic Skills' Reading Comprehension subtest.

The six goals of this chapter were to (a) explain the research design of this study, (b) describe the subject and explain the sample selection process, (c) identify and describe the instrumentation, (d) explain the data collection process, (e) provide a justification for the analytical methods used, and (f) note any limitations of this study.

Research Design

This quantitative research study employed a causal-comparative, non-experimental design using third and eighth grade students in five school districts in Southwest Arkansas who used either a Direct Instruction or Reading First as a supplemental reading instructional program. Because the reading methods were already employed in the school, no manipulation of the main independent variable was possible; thus, a causal-comparative approach was deemed most appropriate for this study (Johnson & Christensen, 2012). A posttest only, 2 x 2 between-groups factorial design strategy compared interaction effects and main effects of type of instruction, ethnicity, and gender on reading achievement for third and eighth grade students. This study used four 2 x 2 factorial ANOVAs, one for each hypothesis. The independent variables for hypotheses 1 and 3 were type of reading instructional program (Direct Instruction versus Reading First) and ethnicity (Hispanics versus Non-Hispanics). The independent variables for hypotheses 2 and 4 were type of reading instructional program (Direct Instruction versus Reading First) and gender (males versus females). Reading achievement served as the dependent variable for all the hypotheses as measured by the Iowa Test of Basic Skills' Reading Comprehension subtest.

Sample

This quantitative study was based on collecting data from students in grades 3 and 8 who were taught with Direct Instruction or Reading First in five elementary and five middle/junior high schools in Southwest Arkansas. On the one hand, one of the five districts had used Direct Instruction for several years. This district extensively trained the elementary teachers in grades K-3 in the scripted program, and a Direct Instruction

Coordinator continuously coached and monitored the teachers throughout each school year. For many years, educators from the Direct Instruction district attended a special training each summer directed by Janie Feinberg. Then, on a monthly basis, consultants from JP Associates (Feinberg, 2012) coached both the coordinator and the teachers. From their *Grows and Glows* reports, they called attention to areas for improvement as well as strengths from observed lessons, providing feedback for continuous improvement to the staff. On the other hand, four of the five districts had used Arkansas Reading First programs as their supplemental reading instruction. The state provided training for these teachers, and reading coaches in the schools monitored the program and provided follow-up training (National Office for Research on Measurement and Evaluation Systems, 2008).

According to the Institute of Education Sciences (2010), the percentages of people under the age of 18 in the Direct Instruction district were approximately 67% Hispanic/Latino, 30% White, and 3% African American. In the Reading First districts, the percentages of people under the age of 18 were approximately 21% Hispanic, 47% White, and 32% African American. The free and reduced lunch status of the five districts ranged from 67.7% to 79.9%. Most of the schools received Title I funds, which were used for the supplemental programs in reading. In the Reading First districts, federal grant money was used until the funding was no longer available; at that point, they used state and federal funds to provide the supplemental reading program.

Data were collected in the fall of 2012 from the districts regarding students who previously participated in Direct Instruction and who previously participated in Reading First from the five school districts located in Southwest Arkansas. Other information

collected included school location, grade level, gender, ethnicity (Hispanic versus non-Hispanic), and type of reading program (Direct Instruction versus Reading First). Data were stored on a password-protected computer, and only the researcher had access to the data collected and used for this study. All data collected during this study remained confidential and was only used in an aggregate form to address the goals of this research. The identification of the individuals whose scores were examined as part of the study were not recorded, published, or made public in any way.

The researcher used a stratified random sampling technique for the study. First, the five school districts were divided into two populations, the one district using Direct Instruction and the four districts using Reading First. From each of the two populations, third grade and eighth grade students were identified. Students who did not attend the districts during Kindergarten through third grade were removed from the data. The third graders and eighth graders were divided into males and females, and the researcher randomly chose an equal number of males and females from the two populations for each grade. This process was repeated for ethnicity, randomly selecting equal numbers of Hispanic and Non-Hispanic students. Thus, the 2 x 2 factorial design for each hypothesis included 40 students in each cell, equaling 160 students.

Instrumentation

Student reading comprehension was measured by the Iowa Test of Basic Skills (Hoover et al., 2005) reading subtests. After the researcher sought and obtained permissions to use the data by the district superintendents of the schools, the scaled scores were used to determine the impact of the reading programs on reading comprehension ability.

The Iowa Test of Basic Skills 12 is a norm-referenced test administered to students in grades K-9 in Arkansas schools. In grades K-2 and 9, students are given the test during a testing window prior to the benchmark tests. In grades 3-8, students are administered both criterion-referenced items and norm-referenced items simultaneously during the administration of the augmented benchmark exams as a part of the Arkansas Comprehensive Testing, Assessment, and Accountability Program. The Arkansas Department of Education (2012a) regards the examinations as both reliable and valid. The Arkansas Department of Education reported that the Arkansas Augmented Benchmark Examinations, which include Iowa Test of Basic Skills' Reading Comprehension subtest, have appropriately sound reliability, validity, and fairness, rooted in extensive research that accompanies both the criterion-referenced and norm-referenced items. They noted the Arkansas Augmented Benchmark Examinations are developed around a common design from year to year, and although the test forms are built around a common design, post equating is used to control varying levels of difficulty from one version of the test to the next. The department stated these equating methods are empirical procedures for establishing uniformity between raw scores on different forms of the test.

The Arkansas Department of Education (2012a) explained linking items are used to connect one test version to another test version of the Arkansas Augmented Benchmark Examination, and evaluators use the connection items to place test items on the same scale as the previous year with a common-item, non-equivalent groups linking strategy. From this linking strategy, parameters are established to ensure consistency between different forms of the test. The Arkansas Department of Education noted

accuracy rates were .89 or above for all grades in literacy items. They also used a Stratified Alpha method to determine reliability. Using this method, they asserted each item is estimated separately for reliability and then combined with other test items to obtain a more precise estimate of the reliability; this method allows item types to be weighted accordingly.

In all study districts, students are given approximately two and a half hours a day to complete the four-day augmented test, which is presented in a multiple-choice format. Because of this standardization in the testing administration, the Arkansas Department of Education (2012a) pointed out that scores, from the testing period, may be used to demonstrate academic growth when comparing scores from one year to the next.

Data Collection Procedures

After Institutional Review Board approval, the researcher physically obtained existing data from the district offices of the schools in this study. These data included school location, graded level, gender, ethnicity, and type of reading instruction for the third and eighth grade students who had been instructed using Direct Instruction or Reading First in grades K-3. Names were replaced with numbers in order to maintain confidentiality. The Iowa Test of Basic Skills 12 data file from The National Office for Research Measurement Evaluation Systems (2012) ED.STATS portal private access records for each district was emailed to the researcher. Excel spreadsheets were created for third and eighth grades. A column was added to the spreadsheets to enter the reading program used for students in each school. Information from each program, gender, and ethnicity were randomly drawn for equal-sized samples.

Analytical Methods

IBM Statistical Packages for the Social Sciences Version 21 (2012) was used for data analysis. Data collected for the hypotheses were coded according to school location, grade, ethnicity, gender, and reading program. The four hypotheses were analyzed using the following statistical analysis. A pre-analysis of the data was limited to verifying the number of participants by ethnicity, gender, and reading program to ensure the correct number for sampling. A second analysis was conducted to check for outliers. Additionally, homogeneity of variances was checked using the Levene's statistic.

To address the first hypothesis, a 2 x 2 factorial ANOVA was conducted using reading program (Direct Instruction versus Reading First) by ethnicity (Hispanic versus non-Hispanic) as the independent variables and reading comprehension measured by the Iowa Test of Basic Skills 12 for the third graders. The second hypothesis was analyzed by a 2 x 2 factorial ANOVA with reading program (Direct Instruction versus Reading First) by gender (male versus female) as the factors and the reading comprehension as measured by the Iowa Test of Basic Skills 12 as the dependent variable for the third graders. Hypothesis 3 was examined by a 2 x 2 factorial ANOVA using reading program (Direct Instruction versus Reading First) by ethnicity (Hispanic versus non-Hispanic) as the independent variables and reading comprehension as measured by the Iowa Test of Basic Skills 12 as the dependent variable for the eighth graders. The fourth hypothesis was analyzed by a 2 x 2 factorial ANOVA with reading program (Direct Instruction versus Reading First) by gender (male versus female) as the factors and reading comprehension as measured by the Iowa Test of Basic Skills 12 as the dependent variable

for the eighth graders. To test the four null hypotheses, the researcher used a two-tailed test with a .05 level of significance.

Limitations

In most research studies, limitations need to be noted to help the reader determine how to interpret the results of the studies. The following limitations were associated with this study. First, the participating schools in the study provided digital data. Students who did not attend the district during Kindergarten through third grade were removed from the data. This allowed the two populations to be composed of only those students who had 4 years of instruction in the supplemental reading programs. This required a school representative to research which students to delete and created the possibility for human error even though great care was taken in the process. Data were checked for accuracy, but some hand coding was necessary to input reading program for students.

Second, another limitation involved the additional instruction some students may have received between the instruction by either the Direct Instruction method or Reading First instructional programs and the measurement, particularly for the eighth grade students. Because, in part, the purpose of the study was to examine the sustained effects of early reading programs on reading ability, the assessment used for measurement was administered in the third and eighth grades after students had completed the supplemental reading programs. Although most students exit formal reading instruction after third grade, some students may have had significantly more reading instruction in classrooms between grades 3 and 8 than others. Programs such as Literacy Lab, which have been implemented in the Direct Instruction district in grades 6-12, may have significantly contributed to scores in the eighth grade. This is known as ambiguous temporal

precedence because other variables might influence student achievement in reading (Johnson & Christensen, 2012). However, most schools in the region had implemented, at least to some degree, comprehensive literacy programs over the past 5 or 6 years as directed by the state of Arkansas (Arkansas Department of Education, 2012b).

Third, testing may have affected internal validity because all of these students had previously taken the Iowa Test of Basic Skills 12 each year and may have remembered certain items on the test even though alternate forms were used. In addition, students have been given practice tests that had similar items or formatting to that of the Iowa Test of Basic Skills 12.

Fourth, participating teachers and administrators were encouraged to implement fully the Direct Instruction or Reading First methodology with fidelity. Although every attempt was made to monitor the programs through external and internal means, complete fidelity by all teachers was not likely to be entirely consistent. In addition, participating teachers may have used other instructional strategies other than the Direct Instruction or Reading First methods that they learned in other professional development opportunities.

Fifth, the research design for this study was non-experimental, which constituted a limitation in itself. The researcher was unable to manipulate the independent variables or randomly assign participants, which produced less conclusive evidence. However, this and the other limitations did not seem to exceed the typical circumstances encountered in using schools for research purposes.

Finally, this quantitative study was conducted with a limited number of participants who were taught with Direct Instruction or Reading First in school districts in Southwest Arkansas in grades K-3; thus, the research was confined to third and eighth

grade students in those five school districts. The quantitative procedures, therefore, were limited and provided generalizations that are somewhat restricted in nature and cannot be applied to all schools and all reading programs.

Regardless of the limitations, however, the researcher proposes that the results of this study may be used to inform decisions regarding the development and design of supplemental reading programs for students and how they affect the subgroups identified, particularly by gender and ethnicity. Improving reading instruction for all students, and in particular those Hispanic students who may struggle with lack of English skills and males who are often assumed to have more difficulty with reading, is a goal for school systems across Arkansas. Results may also prove beneficial to schools and districts throughout Arkansas with similar demographics as they continue to grapple with meeting the demands of federal accountability to improve student learning and close achievement gaps.

CHAPTER IV

RESULTS

The purpose of this quantitative research study was to determine the effects of Direct Instruction versus Reading First by gender and ethnicity on reading comprehension of third and eighth grade students in schools in Southwest Arkansas. The independent variables used were type of instruction (Direct Instruction versus Reading First), ethnicity (Hispanic versus Non-Hispanic), and gender (male versus female). The dependent variable was reading comprehension as measured by the Iowa Test of Basic Skills. Using IBM Statistical Packages for the Social Sciences Version 21 (2012), a Factorial Analysis of Variance (ANOVA) was run for each of the four null hypotheses. Prior to running the statistical analysis, assumptions of normality and homogeneity of variances were checked. In addition, descriptive statistics and inferential results were reported.

Demographics

For this study, schools from two educational cooperatives representing Southwest Arkansas were used. Each cooperative represents multiple schools. In order to compare groups by ethnicity (Hispanic versus Non-Hispanic), schools with larger Hispanic populations were included. The Direct Instruction program was implemented in a district in the area with a large percentage of Hispanic students, but most districts in the study used Reading First. Arkansas Department of Education databases were accessed through

The National Office for Research on Measurement and Evaluation Systems (2012) to obtain data for the analysis. Samples used in this study are recorded in Table 1.

Table 1

Demographics for Third and Eighth Grade Students in the Two Reading Programs

	Direct Instruction		Reading First	
	Third	Eighth	Third	Eighth
Male	40	40	40	40
Female	40	40	40	40
Hispanic	40	40	40	40
Non-Hispanic	40	40	40	40

Statistical Assumptions

All analyses in this study were conducted using IBM Statistical Packages for the Social Sciences Version 21 (2012). The statistical assumptions of normality and homogeneity of variances were checked prior to running the statistical analysis. A visual inspection of the box and whisker plots for scores on each of the areas revealed approximate normal distributions with only a few outliers on each of the ends of the plots. Appropriate steps were taken to address the outliers.

Hypothesis 1

The first hypothesis stated no significant difference existed by ethnicity of students who were taught in the early grades using a Direct Instruction approach versus

Reading First on reading comprehension for third grade students in Southwest Arkansas schools. The population from which this sample was selected was normally distributed. A few outliers were observed in a simple boxplot. Because any outliers were not extreme, no outlier was deleted from the sample. When the Kolmogorov-Smirnov test of normality was conducted, neither the Hispanic nor the Non-Hispanic participants at the third grade level revealed significance at .05. Table 2 displays the group means and standard deviations for reading program by ethnicity on reading achievement for third graders.

Table 2

Descriptive Statistics for Reading Program by Ethnicity for Third Grade Reading Achievement

Ethnicity	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Hispanic	Direct Instruction Program	181.58	13.81	40
	Reading First Program	176.13	11.69	40
	Total	178.85	13.00	80
Non-Hispanic	Direct Instruction Program	191.00	17.21	40
	Reading First Program	183.23	18.19	40
	Total	187.11	18.02	80
Total	Direct Instruction Program	186.29	16.21	80
	Reading First Program	179.68	15.61	80
	Total	182.98	16.21	160

Levene's test of equality of variances was conducted within ANOVA and indicated homogeneity of variance was violated, $F(3, 156) = 2.763, p = .044$. Because

Levene's test was significant, the variances were significantly different. According to Leech, Barrett, and Morgan (2011), IBM Statistical Packages for the Social Sciences Version 21 uses the regression approach to calculate ANOVA; therefore, this problem is less important. A line plot indicated parallel lines for programs with no interaction between ethnicity and type of instruction. Figure 1 displays group means by reading program.

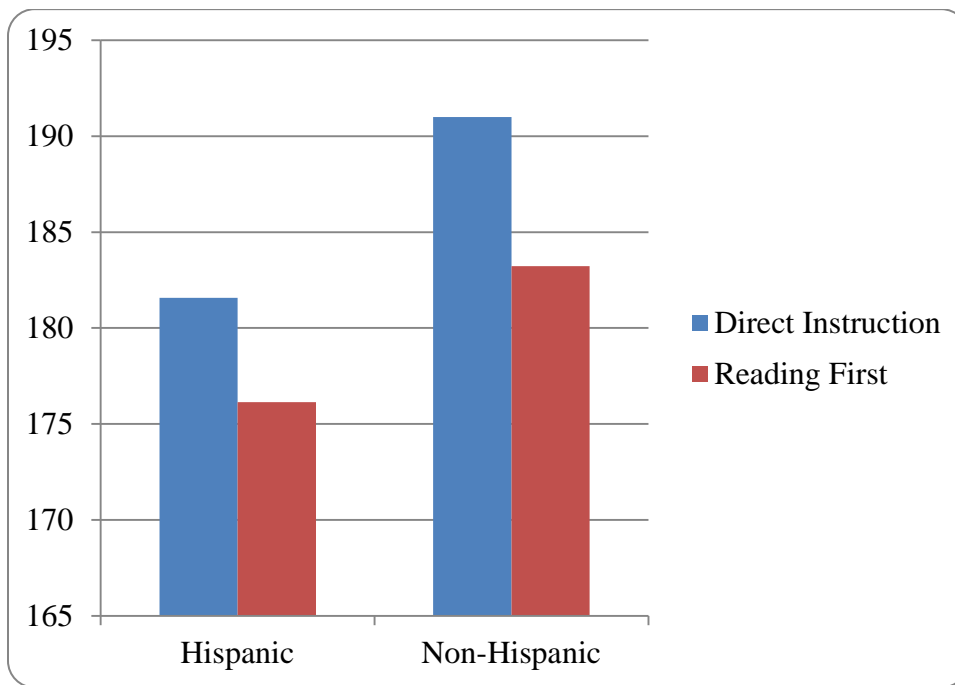


Figure 1. Third grade reading comprehension means by ethnicity.

To test the hypothesis, a 2 x 2 Factorial ANOVA was conducted to evaluate the effects of type of instruction by ethnicity on reading comprehension as measured by the 2012 Iowa Test of Basic Skills. The results of the ANOVA are displayed in Table 3.

Table 3

Factorial ANOVA Results from Third Grade 2012 Iowa Test of Basic Skills Reading Comprehension

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Ethnicity	2730.77	1	2730.76	11.45	.001**	0.068
Program	1749.01	1	1749.01	7.33	.008*	0.045
Ethnicity*Program	54.06	1	54.06	0.23	.635	0.001
Error	37221.13	156	238.60			
Total	5398897.00	160				

* $p < .01$. ** $p < .001$.

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis, $F(1, 156) = .227, p = .635, ES = 0.001$. Given there was no significant interaction between the variables of type of instruction and ethnicity, the main effect of each variable was examined separately. The main effect for ethnicity was significant, $F(1, 156) = 11.445, p = .001, ES = 0.068$, which is a small effect size. In addition, the main effect for reading program was significant, $F(1, 156) = 7.330, p = .008, ES = 0.045$, which is a small effect size.

Hypothesis 2

The second hypothesis stated no significant difference existed by gender of students who were taught in the early grades using a Direct Instruction approach versus Reading First on reading comprehension for third grade students in Southwest Arkansas schools. The population from which this sample was selected was normally distributed. A

few outliers were observed but none were extreme. Data for sample groups were normally distributed. Table 4 displays the group means and standard deviations for reading program by gender on reading achievement for third graders.

Table 4

Descriptive Statistics for Reading Program by Gender for Third Grade Reading Achievement

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Direct Instruction Program	182.30	13.15	40
	Reading First Program	177.45	17.36	40
	Total	179.88	15.50	80
Female	Direct Instruction Program	189.78	20.14	40
	Reading First Program	177.23	15.96	40
	Total	183.50	19.13	80
Total	Direct Instruction Program	186.04	17.32	80
	Reading First Program	177.34	16.57	80
	Total	181.69	17.45	160

Levene's test of equality of variances was conducted within ANOVA and indicated homogeneity of variance across groups, $F(3, 156) = 1.642, p = .182$. A line plot indicated an interaction between gender and reading program, but the interaction was not statistically significant. Figure 2 displays means by gender.

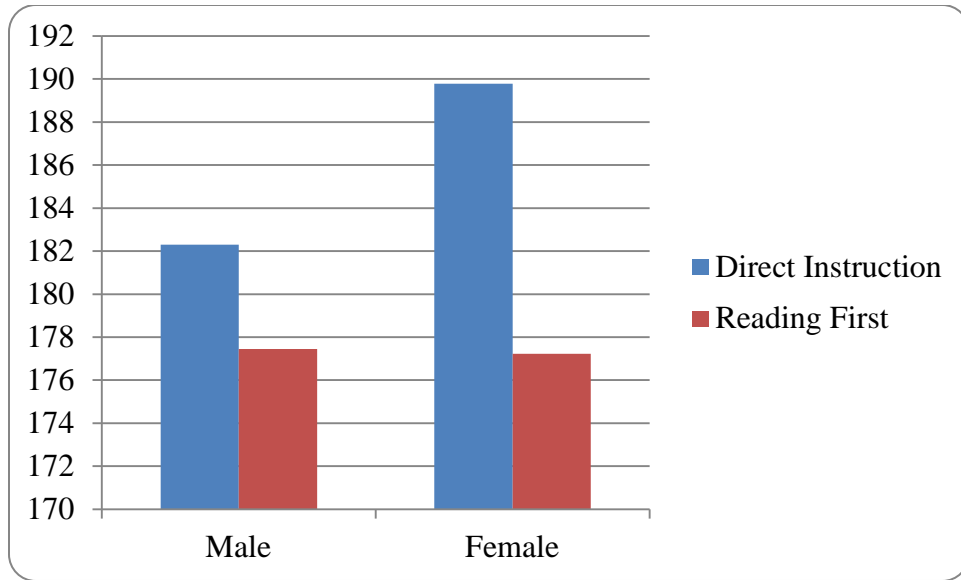


Figure 2. Third grade reading comprehension means by gender.

To test the hypothesis, a 2 x 2 Factorial ANOVA was conducted to evaluate the effects of reading program by gender on reading comprehension as measured by the 2012 Iowa Test of Basic Skills. The results of the ANOVA are displayed in Table 5.

Table 5

Factorial ANOVA Results from Third Grade 2012 Iowa Test of Basic Skills Reading Comprehension

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	525.63	1	525.63	1.85	.175	0.012
Program	3027.60	1	3027.60	10.67	.001*	0.064
Gender*Program	592.90	1	592.90	2.09	.150	0.013
Error	44256.25	156	283.69			
Total	5330058.00	160				

* $p < .001$.

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis, $F(1, 156) = 2.090$, $p = .150$, $ES = 0.013$. Given there was no significant interaction between the variables of reading program and gender, the main effect of each variable was examined separately. The main effect for gender was not significant, $F(1, 156) = 1.853$, $p = .175$, $ES = 0.012$. However, the main effect for reading program was significant, $F(1, 156) = 10.672$, $p = .001$, $ES = 0.064$, which is a small effect size.

Hypothesis 3

The third hypothesis stated no significant difference will exist by ethnicity of students who were taught in the early grades using a Direct Instruction approach versus Reading First on reading comprehension for eighth grade students in Southwest Arkansas schools. The population from which this sample was selected was normally distributed. A few outliers were observed in a simple boxplot. Outliers were not extreme and were not

deleted from the data set prior to analysis. Data for the sample groups were normally distributed. Table 6 displays the group means and standard deviations for reading program by ethnicity on reading achievement for eighth graders.

Table 6

Descriptive Statistics for Reading Program by Ethnicity for Eighth Grade Reading Achievement

Ethnicity	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Hispanic	Direct Instruction Program	244.28	29.47	40
	Reading First Program	236.10	29.69	40
	Total	240.19	29.68	80
Non-Hispanic	Direct Instruction Program	246.20	51.30	40
	Reading First Program	233.65	27.98	40
	Total	239.93	41.54	80
Total	Direct Instruction Program	245.24	41.58	80
	Reading First Program	234.88	28.69	80
	Total	240.06	35.99	160

Levene's test of equality of variances was conducted within ANOVA and indicated homogeneity of variance across groups, $F(3, 156) = 1.616, p = .188$. A line plot indicated an interaction between ethnicity and reading program but it was not significant. Figure 3 displays means by ethnicity.

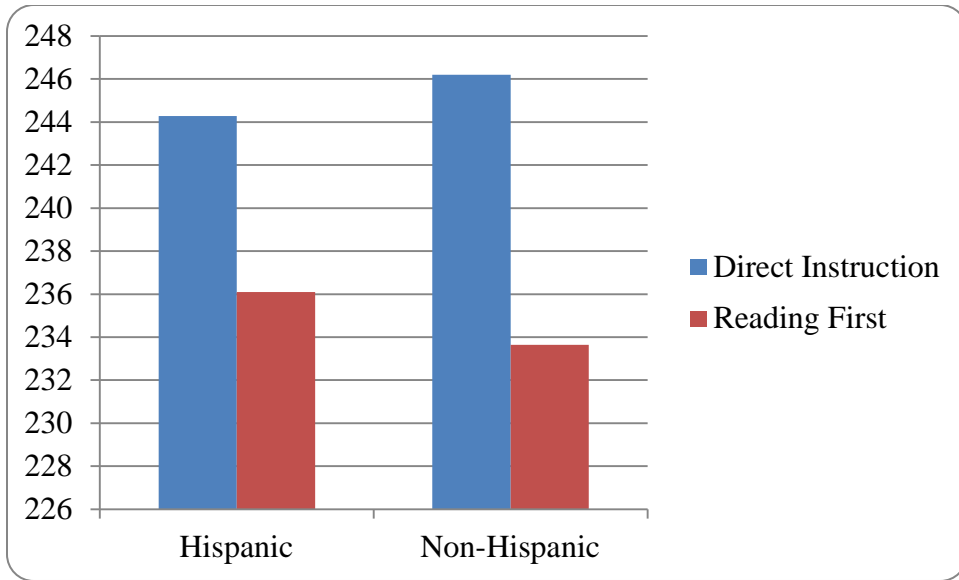


Figure 3. Eighth grade reading comprehension means by ethnicity.

To test the hypothesis, a 2 x 2 Factorial ANOVA was conducted to evaluate the effects of instructional program by ethnicity, Hispanic versus Non-Hispanic, on reading comprehension as measured by the 2012 Iowa Test of Basic Skills. The results of the ANOVA are displayed in Table 7.

Table 7

Factorial ANOVA Results from Eighth Grade 2012 Iowa Test of Basic Skills Reading Comprehension

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Ethnicity	2.76	1	2.76	0.002	.963	0.000
Program	4295.26	1	4295.26	3.326	.070	0.021
Ethnicity*Program	191.41	1	191.41	0.148	.701	0.001
Error	201435.08	156	1291.25			
Total	9426245.00	160				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis, $F(1, 156) = 0.148, p = .701, ES = 0.001$. Given there was no significant interaction between the variables of reading program and ethnicity, the main effect of each variable was examined separately. A statistically significant main effect for ethnicity did not exist, $F(1, 156) = 0.002, p = 0.963$, with a small partial eta squared effect size equal to .000. In addition, the main effect for reading program was not significant, $F(1, 156) = 3.326, p = .070, ES = 0.021$.

Hypothesis 4

The fourth hypothesis stated no significant difference existed by gender of students who were taught in the early grades using a Direct Instruction approach versus Reading First on reading comprehension for eighth grade students in Southwest Arkansas schools. The population from which this sample was selected was normally distributed. A

few extreme outliers were observed and deleted from the data set prior to analysis. Data for sample groups were normally distributed. Table 8 displays the group means and standard deviations for reading program by ethnicity on reading achievement for third graders.

Table 8

Descriptive Statistics for Reading Program by Gender for Eighth Grade Reading Achievement

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Direct Instruction Program	238.08	22.417	40
	Reading First Program	243.43	31.313	40
	Total	240.75	27.192	80
Female	Direct Instruction Program	246.48	25.175	40
	Reading First Program	236.13	28.730	40
	Total	241.30	27.340	80
Total	Direct Instruction Program	242.28	24.059	80
	Reading First Program	239.78	30.083	80
	Total	241.03	27.181	160

Levene’s test of equality of variances was conducted within ANOVA and indicated an assumption of homogeneity of variance across groups, $F(3, 156) = 2.333, p = .076$. A line plot indicated an interaction between gender and reading program. Figure 4 displays means by gender for eighth grade.

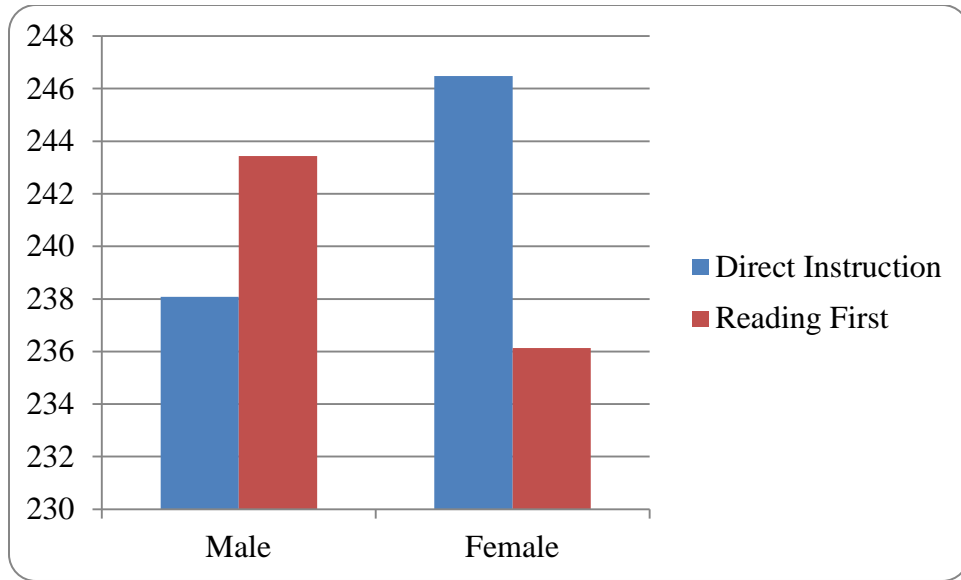


Figure 4. Eighth grade reading comprehension means by gender.

To test the hypothesis, a 2 x 2 Factorial ANOVA was conducted to evaluate the effects of reading program by gender on reading comprehension as measured by the 2012 Iowa Test of Basic Skills Reading Comprehension. The results of the ANOVA are displayed in Table 9.

Table 9

Factorial ANOVA Results from Eighth Grade 2012 Iowa Test of Basic Skills Reading Comprehension

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	12.10	1	12.10	0.016	.898	0.000
Program	250.00	1	250.00	0.340	.561	0.002
Gender*Program	2464.90	1	2464.90	3.351	.069	0.021
Error	114746.90	156	735.56			
Total	9412362.00	160				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis, $F(1, 156) = 0.351$, $p = .069$, $ES = 0.021$. Given there was no significant interaction between the variables of type of instruction and gender, the main effect of each variable was examined separately. The main effect for gender was not significant, $F(1, 156) = 0.016$, $p = .898$, $ES = 0.000$. The main effect for reading program was not significant, $F(1, 156) = 0.340$, $p = .561$, $ES = 0.002$.

CHAPTER V

DISCUSSION

Marshall (2012) spoke of reading as a fundamental skill for every learner and noted that much of what is to be learned must be learned by reading information. In today's world of common core standards with greater text complexity and digital reading skills, reading is more essential than ever to school success. However, the lack of reading skills has long-term negative effects. Alarming, according to Marshall, over 60% of inmates in the nation's prison system have reading skills at or below the fourth grade level, 85% of juveniles in prison are labeled functionally illiterate, and 43% of adults with very low reading skills live in poverty. Frightening to educators, Marshall asserted that nearly two-thirds of students who reach the fourth grade without proficient reading skills end up in welfare or prison. These students do not possess adequate reading comprehension skills to do what is expected of them. Yet, having the ability to read words without the ability to comprehend their meaning does not necessarily guarantee success.

Without comprehension, reading is merely following words on a page from left to right and sounding them out. The words themselves, in isolation, have little or no meaning. Although people read for varied reasons, the major goal is to gain some understanding of what the writer is conveying and to make use of that information. The ability to conceptualize and critically think about a text is why reading comprehension

skills are so significant. Without them, Marshall (2012) asserted the reader could not gather any information or use it to function in life effectively or efficiently.

The push for developing critical thinking skills is not new to the state of Arkansas but has been the focus of a movement in the state toward comprehensive literacy skills for several years (Arkansas Department of Education, 2008). When the standard reading curricula did not provide the intended results for improving comprehension skills, supplemental reading programs to address reading skills in students began to be used in most school districts across the state. In a few districts, Direct Instruction is used, possibly because those using it still believe in the program's effectiveness. Reading First is widespread across the state even though funding for that program is no longer available possibly for the same reason. In a speech delivered at The 39th Annual National Direct Instruction Conference and Institutes in July, Barbash (2013) stated his belief that a program such as Direct Instruction can become a "self-fulfilling prophecy." An investigative reporter and writer who happened to be the parent of a son placed in a Direct Instruction school and who went on to investigate the program and its effectiveness, he went on to call Direct Instruction, "the dance of mastery" and "a despised program" that will eventually be used by more and more schools as they become "sick enough to try Direct Instruction" in an attempt to achieve mastery for all students who must be college and career ready upon graduation. As a proponent of Direct Instruction after his extensive research, he asserted that teachers who believe that all students are "perfectly capable of learning anything they are taught" become part of a self-fulfilling prophecy.

With this in mind, the focus of this study was to compare and describe reading comprehension performance of Southwest Arkansas students in grades three and eight for schools implementing Direct Instruction or Reading First supplemental reading programs. The researcher collected and closely examined data for the subgroups to determine whether the Direct Instruction program or the Reading First program had a significant impact on reading comprehension based on ethnicity and gender on both elementary school-aged children and secondary students. This chapter provides the researcher's conclusions and interpretation of the findings. The researcher's conclusions are based on the findings of the research and the information contained in the literature review. Subsequently, implications of the study are discussed. In the recommendations, potential practices and policies are outlined. Finally, this chapter contains recommendations for consideration of future research.

Conclusions

To address the four hypotheses, the following statistical analyses were utilized. Hypothesis 1 was analyzed by a 2 x 2 factorial analysis of variance (ANOVA) with instructional program (Direct Instruction versus Reading First) and ethnicity (Hispanic versus Non-Hispanic) as the between subjects independent variables with third grade reading comprehension as the dependent variable. Hypothesis 2 was analyzed in the same manner as the first with gender replacing ethnicity as an independent variable. Hypothesis 3 utilized a 2 x 2 factorial ANOVA with instructional program and ethnicity as independent variables and eighth grade reading comprehension as the dependent variable. Finally, hypothesis 4 was analyzed in the same manner with gender replacing ethnicity as an independent variable. To test the null hypotheses, the researcher used a

two-tailed test with a .05 level of significance. Interaction and main effects were examined in each of the hypotheses. The following hypotheses were tested and used to determine conclusions.

Hypothesis 1

Hypothesis 1 stated that no significant differences will exist by ethnicity (Hispanic versus Non-Hispanic) between third grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension. There was no significant interaction between the variables of type of instruction and ethnicity. Together, reading instructional program and ethnicity did not combine to affect how individuals scored on the 2012 Iowa Test of Basic Skills in reading comprehension. Based on these results, there was not enough evidence to reject the null hypothesis for the interaction effect. For the main effect of ethnicity, evidence was substantial enough to reject the null hypothesis; yet, the effect size was small. In analyzing the means, the Non-Hispanic third grade students, on average, had a higher mean score than that of their Hispanic counterparts in both instructional programs. In a similar vein, evidence was found to reject the null hypothesis for the main effect of reading program, also with a small effect size. On average, Direct Instruction students had higher mean scores than Reading First participants.

Hypothesis 2

Hypothesis 2 stated that no significant differences will exist by gender between third grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension. No significant interaction existed between the independent variables of

reading program and gender on the 2012 Iowa Test of Basic Skills reading comprehension scores. Together, gender and type of reading program did not significantly affect third grade reading comprehension. Therefore, evidence was not found to reject the null hypothesis for the interaction effect. Although there was no significant main effect difference for gender, the female participants, on average, had a higher mean score than the male participants in both programs. The female Direct Instruction participants had higher mean scores than the male Direct Instruction participants. In Reading First, there is minimal difference between mean scores of males and females. Female Direct Instruction participants had considerably higher mean scores than Reading First females. Evidence to reject the null hypothesis for gender was not found. The only significant finding for hypothesis 2 was the main effect for reading program with the Direct Instruction mean scores being higher, on average, than the Reading First scores; yet, the effect size was very small.

Hypothesis 3

Hypothesis 3 stated that no significant differences will exist by ethnicity (Hispanic versus Non-Hispanic) between eighth grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension. No significant interaction was found to exist between ethnicity and instructional program on 2012 Iowa Test of Basic Skills reading comprehension scores for eighth grade students. Together, ethnicity and instructional program did not significantly affect reading comprehension scores of the eighth grade students. Although no significant difference in either the main effects of ethnicity or program was found, the Direct Instruction students in both ethnicity groups

had a higher mean score than the Reading First students. Evidence did not exist to reject the hypothesis for the interaction effect or the two main effect hypotheses.

Hypothesis 4

Hypothesis 4 stated that no significant differences will exist by gender between eighth grade students in Southwest Arkansas schools who were taught reading in the early grades using a Direct Instruction approach versus Reading First on reading comprehension. No significant interaction was found to exist between the independent variables of gender and instructional program (Direct Instruction versus Reading First) on eighth grade reading comprehension as measured by the 2012 Iowa Test of Basic Skills. Together, gender and reading program did not affect how individuals score on the reading comprehension subtest of the Iowa Test. Although there was no significant difference, the female Direct Instruction participants had a higher mean score than their male counterparts taught with Direct Instruction. The male Reading First students had a higher mean score than the female Reading First students. Evidence did not exist to reject the hypothesis for the interaction effect or the two main effect hypotheses.

In summary, for all four hypotheses, no significant interaction effect existed. On the one hand, the results for the third grade part of this study indicated that ethnicity was the significant main effect with Non-Hispanics scoring, on average, higher than Hispanic students did. However, the main effect for the type of program was significant in both of the first two hypotheses for the third graders. In both cases, students in the Direct Instruction group, on average, outscored students in the Reading First instructional group. However, all the statistically significant differences carried small effect sizes. On the other hand, the results for the eighth grade part of this study indicated no significant

difference existed for any of the main effects. Although females and Non-Hispanics had slightly higher means scores than their counterparts, there is little evidence that either reading program made a more significant difference in reading comprehension. In this study, little impact was revealed by ethnicity or gender on reading comprehension when paired with Direct Instruction or Reading First instructional programs.

Implications

The interpretation of these results requires a comparison to the larger context of the review of related literature. A no significant difference result is a common finding when comparing programs such as Direct Instruction and Reading First. When implemented with fidelity, the effect of such supplemental programs on reading comprehension is generally the same. Regardless of the program selected, schools that place an importance on reading by dedicating time, training, and priority to the instruction of reading, generally produce better readers.

Research results indicated that third grade students differ in reading comprehension based upon ethnicity. Hispanic students in third grade had significantly lower means than Non-Hispanic students on the Iowa Test of Basic Skills reading comprehension subtest. Even at the eighth grade level where there was no significant difference, Hispanic students, on average, have lower mean scores in reading than do their Non-Hispanic counterparts. Whether this is due to second language acquisition, poverty level, or use of an inappropriate method of instruction is not determined by these results. These results do not correlate with many of the studies reviewed which showed even more significant differences between Hispanics and non-Hispanics (Gunn et al., 2002; Hemphill & Rahman, 2011). For example, Hemphill and Rahman (2011) reported

significant achievement gaps between Hispanic and Caucasian students in public schools in reading on the National Assessment of Educational Progress. Reading achievement gaps between Caucasians and Hispanics did not change significantly from 1992 to 2009. Both groups showed increased reading achievement over the years, but the gap between groups did not decrease significantly during the No Child Left Behind era. Gaps between the two groups were between 25 to 36 points each year in reading achievement in grade 4 and between 24 to 27 points each year in reading achievement in grade 8. Hemphill and Rahman indicated factors such as low-economic status and language proficiency are possible causes of the learning differences for Hispanic students in reading. In 1992, Arkansas showed a gap of 18 points between Hispanic and Caucasian fourth grade students in reading scores on the National Assessment of Educational Progress. In 2009, the gap was 22 points. In grade 8, Arkansas' Hispanic students averaged nine points lower than their Caucasian peers in 2003. In 2009, that gap was even greater at 18 points.

Further studies are needed to determine if others like Webley (2011) are correct in the assertion that the numbers insinuate the ever-present gap has more to do with the language barrier among the limited English subgroup. The report indicated there are approximately four million Hispanic students in public schools whose primary language is not English. Hemphill and Rahman (2011) showed an even larger difference between those students, known as English language learners or ELL, and their Hispanic classmates who are proficient in English. For example, in eighth grade reading, the discrepancy between ELL Hispanic students and non-ELL Hispanic students was 39 points, or roughly four whole grade levels.

Regardless of ethnicity, reading scores across the nation are higher than they were prior to the implementation of supplemental reading programs such as Direct Instruction and Reading First. Even so, there continues to be a gap between ethnic groups. Gunn et al. (2002) compared the achievement of Hispanic students based on English-speaking ability. The lack of English speaking ability influenced a significant difference in scores greater than those Hispanic students who were bilingual. Further studies are needed to determine procedures that might have greater impact on Hispanic readers.

Gender and reading are often studied by educators (Johnston & Watson, 2005; Limbrick et al., 2010; Logan & Johnston, 2010; National Assessment of Educational Progress, 2012). A natural assumption of many educators is that girls read better than boys do. This assumption is not always supported by research (Johnston & Watson, 2005). Although there were no significant differences in gender and reading program on reading comprehension for the third and eighth grade students studied, the results correlate to the suggestion of Prado and Plourde (2011) and the other studies that males and females may differ in how they learn to read. Being aware of the differences and the reasons for the differences can help educators become more effective and proficient in teaching all students how to read. Reading comprehension is a process. Brain development and hormones play significant roles in reading attainment. Prado and Plourde's quasi-experimental study employed a pretest-posttest design in order to determine if there would be an increase in the reading comprehension of the subjects when they were explicitly taught certain reading strategies as utilized by both programs of this study. Boys showed a significant gain from pretest to posttest; a significant gain existed for girls as well. No statistical significance existed, however, in how the boys

performed in comparison to the girls. The study cited Haertel's 1986 study that determined reasons for differences between the genders could be attributed to many things that have nothing to do with gender such as previous instruction, motivation, effort, parental support, and mental ability. Prado and Plourde (2011) concluded it is not appropriate to use a one-size-fits-all method of teaching in the classroom when research demonstrates the same method does not work for everyone. Gender differences may require differentiation in reading instructional methods.

Recommendations

Potential for Practice/Policy

This study was designed to obtain information on the effectiveness of implementation of Direct Instruction reading versus the Reading First program. This study was conducted in school districts in Southwest Arkansas and was limited to two educational cooperative areas. The study compared the reading comprehension scores of students in one district utilizing Direct Instruction versus students from five area schools utilizing Reading First. The findings of the study may have direct implications on practices and policies in districts in Southwest Arkansas. Schools must determine whether reading instruction is proving effective among their students. Moreover, given that numerous districts throughout Arkansas and the nation are faced with similar challenges in developing readers who can comprehend text, this study may have further implications on educational policies and practices related to reading in at least five different ways.

First, districts should continue to develop a comprehensive, district-wide reading (or literacy) program for all schools that is rigorous, relevant, and engaging for all

students. A focus on strengthening the core (literacy) reading program and supplementing that instruction with a research-based supplemental reading program promotes equitable access and high expectations for all students (Bumgardner, 2010; Haycock, 2001; Marzano, 2003; Reeves, 2000; Schmoker, 1999).

Second, districts should continue to provide dedicated time for supplemental reading instruction. Dedicated time for reading may be a key component of whether a program proves to be effective. Comprehensive professional development opportunities for teachers should be included to improve and expand their instructional capacity.

Third, districts should intentionally address the needs of both genders in reading instruction. Although the results of this study indicated no significant differences between means of males and females in the reading programs, females generally have higher mean scores in reading than males regardless of program. Engaging male students in reading may differ from the holistic approach most reading programs utilize.

Fourth, districts should intentionally assess the needs of Hispanic students who may have a language barrier that negatively affects reading comprehension skills. The Direct Instruction district in this study continues to believe that the Direct Instruction program is very beneficial to its dominant Hispanic student population. Whether that belief is founded in further research studies remains to be seen; however, Direct Instruction was as beneficial, if not more so, as Reading First according to the results of this study.

Fifth, districts should consider implementation of comprehensive reading instruction in grades above third grade. Many schools end formal reading instruction after third grade. Reading instruction in middle schools, junior high schools, high schools, and

even post-secondary institutions is usually remedial or interventional type instruction rather than intentional instruction of reading with the purpose of improving comprehension. Schools move from learning to read to reading to learn at the secondary level. Little or no time is spent in helping students comprehend text above third grade. The assumption that all students can read by the end of third grade is still held by educators and lawmakers across the nation.

Future Research Considerations

The findings from this study support the use of supplemental reading programs to improve reading for all students. To evaluate the impact of supplemental reading programs used in this study and other research-based instructional programs in closing the achievement gaps in ethnicity and gender, the researcher recommends that the following studies be considered:

1. An examination of the relationship between teacher preparedness (including the use of highly qualified paraprofessionals versus licensed educators) and reading comprehension in Direct Instruction and Reading First
2. An examination of the relationship between professional development (including instructional coaching) in reading instruction and reading comprehension
3. A 10-year longitudinal mixed study to examine sustainability of essential components of both Direct Instruction and Reading First programs and their impact on reading comprehension
4. A study to compare and describe the similarities and differences between the impact of Direct Instruction and that of Reading First on reading

comprehension for students in other regions of the state of Arkansas focusing on what constitutes quality reading instruction, the length of time necessary to influence reading comprehension, and the most effective program over time

5. A study of the impact of poverty and reading instructional program on reading comprehension in Arkansas (Much of the literature reviewed in this study included references to the impact of poverty on reading.)
6. A study of the impact of comprehensive literacy programs in grades 4-12, such as Arkansas Comprehensive Literacy Lab, for students who were previously taught with Direct Instruction versus Reading First in grades K-3. Biancarosa and Snow (2006) believe that ensuring literacy development for secondary students is much more difficult than for primary and elementary students because secondary literacy skills are more complex and more embedded in content as well as adolescents are not as motivated to read better or intrigued by school as kindergartners.

Rapidly changing student demographics continue to challenge teachers and their responsiveness to meet the needs of all students (Bowers, 2011). The influx of Hispanic families in Arkansas and the greater number of students living in poverty cause concern about reading comprehension skills and further educational opportunities. Research of high probability strategies suggests that ensuring equitable access to comprehensive reading instruction and implementing effective instructional strategies in reading promote higher levels of reading success in all schools, even those with high levels of poverty and minority students such as the Direct Instruction district used in this study. Consistent monitoring and accountability play an important role in improving reading instruction for

all students. A district or building level administrator must become a literacy leader to help foster a culture where reading is the most valuable skill taught.

The global society has influenced greatly how students learn. The skills needed to become a productive citizen in the 21st century and beyond may require a greater emphasis on reading comprehension in order to compete in today's economy. Hirsch (2006) and Stotsky (2012) referred to the lack of reading ability across the nation. Stotsky believed reading is a critical skill for all learning. Economic and political achievements are dependent upon an ability to gain new knowledge rapidly through reading.

Bowers (2011) referred to ineffectiveness in closing the achievement gap, coupled with a slow response in preparing students with 21st century learning skills, as perpetuating a growing divide between groups of individuals. She went on to say reading comprehension is an important equalizer and has the potential to close the gaps that exist among ethnicities. Bowers believed that it is a moral imperative for educators to ensure that all students can read.

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APPENDICES

APPENDIX A

IRB Approval



Status of Request for Exemption from IRB Review

(For Board Use Only)

Date: January 11, 2013

Proposal Number: 2013 – 002

Title of Project: Effects of Direct Instruction versus Reading First on Reading Comprehension for Students in Southwest Arkansas Schools

Name and Contact information for the Principal Investigator: Judith Jenkins,
jjenkins@dequeenleopards.org

- Research exempted from IRB review.
- Research requires IRB review.
- More information is needed before a determination can be made. (See attachment.)

I have reviewed the proposal referenced above and have rendered the decision noted above.
This study has been found to fall under the following exemption(s):

1 2 3 4 5 6

In the event that, after this exemption is granted, this research proposal is changed, it may require a review by the full IRB. In such case, a **Request for Amendment to Approved Research** form must be completed and submitted.

This exemption is granted for one year from the date of this letter. Renewals will need to be reviewed and granted before expiration.

The IRB reserves the right to observe, review and evaluate this study and its procedures during the course of the study.

Rebecca O. Weaver

Chair
Harding University Institutional Review Board